TAMPEREEN TEKNILLINEN YLIOPISTO
TAMPERE UNIVERSITY OF TECHNOLOGY

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IMPROVING SALES FORECASTING MANAGEMENT IN PROFESSIONAL SERVICES BUSINESS

Master of Science Thesis

Examiner: Associate Professor Nina Helander
Examiner and the topic approved at the Council Meeting of the Faculty of Business and Technology Management on February 3rd, 2016

ABSTRACT

PIETARI JÄRVINEN: Improving Sales Forecasting Management in Professional Services Business
Tampere University of Technology
Master of Science Thesis, 79 pages, 1 appendix page
March 2016
Master's Degree Programme in Information and Knowledge Management
Major: Business Information Management
Examiner: Associate Professor (tenure track) Nina Helander

Keywords: Sales forecasting management, sales forecasting practice, framework, professional services business

In the beginning of this research the case company of this research had started a new type of sales forecasting practice which strived for ability to make proactive decisions in business planning. However, the forecasts were noticed to be too inaccurate to be used as a basis for the strived purpose. This research was established to increase the awareness what are the things affecting to the whole sales forecasting and how to improve the current practices.

The research was conducted by using existing literature as a theory base and then evaluating the target organization in order to identify the ways how to improve the current practices. Presumably there was not a single framework which illustrates the whole sales forecasting management especially in the business field of professional services in which the case company is operating. Therefore the theory section concentrated on the characteristics of professional services and introducing a comprehensive sales forecasting management framework. Then the synthesis of these two fields was used in the empirical part of the research which concentrated on evaluating the current state of sales forecasting management in the target organization. Participant observation was used as the main information gathering method. In addition to that, unstructured interviews were used in some parts in which the information gathered by observations was not sufficient to evaluate the state of the sales forecasting management. Observations took place in the timeframe from June 2015 to December 2015 and it included approximately 110 days of observations. Unstructured interviews were used 7 times to get clarifications regarding various things in sales forecasting practices in use.

As a result, this research offers a lot of information what are the things that have an impact on the results of sales forecasting practices in the target organization. The results clearly showed that there are many areas in the sales forecasting management that can be improved in order to reach better performance. The final results included improvement recommendations regarding all the four main components in the used sales forecasting management framework. The total amount of recommendations was 13 with the emphasis on the sales forecasting capability component in the framework which includes information logistics and shared interpretation regarding the sales forecasting activities.

TIIVISTELMÄ

PIETARI JÄRVINEN: Myynnin ennustamisen johtaminen ja sen kehittäminen asiantuntijapalveluliiketoiminnassa
Tampereen teknillinen yliopisto
Diplomityö, 79 sivua, 1 liitesivu
Maaliskuu 2016
Tietojohtamisen diplomi-insinöörin tutkinto-ohjelma
Pääaine: Tiedonhallinta
Tarkastaja: Associate Professor (tenure track) Nina Helander

Avainsanat: myynnin ennustamisen johtaminen, myynnin ennustamisen käytännöt, viitekehys, asiantuntijapalveluliiketoiminta

Tutkimuksen alkuvaiheessa tutkimuksen kohdeyrityksessä oli aloitettu uudenlainen myynnin ennustamisen toimintamalli, jonka tarkoituksena oli kyetä tekemään ennakoivia päätöksiä liiketoiminnan suunnittelussa. Ennusteiden todettiin kuitenkin olevan liian epätarkkoja käytettäväksi tavoiteltuun käyttötarkoitukseen. Tämä tutkimus tehtiin lisäämään ymmärrystä siitä, mitkä asiat vaikuttavat myynnin ennustamisen kokonaisuuteen ja kuinka nykyisiä käytäntöjä voitaisiin kehittää.

Tutkimus toteutettiin hyödyntämällä teoriapohjana olemassa olevaa kirjallisuutta, jonka avulla arvioitiin kohdeyrityksen toimintaa tavoitteena tunnistaa mahdollisia kehityskohteita nykyisissä käytännöissä. Tiettävästi saatavilla ei ollut viitekehystä, joka kuvaisi myynnin ennustamisen johtamisen kokonaisuuden erityisesti asiantuntijapalveluliiketoiminnan toimintaympäristössä, jossa tutkimuksen kohdeyritys toimii. Siitä johtuen tutkimuksen teoriaosuus keskittyi käsittelemään asiantuntijapalveluliiketoiminnan erityispiirteitä ja lisäksi esiteltiin kattava viitekehys myynnin ennustamisen johtamiseen. Näiden kahden osa-alueen tietoja yhdistämällä toteutettiin tutkimuksen empiirinen osuus, joka keskittyi arvioimaan myynnin ennustamisen johtamisen nykytilaa kohdeyrityksessä. Osallistuva havainnointi oli tutkimuksen pääasiallinen tiedonkeruumenetelmä. Strukturoimattomia haastatteluja käytettiin apuna tilanteissa, joissa pelkän havainnoinnin avulla saatu tieto ei sellaisenaan riittänyt arviomaan tiettyä myynnin ennustamisen johtamisen osa-aluetta. Havainnointi toteutettiin aikavälillä heinäkuusta joulukuuhun vuonna 2015 ja aikaväli sisälsi noin 110 havainnointipäivää. Strukturoimattomia haastatteluja käytettiin yhteensä 7 kertaa edesauttamaan käytäntöjen arvioimista.

Tutkimuksen lopputulos tarjoaa kohdeorganisaatiolle paljon tietoa siitä, mitkä asiat vaikuttavat myynnin ennustamisen käytäntöihin. Tuloksista on selkeästi huomattavissa, että useilla myynnin ennustamisen johtamisen osa-alueilla on kehittämiskohteita, joiden avulla voidaan saavuttaa parempia tuloksia. Tutkimuksen lopulliset tulokset pitivät sisällään kehittämissuosituksia jokaiselle neljälle pääosa-alueelle, joista käytetty viitekehys muodostui. Suosituksia löytyi yhteensä 13 kappaletta ja ne painottuvat myynnin ennustamisen kyvykkyyden osa-alueelle, joka pitää sisällään myynnin ennustamiseen liittyvät tietovirrat ja niiden jaetusti tehtävän tulkitsemis- ja arviointitoiminnan.

PREFACE

Writing this research has been a challenging project but, on the other hand, it has taught a lot about the topic field and also myself. It has been extremely interesting and fruitful to be a part of an organization which is operating in the forefront in offering specifically positioned professional services in the globally growing ICT market environment. Conducting this research has taught a lot how consultancy business is operated in the target organization and time spent in the target organization has also got me to know many great people alongside this project.

First of all I want to thank my official examiner Nina Helander for getting the work on track in the beginning and also for keeping it on track when going towards the finish line. Special thanks are also deserved by the people in the target organization who helped me to find a suitable topic for the research and also for helping me to push through the project. In addition, major gratitude is owed for the compassionate people that have involved the most closely in the everyday life during this time-consuming project.

All in all, it was a pleasure to work on this thesis among all the great people involved.

Helsinki, 14.3.2016

Pietari Järvinen

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1. INTRODUCTION

1.1 Research background and motivation

Sales activities are in a critical role when considering the long term existence of almost any kind of enterprises (Cravens et al. 2011). If sales activities fail to achieve set goals, create new customer relationships, or even keep the already existing ones, the situation might end up to be challenging regarding profitability and possible business growth goals. Those issues are valid especially in professional services business in which the employees' salaries are paid regardless they have billable work or not. In order to ensure that the executive management is aware what is the situation regarding near future and accordingly adapt business to that, the management needs to be offered with information they can use for rational decision making. This is the case when successful sales forecasting and all the related activities of it get into the spotlight.

Poor measuring and transparency through the sales activities makes it challenging to proactively make rational decision and improve in the critical spots. In the middle of everyday operational work, it might be even hard to spot the critical spots if the relevant information is not explicitly available. In order to avoid that the management just leans on their gut feeling and check how business activities went after each month, quarter and fiscal year, the management needs information to create achievable sales targets, evaluate sales forecasts and also to measure the sales and other business activities performance (Mentzer et al. 1999; Harvard Business Review 2006; Ledingham et al. 2006; Reinartz & Ulaga 2008; Becker 2013).

Consequently, sales forecasting can be considered to be in a critical role what comes to setting targets and measuring the performance and goal-achievement level beforehand (Moon et al. 1998). The successful use of sales forecasting techniques might help getting the sales performance goals to the realistic level, and also do adaptive moves reaching targets before it is too late afterwards. Therefore sales forecasting is considered to be one of the main information tools of sales management as long as it is done in a proper way. This means the forecasting is integrated into the related processes, organizational and technology-based factors are taken into account and, in addition, the organization is able to continuously learn with the experience gained regarding forecasting work. (Mentzer et al. 1999; Davis & Mentzer 2007; Cravens et al. 2011)

Geiger & Guenzi conducted a research (2009) in which they evaluated the fields of sales activities that could benefit from academic insight. As a result of the research, it was noticed that there are three most important sales management fields for organizations that could also benefit from academic knowledge: budgeting, performance evaluation and forecasting. Among those three topics, performance evaluation is the only one that

has been researched relatively a lot, and the remaining two would need a lot of academic input measured by the amount of published articles of each topic.

In the case company of this research, the present practices for short-term (3 months forward) sales forecasting are on an experimental level as they were implemented into use in June 2015. Shortly after taking the current practices into use, the accuracy can be said to on a level that does not make it possible to use forecasts reliably for proactive business planning. The target organization strives the short-term sales forecasts to be used in a supportive role in revenue forecasting, resourcing and also learning where are the most critical points for learning in sales activities. But as said, the practice is not on a level that it could be used reliably so. As there is not prior experience and in-depth knowledge how this type of short-term forecasting should be done, there neither is awareness how the whole sales forecasting management could be improved systematically in order to achieve the goals.

The moment for doing this kind of research is very favorable when considering the situation of the target organization. The importance of successful sales forecasting is noticed and a short while ago implemented practice is on an experimental level with unsatisfactory level of accuracy. When the business is still operating from a single business unit and there are still relatively small amount of sales personnel, it is very favorable situation to test and implement new procedures. The reason for this is that the communication and measuring the testing of new ways of working will be easier and all the possible benefits will accumulate alongside the expansion of the business measured by the headcount or the amount of geographical business units.

1.1.1 Case company

In this research, the target organization is a midsized Finnish enterprise in the field of business-to-business (B2B) professional services. In more detail, the operational business environment is mainly in the ICT sector with consultancy service offering that is precisely positioned in specific type of services. There are a wide variety of skill specialties available in the company and some of the skills are available only by some individuals in the company. Every one of the assignments needs to be customized according to the customer's needs and the required skillset of each assignment depends on multiple things depending on the customer's business environment and type of assignment. Workloads in typical assignment types vary from one man-day to hundreds of them. All in all the case company's business environment can be described to be very diverse in many ways.

In the beginning of this research, the company has approximately 150 employees and 10 of them are part of the sales force. The fiscal revenue is between 15 to 20 million euros and strategic goals aim for decent growth which includes also striving for more international presence. In order to achieve pursued strategic growth rates, the company has

recruited more sales personnel in addition to new consultants. In professional services business, recruitments in the areas of sales and consultancy are the main tools for reaching growth goals measured by generated revenue.

As there are strategic growth goals, the target organization has identified the importance for being able to do business planning in proactive way instead of just reacting after each measurement time period. The company has made an observations based assumption that even short term, meaning three month forward sales forecasting, is sufficient in order to adapt business activities proactively according to the expected sales opportunities to be won. In addition to the financial aspects, from operational point of view the proactive adaptation and business planning means basically awareness of right type skills available in right time and also prioritizing specific sales opportunities based on some rational input of information.

The more there are both sales personnel and consultants with specific skillset, the more challenging it is to manage sales in a way in which there is understanding what is the probability for reaching the sales goals or not. The effectiveness of relevant information gathering and sharing comes more and more significant as there is less time per person to share useful information in weekly face-to-face meetings. When the business is aiming for organic growth, there is increased significance of executing everyday sales activities rationally in a way that supports reaching the goals. Also the role of sales personnel's productivity is emphasized as the headcount rises. In addition, as the company is looking for more international business opportunities, it might have an impact that complicates sales management even more especially if the internationalization strategy means offshore sales personnel or partners.

1.1.2 Research goals and questions

By combining Geiger & Guenzi's research (2009) findings and the gap between the aimed purpose of sales forecasts and the achieved maturity level of the current practices, it is reasonable to conduct this type of academic research around the subject of sales forecasting. In order to get a broad understanding of the things affecting to the sales forecasting and its accuracy, it is more suitable to discuss about sales forecasting management instead of just sales forecasting. The definition sales forecasting management is considered to explain more widely the relationship of things affecting to the sales forecasting and how they possibly can be controlled as unified system (Fildes et al. 2003).

In order to get the case company closer to the set goals for sales forecasting, two research goals (RG) for this study can be derived:

RG1: *Achieve understanding how the whole sales forecasting management system is formed and linked between different functions in the case company.*

RG2: *Find ways how to improve sales forecasting management practices in the case company.*

These research goals aim for better understanding of the factors that affect to the whole forecasting management. A better understanding of the possible critical issues affecting negatively to the target organization's sales forecasting management is also expected as a result of the research. By increasing the awareness of those things and reflecting them to the academic knowledge of successful ways of practices, it is possible to point out things to concentrate on in improving in the target organization. As summarized results of reaching the goals set for this research, the target organization should have recommendations how the sales forecasting management could be improved in the future, and consequently, get sales forecasting closer to the level in which it can be used for proactive business planning.

So, the research goals aim to help design solutions how to develop sales forecasting management in the target organization which is operating in the field of B2B professional services. To achieve to the research goals, the main research question (RQ) can be defined as follows:

RQ: *How sales forecasting management could be improved in the target organization operating in the business field of professional services?*

In order to answer the main research question, there is supposedly insight needed from these following main fields: the characteristics of professional services and the sales forecasting management as a whole. These fields can be taken into account with sub-questions (SQ) that help finding the answers to the main research question. The relation between sub-questions and main research question is illustrated in Figure 1.

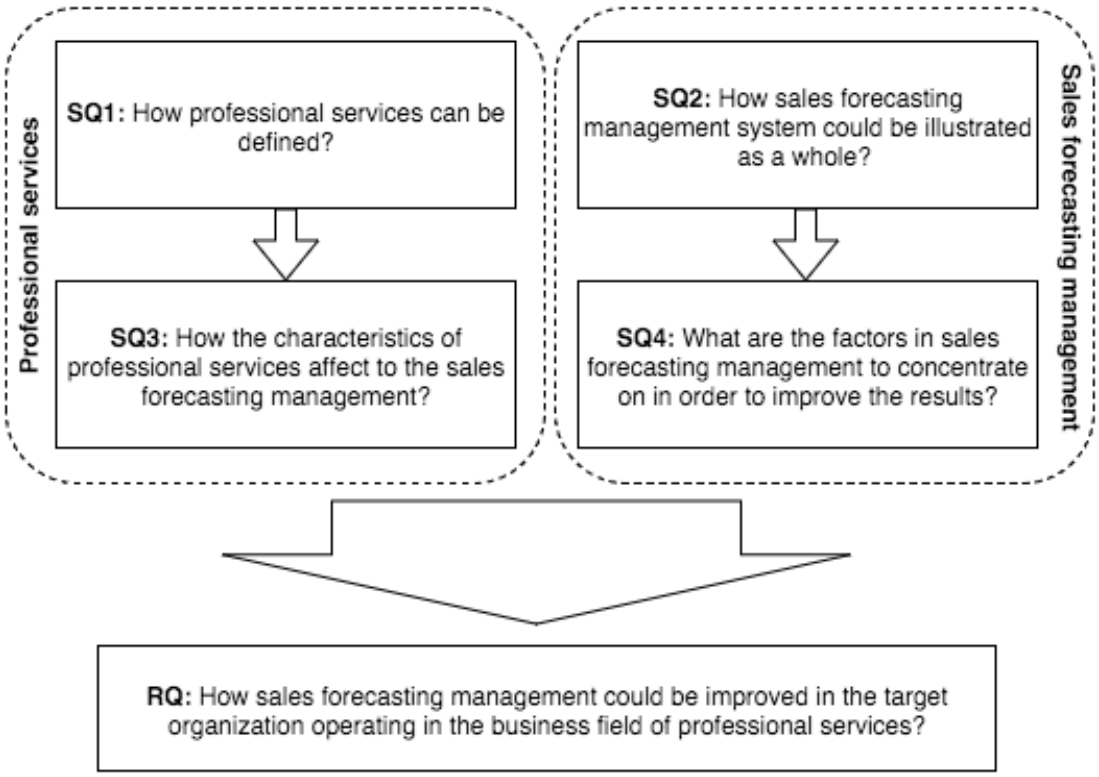

Figure 1. *Illustration of the research questions.*

As illustrated in Figure 1, there are four sub-questions that help finding the answer to the main research question:

- **SQ1**: How professional services can be defined?
- **SQ2**: How sales forecasting management system could be illustrated as a whole?
- **SQ3**: How the characteristics of professional services affect to the sales forecasting management?
- **SQ4**: What are the factors in sales forecasting management to concentrate on in order to improve the results?

There are two sub-questions in both of the upper-level fields of academic research and those are professional services (SQ1 & SQ3) and sales forecasting management (SQ2 & SQ4). In order to be able to manage forecasting better in the target organization, it is necessary to be aware how sales forecasting is done at the moment. Then the next step is to identify what are the most important things affecting to it and what could be done to improve sales forecasting accuracy and through that reliability.

Sales do not follow any constant pattern in the organization which could be modeled only statistically to get accurate enough answers to the forecasting. The reason for the variation in the near future sales is that the service portfolio is very wide and the services are not tightly standardized and productized because customers' needs vary in almost every case. This low level of standardization meets the characteristics of professional services and this aspect increases the challenges of measure sales performance and forecasting (Sonmez & Moorhouse 2010). So, in order to be able to understand

sales forecasting management better, it is necessary to examine the characteristics of professional services on a little more detailed level in addition to the area of sales forecasting management itself.

1.1.3 Scope and limitations

Sales management is a very complex and multidimensional part of business activities (Geiger & Guenzi 2009). As the sales management consists a lot of different things and aspects, all of them cannot be taken into account in this research and therefore the scope needs to be defined accurately enough. Figure 2 illustrates Geiger and Guenzi's research (2009) findings what are the most important fields in sales management for organizations and academics and in addition how well those fields are covered in the academic research. The size of each balloon indicates the relative amount of academic research made of each field.

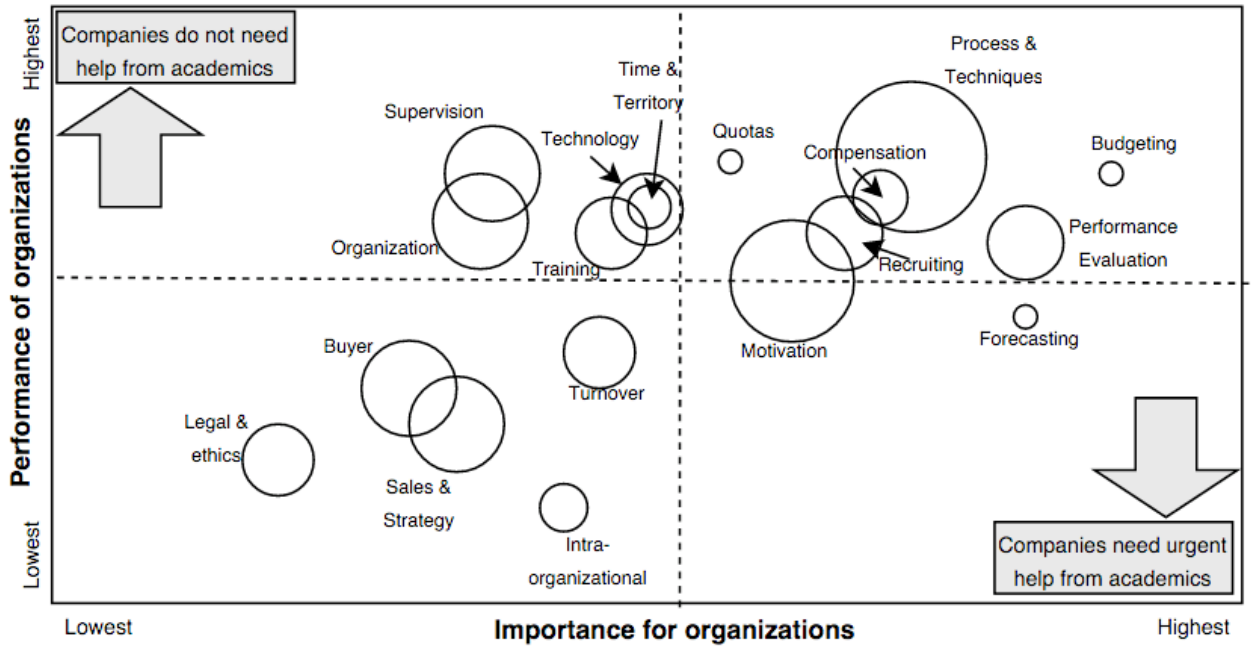

Figure 2. *Importance and performance of different fields in companies sales management and how the fields are covered by academic researches. (Geiger & Guenzi 2009)*

In relation of sales management, the focus of this research is in the forecasting. Indirectly there are also minor parts of performance evaluation, process & techniques, buyer, motivation and compensation in the scope of the research. As Figure 2 shows, especially forecasting is one of the subjects academic world has done only a little research compared to the importance to the organizations. In contrast, performance evaluation has got more attention amongst academics as it is also seen as a very important subject for organizations. In addition to the lack of research regarding forecasting in general, there is even higher lack of forecasting related research made in the area of service business or especially in professional service business. This causes own challenges on adapting lit-

erature of forecasting in product business environment into the service business even though there are supposedly also many similarities in these types of businesses regarding the sales forecasting management.

Altogether there is one main field of sales management concentrated on this research and a few subfields. In some cases it would be reasonable to keep the focus in narrower scope and exclude the subfields in order to get more in-depth information as a result. In this case though, it is more reasonable to get more extensive basic information from the subject of sales forecasting management. The reason for this is that the sales forecasting is a relatively new activity in the target organization and therefore the activity is still finding its form in practice that meets the goals set to the activity. In addition, the target organization is in a strategic phase which might mean relatively quick changes, and therefore, the most valuable thing is to get the basics done well with the support of academic information. And after that, it is possible to start develop the processes in relation to sales forecasting management to support the everyday business activities.

The fact that this is exploratory research, and not descriptive or explanatory, also add own attributes to the scope of the research. Explanatory research does not try to find very in-depth answers to the research questions by explaining all the accurate details from the subject (Saunders et al. 2009, pp.139–141). Instead, the idea is to find, for example, the things linked closely to the new phenomenon researched. In this case the new phenomenon researched is the performance of the sales forecasting management and therefore there will not be very detailed drill down made to the practices how sales forecasting numbers are conducted and how the accuracy of the final numbers could be ultimately improved. Of course, rough level answers how things should be done differently, or what would be the things to pay closer attention to, are supposed to be found in this research.

Lastly, it is also necessary to clarify the defined basic information of the sales forecasting management which affect to the scope of the research. Sales forecasting means estimated value of the contracts to be signed in the near future. Also the detailed type of the assignment is a part of the forecasting which means required consultants or skillset and amount of demanded workload. Near future, or in other words short-term forecasting, is defined to mean timespan of three months in this case. So this research does not try to find answers for the question how to predict revenue or even invoicing. Indirectly the described short-term forecasting is linked to the longer term revenue forecasting but it is more like one input to that instead of the practice itself. Shortly put this research concentrates on the phases of sales activities until the sales opportunity is closed either with contract signed or opportunity lost without getting a contract.

1.2 Research philosophy, strategy and methods

In order to choose research methods, it is necessary to be aware of the different research philosophies and how they fit in different kind of research targets (Saunders et al. 2009, p.108). Saunders et al. present in their book (2009) a model which includes each layer from research philosophy to data collection and analysis. They also point out that it is reasonable to point out that even though there are somewhat accurate definitions for each option in each research method layer, it does not mean that there should be strictly chosen only one on each level. This section presents the chosen methods for this research, the reasons for each choice and how they affect to the research.

1.2.1 Philosophy

This section discusses different research philosophies and explains choices made in this research regarding them. According to von Wright (1970), the main philosophical question to answer first, is the question if the research is made by using positivistic or hermeneutic point of view. The positivistic philosophy is typically used in researches made in the field of natural sciences as it usually aims for very objective answers by using quantitative methods with large samples (Saunders et al. 2009, p.119). Hermeneutics aims more for increasing understanding towards the subject area which is somehow related to socially constructed business environment (Reason & Bradbury 2006). Hermeneutic research is usually qualitative and as it includes exploration and interpretation made by the researches, the final results can be considered as somewhat subjective (Olkkonen 1994, p.38). In hermeneutics, it is also distinctive to see that the knowledge created during the research is based on the relations between different functions and how they affect to each other (Ramberg & Gjesdal 2014).

This research is conduced in a business environment in which the people are directly involved to the researched actions and this supports the idea of this research being built upon the research philosophy of hermeneutics. In addition, the first one of the research goals (RG1) aims to increase awareness how the whole sales forecasting management is related to the other functions in the business. Also increased understanding towards the research subject is made since the beginning of the research as the further parts of the research are mainly based on the theory gathered in the beginning of the research. There are also characteristics that increase the aspect of subjective interpretation made by the researcher. There is limited amount of academic research papers available in the context of sales forecasting management especially in the professional services business field, and in addition, every professional services business organization is considered to be somewhat unique (McCarthy Byrne et al. 2006; Geiger & Guenzi 2009; Sonmez & Moorhouse 2010). Based on these aspects, the choice of the hermeneutic philosophy over the positivism is considered to be reasonable in this type of research.

1.2.2 Approach

When planning a research, one needs to identify in the beginning if the research is suitable to be conducted by using qualitative or quantitative methods. In some cases it might be reasonable to use multiple methods including both qualitative and quantitative, or even mixture of both methods (Tashakkori & Teddlie 1998). When aforementioned things are clear, it is more easy to find suitable information gathering and analysis methods, and in addition, the approach for the research.

Regarding the research strategy, the research approach explains basically how the final results are conducted in the research and there are two main types of it used. Usually researches are either inductive or deductive, but especially in qualitative researches, there is possibility to more conveniently mix these approaches compared to quantitative research. Business related research with social elements is in most cases challenging to do by using quantitative methods and therefore they are most often deductive. (Saunders et al. 2009.) Qualitative research include very often subjective interpretation made by the researcher, and therefore, that type of research is challenging to be generalized. This aspect makes it natural to form deductive approach over inductive in research which is made in the field of business or social science. (Bryman & Bell 2007, pp.423–424; Saunders et al. 2009, p.489.)

Based on the findings regarding the approach and by putting them to the perspective of the research goals, questions and philosophy, this research is mainly conducted by using deductive approach. That is quite unambiguous when considering the goal of forming understanding of the concept of sales forecasting management in specific business concept. This will happen by using an existing framework as a basis of linking the empirical research environment to the existing knowledge in the subject field. The used method will probably require interpretations made by the researcher, and in this type of research, there is practically no possibility way of using quantitative methods without significantly simplifying things in order to quantify the gathered research information. According to Saunders et al. (2009, p.127), all these characteristics support the idea of conducting the research with emphasis on deductive approach.

In addition to the main strategy including approach of the research, Saunders et al. (2009, p.155) suggest also to consider the time horizon of the research. There are two main types of time horizons and they are cross-sectional and longitudinal. Longitudinal studies concentrate mainly to find how some specific research objects change during time or some other variable. Cross-sectional studies then examine some object at a certain point of time. This research aims to illustrate how sales forecasting management is done at certain point of time and what could be done to improve practices in use. Therefore it can be unambiguously stated that this is cross-sectional research in regard of the time horizon.

1.2.3 Strategy

The research strategy is based upon the research approach as it forms understanding of the boundaries used in the phase of information gathering and analysis. Choosing suitable research strategy is also dependent for the defined research goals and questions including also the scope of the research. The final strategy can be also a combination of strategy if it is more suitable for some specific type of research. (Saunders et al. 2009, p.141.)

In this research, the approach is formalized to be qualitative, deductive and cross-sectional regarding the time horizon. These characteristics mean that there will be interpretation made by the researcher, the type of the results will be hard to generalize and there will not be any time-based iteration rounds because of the cross-sectional time horizon. The lack of iteration rounds for planning, acting, observing and reflecting excludes the otherwise possible action research from the strategy options (Reason & Bradbury 2006).

Case study can be defined as a strategy for research in which there is real life context in the empirical part of the research and there are multiple sources of information used in the investigation (Robson 2002, p.178). In a typical case study, the empirical investigation is done in a flexibly controlled environment (Saunders et al. 2009, p.146). In this research the information gathering will happen by sense-based observations in social interaction with the help of the theory base information gathered from previous research literature. Also documentations of the internal processes, information systems and ways of working are used as sources of information. As a conclusion based on the described attributes of the research, the strategy can be formalized to be a case study.

This research scope is defined to be the boundaries of the whole sales forecasting management and the boundaries are meant to be defined by the previous researches. In the case company, the sales forecasting management involves multiple personnel and affects more than one team inside the whole organization, so this study can be considered to be an embedded case instead of a holistic case (Yin 2003). In addition, there is no need for investigating multiple cases in which the sales forecasting management case would be an input to another case. Consequently the research is also defined to be single case instead of multiple cases research (Yin 2003).

1.2.4 Information gathering and analysis

Sales forecasting management is relatively a new thing in the case company. In addition there is not much experience how related things should be done in practice in order to achieve good results. Therefore it is natural to lean mainly on external sources of information in regard what are the things to concentrate on identifying the things to improve in sales forecasting management. Supposedly it makes it also more probable to identify

possible pitfalls if there are external information sources used because it avoids to concentrate only on the things that internal personnel have paid attention to. This supports the idea of not using for example structured or semi-structured interviews as the main information gathering method (Saunders et al. 2009, pp.320–323).

In order to make sure that the important aspects spotted by other researchers are taken into account, this research is conducted in a way in which the empirical part of the research is done by linking the empirical information to an existing framework. By conducting the research this way, information gathering from existing researches is essential in order to find a suitable framework and additional information of the things to concentrate on in each phase of the framework.

During and after finding suitable theoretical framework to be used, empirical information will be gathered in the target organization. The main method to be used will be participant observation in a way in which the researcher's role is characterized to be the participant as an observer in the case company. Figure 3 shows the other possible roles when using participant observation. Basically participant as an observer role means that the researcher is known to be doing a research and also taking somehow part in activity which is going to be researched (Gill & Johnson 2002).

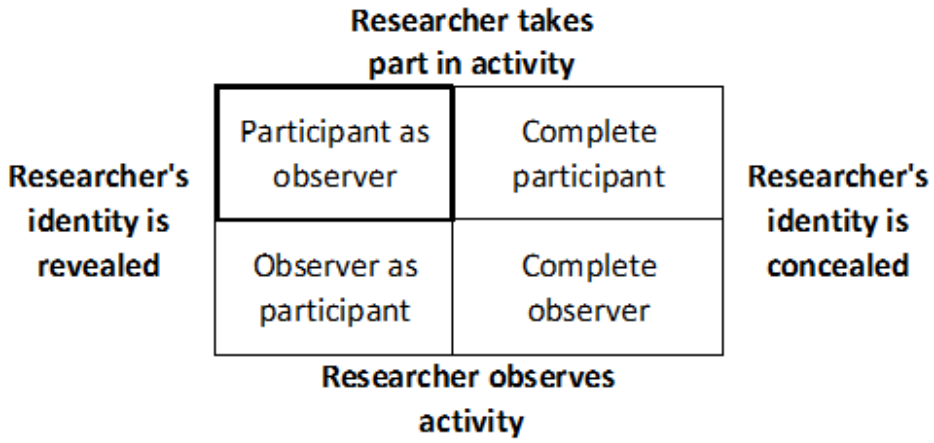

Figure 3. *Different roles in participant observation. (Saunders et al. 2009, p.293)*

The researcher is not conducting sales forecasts but is taking part on interpreting them and also partly responsible for spotting the issues involved in the practice. If there appears to be things that need somehow to be clarified in addition to the observation information gathering method, short unstructured interviews are used for that purpose. In the most simple form, this means basically short conversations with the persons involved in the research. According to Saunders et al. (2009, pp.321–323), unstructured interviews are the most appropriate form of interviews in this type of exploratory research instead of descriptive or explanatory.

After gathering the empirical information for the research, analysis will be made by comparing the practices and procedures in the target organization to the best practices introduced in the research literature. Also organization specific issues spotted only in the observations will be taken into account in the results chapters.

1.3 Summary and research structure

The methodologies used in this study are summarized in Table 1. The effects of each methodology to the research are also shortly explained in the table.

Table 1. *Summary of the research methodologies used.*

Concept	**Methodology**	**Effect to the research**
Philosophy	• Hermeneutics	Insufficient amount of baseline information for the specific business environment of the case company in addition to the qualitative nature of the gathered information forces the researcher to do subjective interpretations.
Approach	• Qualitative • Deductive • Cross-sectional time horizon	There is existing framework that is used to evaluate the practices in the target organization instead of creating a framework which would be more suitable in quantitative research. Cross-sectional time horizon means also that there will be an illustration of current state instead of iteration rounds regarding improvements.
Strategy	• Embedded single case study	One case in an environment which is linked to one or more functions that are not in a spotlight of this research.
Information gathering and analysis	• Existing research literature as the theory base • Participant observations with supportive unstructured interviews in gathering empirical information • Empirical infor-	Theory from existing researches in two different fields need to be combined by the researcher. This requires interpretation made by the researcher and therefore makes the results of the research more challenging to be replicated. The same problem is concerned with the observations and unstructured interviews as the information gathering methods.

	mation is analyzed with the help of literature theory base	
Results and conclusions	• List of the issues and things that could be improved based on the analysis • Recommendations how to improve sales forecasting management in the target organization	The results of the research are mainly usable only in the target organization.

The research itself is structured from seven main chapters which are illustrated in Table 2.

Table 2. *Structure of the research.*

Chapter	Subject
1	Introduction
2	Professional services business
3	Sales forecasting management
4	Empirical part of the research explained
5 6	Results from observations and theory based analysis divided into two chapters
7	Conclusions

Chapters 2 and 3 form the theoretical base for the research as they give understanding of the research topic. Chapter 2 discuss the characteristics of professional services business in general and commercial point of view and Chapter 3 gives understanding of the sales forecasting management and, in addition, introduces the sales forecasting management framework used as a theoretical base in the analysis. The empirical part includes three chapters starting from Chapter 4 which introduces how the empirical part of the research is conducted. Chapter 5 illustrates the findings of the observations and Chapter 6 introduces the theory based analysis findings from the empirical information gathered. Then in the end, Chapter 7 concludes the research and summarizes the key findings.

2. CHARACTERISTICS OF PROFESSIONAL SERVICES BUSINESS

2.1 Introduction to service business

Companies' interest towards service business has been increasing in the past century. Many businesses have transformed from pure product business to service business in a way that services add value to the products sold or even that the services are the main value adding media to the customer (Jacob & Ulaga 2008; Maglio & Spohrer 2008). It has taken a long road from the days when services were not in a significant role in nations' national economy (Smith 1776). During those days in few centuries ago, industrialization was on early stages and driving development in productivity of manufacturing products and widening the possibilities of manufacturing different types of products. During the time of industrialization, the scale of it reached a point in which it was identified that there appears to huge possibilities of creating competitive advantage through developing the manufacturing processes. (Porter 1985.) This included especially cost leadership, introduced by Porter (1985) as a strategic goal to gain competitive advance. Alongside the development in productivity of the manufacturing industry, services have been taking more and more significant portion of nations' gross domestic product (Central Intelligence Agency 2015; The World Bank Group 2015).

While product manufacturing has continued to reduce its significance in creating national wealth, the importance of managing knowledge as a form of intellectual capital in creating customer value is identified as one of the keys to organizational success (Jacob & Ulaga 2008). As a result, there has been a widely spread shift from a pure goods production companies to service solutions selling companies in the business-to-business oriented market (Vargo & Lusch 2004). In order to get a comprehended understanding of what this type of shift actually means, it is essential to take a closer look how product and service businesses differs.

It is noticeable that services cannot be defined by using a simple logic that they are what products are not even though there are characteristics that would imply so (Moeller 2010). IHIP has been widely used acronym for many decades to describe the characteristics of services. The characters of the acronym IHIP consist of words intangible, heterogenic, inseparable and perishable. The characteristics of these four words are defined in more detail in Table 3.

Table 3. *IHIP characteristics (Adapted from Vargo & Lusch 2008; Moeller 2010)*

Intangibility	• Services cannot be touched or felt • Resources are knowledge and human based effort
Heterogeneity	• Standardizing services is difficult or not always reasonable • Same delivered service might differ regarding o Service performance and outcome o Skillset and persons responsible for the delivery o Services might transform over time o Customer's input
Inseparability	• Production and consumption of the service is somewhat happening in the same time • In some cases the service provider needs to be physically present in the time of consuming the service
Perishability	• Services cannot be stored • Unused resources cannot be used afterwards • Service cannot be returned in a way that the used resources would be re-usable

In addition to the general IHIP characteristics, the products and services business logics can be compared to understand better the main differences between everyday operations in product and service businesses. Table 4 summarizes the differences in a comparable form.

Table 4. *Comparison of service and traditional product business logics. (Adapted from Cronin & Taylor 1992; Vargo & Lusch 2004; Sonmez & Moorhouse 2010; Ritala et al. 2011; Parvinen et al. 2013)*

	Products business logic	**Services business logic**
Primary unit of exchange	Products and goods	Specialized skills and knowledge as a services
Role of goods	Goods are used to create end-products	Goods can be used in the value-creation process as an intermediate to deliver the skills and knowledge
Role of customer	Customers are recipients of the products and an operand to target activities	Customers used as resource as they involve in the production of services

Definition for value	Producer determines the value and it is embedded in the product	Value of the service is perceived and determined by the customer when the service-created resources are in use; service supplier can only give value propositions
Supplier-customer interaction	Interaction happens usually when the intention is to create customer transactions with resources	Customers and suppliers need to be active in co-production and other interactions in defining, delivering and confirming the service deliverables
Source of economic growth	Wealth is built upon increasing ownership, control and producing of tangible resources and goods	Wealth is obtained from the expanding exchange of specialized skills and knowledge and from the ability to keep the resources for future use
Measurement of quality	Mainly objective; usually measured by the amount of defective products produced, how well the products lasts intended use and how well the end-product matches the pre-defined attributes	Mainly subjective; the quality is partly subjective, hard to precisely measured feeling of the value created and dependable on the level of both ways understanding though the whole service delivery process
Evolvement of customer relationship	Customer relationship might be as evolved as possible already in the beginning and slowly decay during time if not somehow actively maintained	Customer relationship usually evolves starting from zero and gets continuously better during time as supplier understands better the customer's business via co-creation of the services

One way to still divide services into two separate categories is based on their type: generic and professional (Hill & Neeley 1988; West 1997). The next chapters concentrate more on the characteristics of professional services as they add some attributes to the generic services.

2.2 Characteristics of professional services

Professional services firm (PSF) can be defined to be an organization in which the majority of the income generated is by people who are experts in some established profession (Empson et al. 2015). This is a very heavily simplified definition which does not go deep down to the categorizations of 30 knowledge-based sectors that can be used to define what organizations are involved in professional services business and which are not (Von Nordenflycht 2010). The stated simplified definition for PSF does not express well-enough the actual differences between generic service firm and a PSF. Empson et al. (2015) propose that a PSF can identified amongst generic service firms if a company fulfills all the four characteristics illustrated in Figure 4 with some extent. Generic service firms can have some of the characteristics but in order to be defined as PSF, all of them are part of the company.

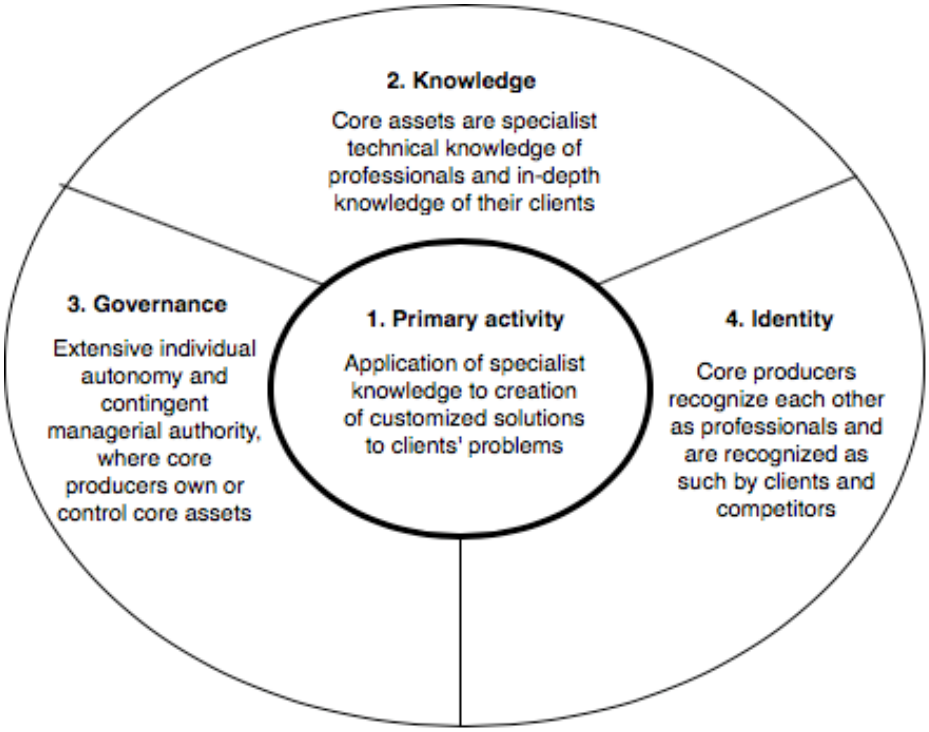

Figure 4. *Characteristics of a professional services business firm. (Empson et al. 2015)*

1. Primary activity as a core characteristic of the PSFs, defines that specialized knowledge assets are used to create custom solutions for the customers' problems. This definition excludes some of the knowledge-intensive firms out of the categorization of PSF. As an example, software business which creates packaged software and then sells it as an identical one for different kinds of customers, is excluded out from the PSF category (Empson et al. 2015).

2. Knowledge, meaning more exactly expertise or know-how, is also in a very important role in the PSFs. Individuals need to develop their professionalism based on knowledge and then it is seen important to share the knowledge more widely in the or-

ganization in appropriate way (Morris & Empson 1998; Empson 2001). Customers have also an important role is professional services business as the PSFs need to acquire understanding of the customers' business in order to create solutions that help their business in an appropriate way (Fincham 1999; Handley et al. 2006).

3. Governance in relation to the characteristics of a PSF means that experienced professionals expect individual autonomy when they are making decisions regarding customized service delivery to the customers (Seron & Freidson 2002; Faulconbridge & Muzio 2008). Basically this means that organizations with clear hierarchy and conventional bureaucracy regarding decision making in customer projects are not categorized to be PSFs even though they otherwise would match the defined characteristics (Empson et al. 2015).

4. Identity means a shared understanding of the main concept in which the professionalism creates an ethically formed framework that guides actions amongst the professionals (Grey 1998; Evetts 2006; Muzio & Kirkpatrick 2011). The identity built upon professionalism means appropriate attitudes, commitment, commercial understanding, and focus in the customer (Anderson-Gough et al. 2000). Development of professional kind of identity is usually based on years of education and professional training (Empson et al. 2015). The identity which guides own actions and creates commitment can be considered essential in an organization in which the formal governance and bureaucracy is minimized.

In contrast to the four characteristics professional services, generic services can be learned relatively fast and delivered without significant customizations and in-depth understanding of the customer's business. Generic services can be more easily fully standardized without any significant differences between different times delivering the services to even different types of customers. (Sonmez & Moorhouse 2010.) Professional services are more or less unique each time delivered and the required professionalism is based on long-term experience or deep interest to the subject in order to master them in a professional kind of manner (Sonmez & Moorhouse 2010; Empson et al. 2015). The capability of delivering services that solves customers' problems is based on the capability of managing intellectual capital in a way that creates value to the customer and employer and these are some of the key questions of the whole professional services business (Scarso & Bolisani 2010; Virtanen et al. 2015).

Due to the fact that the service firms are delivering something that is basically intangible in the moment of selling and purchasing, this leads to challenges in commercial questions that are typical precisely in the professional services business. One way to categorize these challenges is to take a closer look to the both sides, seller and purchaser point of view amongst the sales activities. The following chapter presents research literature based findings regarding the key questions in managing sales of professional services business.

2.3 Supplier-centric factors in selling professional services

This chapter concentrates on the key managerial factors that are present in the field of commercial points in professional services business. In more detail, the focus is on the sales phase in which the handoff from marketing is already happened. Figure 5 clarifies the phases of sales that are involved in the key managerial questions discussed in this chapter.

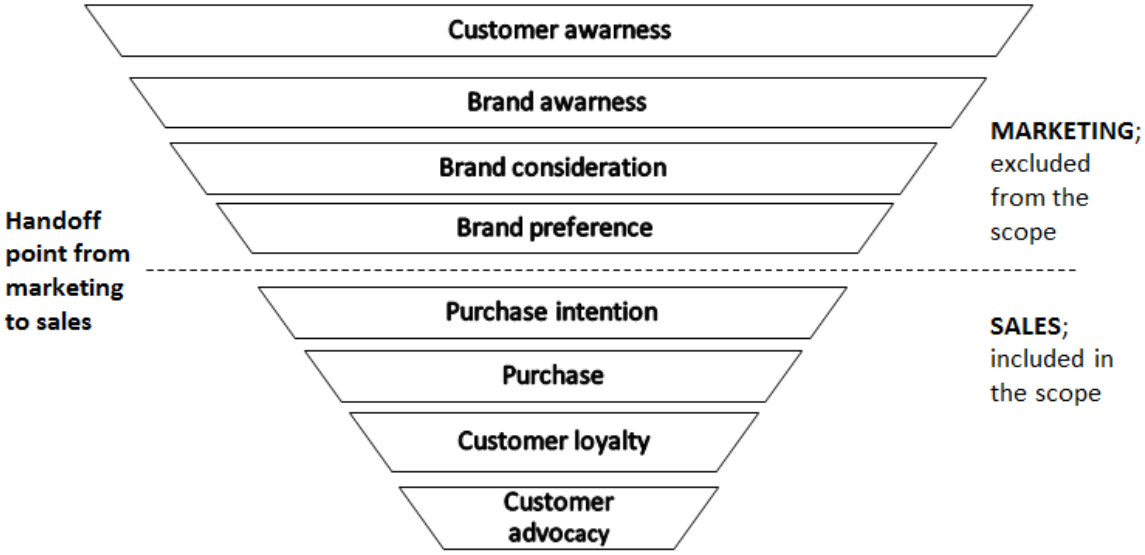

Figure 5. *Phases in which marketing and sales influence customers' purchasing decisions. (Harvard Business Review 2006, p.77)*

Service delivery business differs in many ways from the products selling business as shown in Table 3. The value of the product can be shown and even compared pragmatically in some cases before the decision of the final product and the supplier (Vargo & Lusch 2004). Services are characterized to be intangible, and in addition, the production and consumption happen usually simultaneously causing that the result of the service delivery is hard to be shown and understood in advance compared to products business (Sonmez & Moorhouse 2010). Therefore the service provider is forced to lean beforehand mainly on references and value proposition (Vargo & Lusch 2004; Sonmez & Moorhouse 2010).

The intangible characteristic and uncertainty of the final results make services buying even more complicated and somehow risky especially in the case of professional services when the customer might not be a specialist of the profession field by any means (Mitchell 1998; Sonmez & Moorhouse 2010). In addition to the uncertainty caused by the ignorance, the customer still should be ready to pay relatively high price for the service compared to generic services (Sonmez & Moorhouse 2010). And even after the service is delivered, the quality of the service is very hard to evaluate especially from the customer side.

This is partly caused by the fact that the service supplier is able to give only a value proposition before delivering the service and that might not be even the biggest reason. As the buyer might have only little expertise on the subject field of the professional services to be bought, there is a possibility that real need of the buyer is very hard to define and the buyer has challenges in comparing the supplier alternatives due to lack of expertise from the subject area. Therefore, in professional services business, the customers compare the possible suppliers based on the ability to show how well the supplier side professionals can transform their knowledge to customer value proposition before the final decision of buying the service is made. (Sonmez & Moorhouse 2010.) And after delivering the service, the buyer makes mainly a subjective evaluation of the beforehand expectations and value proposition to the perceived final results (Cronin & Taylor 1992).

As noticed, the characteristics of services business affect to the principles of the business management and they also require taking different kinds of things into account when offering services to the customers in comparison to selling products. In Figure 6, there is a summarization of what are the sales phase (see Figure 5) related key things to pay attention to in managing professional services business.

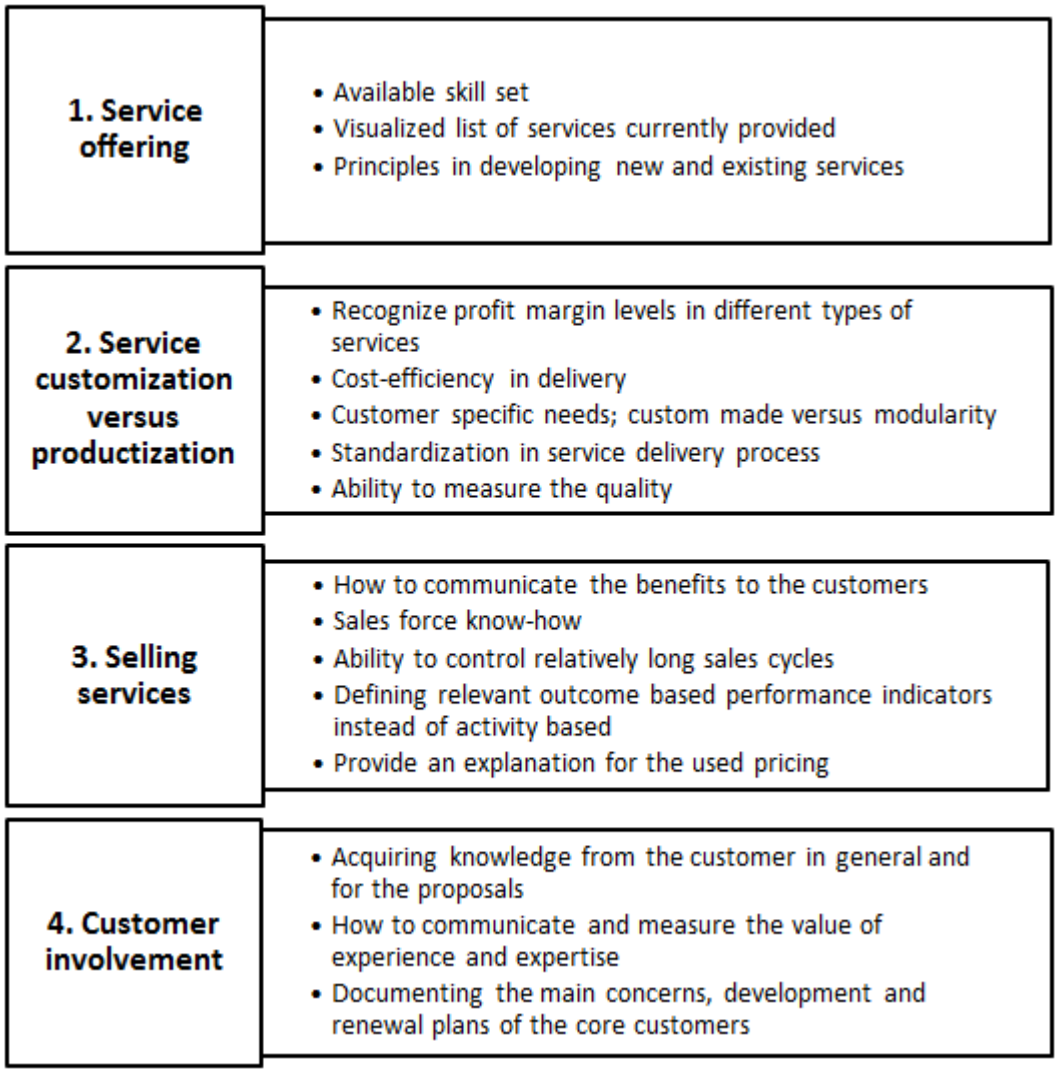

Figure 6. *Managerial key things in professional services sales phase. (Adapted from Reinartz & Ulaga 2008; Moeller 2010; Sonmez & Moorhouse 2010; Ritala et al. 2011)*

It is possible to form four main categories from the key managerial questions in selling professional services business. First field is related to the service offering and in more detail how it is developed based on the customers' needs. Things related include also the available skillset and tools how the services can be communicated to the customers in a way that they can understand beforehand what they are buying. Secondly, service delivery process is in spotlight in order to deliver services cost-efficiently and to ensure the quality and value of the service from the customer's point of view. Thirdly, the sales force know-how and sales activities in addition to measuring them are things that need attention. And lastly, the customer related things regarding how the relevant information can be gathered and documented from the customer. This information is considered to be important when communicating the understanding of the customer's business and then to be able to offer solutions to develop their business and solve their issues.

During past couple centuries alongside the increment of services business, the role of sales have reformed away from just generically selling services to the customers by

making the services seem appealing enough to buy (Leigh & Marshall 2001). Nowadays, and especially in professional services business, the role of sales is more like finding a way how the supplier can genuinely add value to the customer's business and how this added value is possible to be communicated to the customer beforehand (Leigh & Marshall 2001; Vargo & Lusch 2004). Alongside when the customers have become better aware what beneficial there could be available for their business goals, the sales are more responsible of creating a relationship with the customers instead of just doing short-term selling transactions occasionally (McDonald et al. 2000).

This reformation leads to a situation in which sales force is intended to learn continuously in order to be able to create and maintain customer relationships as well as possible. The input for the learning process comes from the customer interface and also internally by getting information how sales activities have gone and what have been the factors affecting to them (Harvard Business Review 2006; Geiger et al. 2009). Especially in professional services business, it is crucial to continuously learn finding right type of customers in which the customer's needs meet the knowledge capabilities of the consultants. Finding right type of customers can first of all increase revenue and sales functions productivity. And in addition, lead more probably to long-lasting relationship that benefit genuinely both parties instead of onetime project, and right after that, to customer churn. (Reinartz & Ulaga 2008.)

This is where successful information management through the whole sales process comes into the picture to help in maximizing the overall performance of the sales activities (Harvard Business Review 2006; Davis & Mentzer 2007). It is insufficient to only examine internal factors in reviewing sales performance as it does not give any information of the decisions made at the buyer's side. In order to avoid the ignorance caused by the information gap between the supplier and customer, the next chapter investigates the customer-centric factors they use in choosing professional service suppliers.

2.4 Customer-centric factors in selling professional services

When striving for developing sales management to achieve better performance, it is necessary to understand what are the decision criteria when buyers are choosing their suppliers. As a result of Sonmez & Moorhouse's research (2010), they made an implication that there are 11 main factors that explain the decision making regarding the purchase of professional services. Those factors are shown in Table 5.

Table 5. *11 main decision criteria when choosing professional services supplier. (Sonmez & Moorhouse 2010).*

→ **Highest importance**

Factor	**Description**
Service features	The service provider needs to understand the customer issues and needs and also the offering should be able to be customized according to the needs. Up-to-date service methods, opportunity to test services with low risk and the evidence of offering that makes longer-term relationship possible are also considered to be important.
Reputation	The track record or reputation of the service provider on delivering similar services.
International capability	Especially globally operating customer companies evaluate suppliers with the capability to deliver service by using native language for each branch.
Expertise	The ability to show that the company is offering persons with experience gained from formerly completed projects.
Ability to measure service effectiveness	Ability to measure the effectiveness of the service by using, for example, return of investment calculation or otherwise explicitly show the attainable benefit.
Relationship	Executive level buyers of professional services do prefer interaction with the persons who are responsible of delivering the service. Relationship factor includes also former experiences of the evaluated relationship.
Organizational capability	Organizational capability means the size of the company and the amount of personnel with relevant skillset.
Knowledge and understanding	Knowledge and understanding of the client's business and industry.
References	If the customer wants to see references, they are very valuable especially if the references are similar service done for similar sector clients. In many cases the potential buyer also values if they are able to discuss about the service with the representative from the reference company.

Lowest importance ↓

Cost vs. perceived value of the service	In the cases when there might not be sufficient budget available, or the person responsible of the purchase needs to convince the executive management responsible of the payment, it is valuable if the price is considered to be low compared to the competitors. Otherwise it helps if the value proposition of the service is possible to be proven with a business case for example.
Recommendation	In some cases, a recommendation of a colleague or a trusted peer regarding the service provider is valued by the persons responsible for buying professional services.

Based on the statistical analysis Sonmez & Moorhouse (2010) did, the 11 decision criteria in Table 5 can be first grouped into six main groups, and then, divided into two different types of groups that help to understand which main group decision criteria are normally used on each stage of the purchasing process. The two different types of groups are pre-qualifiers and final-stage differentiators. Pre-qualifiers are used when choosing supplier for the closer examination and final-stage differentiators are used when choosing the supplier from the final short list. The importance of the main groups and how they are divided into pre-qualifiers and final stage differentiator are illustrated in Figure 7.

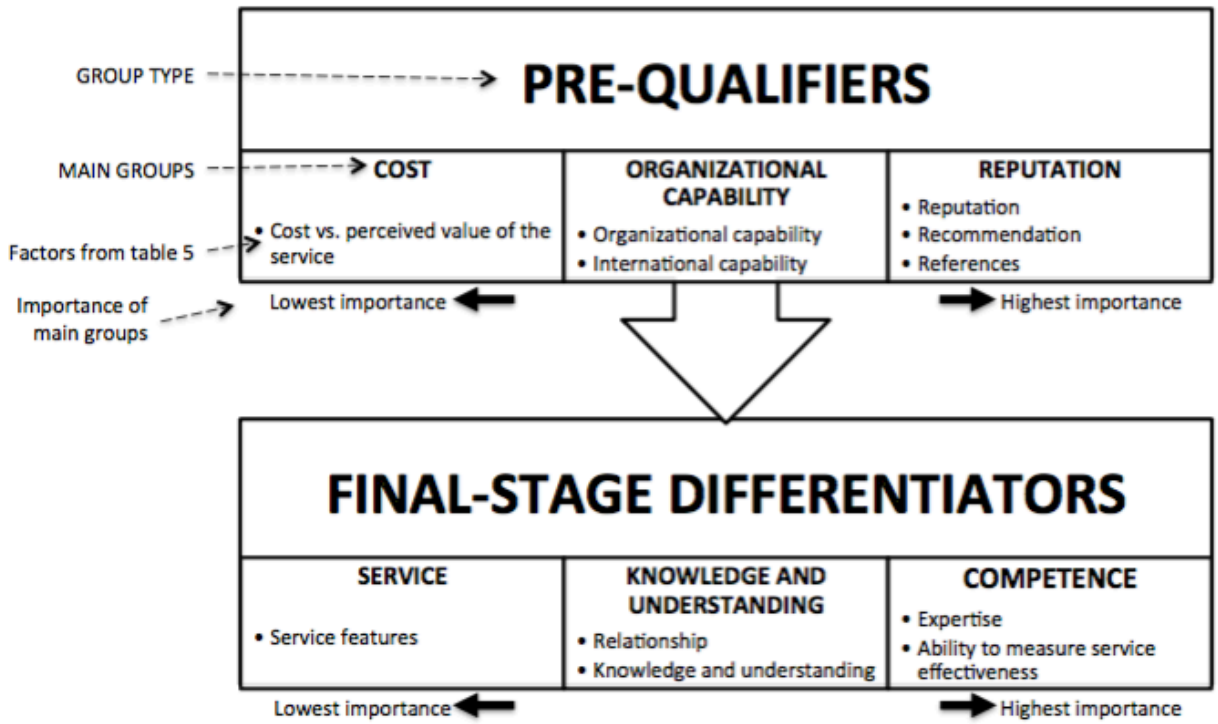

Figure 7. *Stages and criteria used in purchasing process. (Adapted from Sonmez & Moorhouse 2010)*

Figure 7 shows that the cost of the proposed value of service compared to the competitors is one of the least significant factors when choosing the supplier for professional services in pre-qualifying phase. The possibilities for a long-term relationship are taken into account already in the early phase as the organizational and international capability are included in the pre-qualifying factors. The recommendations, evidence and references of delivering similar services before are seen as the most important factors in the pre-qualifying phase.

After pre-qualification the most important factors seem to be related to the service and its features. This means basically that the supplier needs to be able to evidently convince that the offered service and its features will be the ones the buyer really needs. As so, the knowledge and understanding of the customer's business helps convincing the customer that some specifically defined service is the one they need. If the customer-supplier relationship is on a good level, the supplier can illustrate how the service benefits the customer and also prove that the supplier has superior expertise, the supplier will probably have a good probability to be chosen from the pre-qualified shortlist of the potential suppliers.

If the supplier understands on what basis the customer make choices of the suppliers, it is possible to understand better why some customers are for example choosing other suppliers in competitive situation (Sonmez & Moorhouse 2010). With accumulated knowledge of the competitive business environment, systematically keeping track and investigating reasons for winning and losing sales opportunities, it is possible to learn

forecasting better how upcoming sales opportunities are likely to end up (Davis & Mentzer 2007; Sonmez & Moorhouse 2010). This makes it possible to proactively act in a way that improves the probability for winning sales opportunities and also prioritize important opportunities in a situation when the resources are limited (Davis & Mentzer 2007).

As the customer relationships are based more on the earlier experiences and understanding of the customer's business environment than transactional factors in the professional services business, it might not be reliable to forecast short- or mid-term sales based on only the traditional statistical methods using historical demand and market development measures as an input for example (Davis & Mentzer 2007; Cravens et al. 2011). Furthermore, statistical forecasting methods might not help in understanding the whole sales forecasting and therefore it would be challenging to improve sales activities based only on the forecast numbers. The purpose of understanding the whole organizational sales forecasting system underlies in the possibility to proactively identify sales opportunities that need somewhat special care in order to perform better in both sales and operational business activities (Mentzer et al. 1999). Sales forecasting management can be considered as a broad tool for getting better understanding of sales and business performance and also to proactively strive for better results in both of them (Davis & Mentzer 2007). The next chapter introduces the principles of sales forecasting management via a chosen framework.

3. SALES FORECASTING MANAGEMENT FRAMEWORK

Forecasting has been identified to be an important tool for the management in business planning (Makridakis & Wheelwright 1977; Armstrong et al. 1987; Fildes & Hastings 1994; Mentzer & Gomes 1994; Sanders & Manrodt 1994). Forecasting is widely used regardless of the business industry and offering and there is high spectrum of the purposes. Here are couple of examples for what purposes forecasting can be used and what are possible things to aim for using such as practice for some functions (Moon et al. 2003):

- Identify potential customers and market opportunities
- Improve relationship in the supply or demand channels
- Offer better service and achieve higher customer satisfaction
- Improve operations management
- Predict financial status in the future

Even though the forecasting is a useful tool in multiple areas of business planning, it does not mean that it would be very straightforward to choose forecasting methods and implement them into practice to get good results. Forecasting needs to managed in a right way to obtain results and there might underlie some certain issues in it.

In the literature review conducted in 1977, there were three main areas that caused issues regarding forecasting from the management point of view: the forecasting method alternatives, selecting forecasting methods to take into practice and organizational factors affecting to the forecasting environment (Moon et al. 2003). In that time the researches concentrated only on the methods that affect to the forecasting numbers accuracy and how to implement them into use. In the late 1980s, it was noticed that success in broader sales forecasting management might lead to better results in operational and business performance instead of just more accurate forecast numbers (See for example Schultz 1984; Armstrong et al. 1987; Mentzer & Schroeter 1993; Fildes & Hastings 1994; Mentzer & Kent 1999; Mentzer et al. 1999).

Subsequently during the 1990s, it was noticed that there is need for more comprehensive forecasting tools in order to develop business performance based on the sales forecasting management. In those times, the most recent researches were noticed to be useful when choosing and comparing forecasting methods and also when evaluating the organizational factors affecting to methods. Still there was a lack of practical methods to evaluate the whole forecasting management system in a way that would give pragmatic

answers how to improve the sales forecasting management. (Moon et al. 2003.) Presumably one of the first researches to offer comprehensive information to put into practice was the research "Conducting a sales forecasting audit" made by Moon, Mentzer and Smith and which was released in 2003.

Moon et al. (2003) formed the basis on their sales forecasting audit research from the best know sales forecasting management frameworks in the beginning of the 21st century. The three most known frameworks before the 21st century are listed in Table 6 including the main subjects of each one of them. Those frameworks still did not take the whole system into account as an integrated entity and instead concentrated on smaller pieces of the wholeness according to more recent knowledge of the subject (Davis & Mentzer 2007).

Table 6. *Three best known forecasting management frameworks before 21st century (Moon et al. 2003).*

Research	Armstrong (1987): Forecasting Methods for Marketing	Fildes and Hastings (1994): The Organization and Improvement of Market Forecasting	Mentzer et al. (1999): Benchmarking Sales Forecasting Management
Main subjects	• Forecasting methods • Assumptions and data • Uncertainty • Cost and benefits	• The forecaster and the decision maker • Information flows • Technical characteristics of the forecast	• Functional integration • Approach • Systems • Performance measurement

Even though the forecasting methods and management frameworks were developed to be more sophisticated and knowledge was increased towards the subject, there were still possibilities to form a better big picture how different areas involved in the forecasting are linked together and how the continuous improving should happen. Davis & Mentzer mentioned in their research (2007) that the performance of sales forecasting had not developed widely so well in practice. They proposed in the same research that the common reason for the weak performance underlies in the managerial issues. More accurately the reason was proposed to underlie in how well different areas of the sales forecasting management were linked together.

Davis & Mentzer (2007) had noticed a lack of a comprehensive and pragmatic sales forecasting management framework which would help to understand the possible incapability to improve sales forecasting performance and business performance based on the first one. As a result they offered a solution to that problem by conducting a research

in which they formed the sales forecasting management framework which is illustrated in Figure 7. This specific framework was chosen to this research as it is the most comprehensive frameworks in the field of sales forecasting management and it takes linkages into account between different areas of the whole system. Therefore it is suitable for exploratory research like this one with the purpose of increasing the basic understanding of the sales forecasting management as a whole (Moon et al. 2003; Davis & Mentzer 2007).

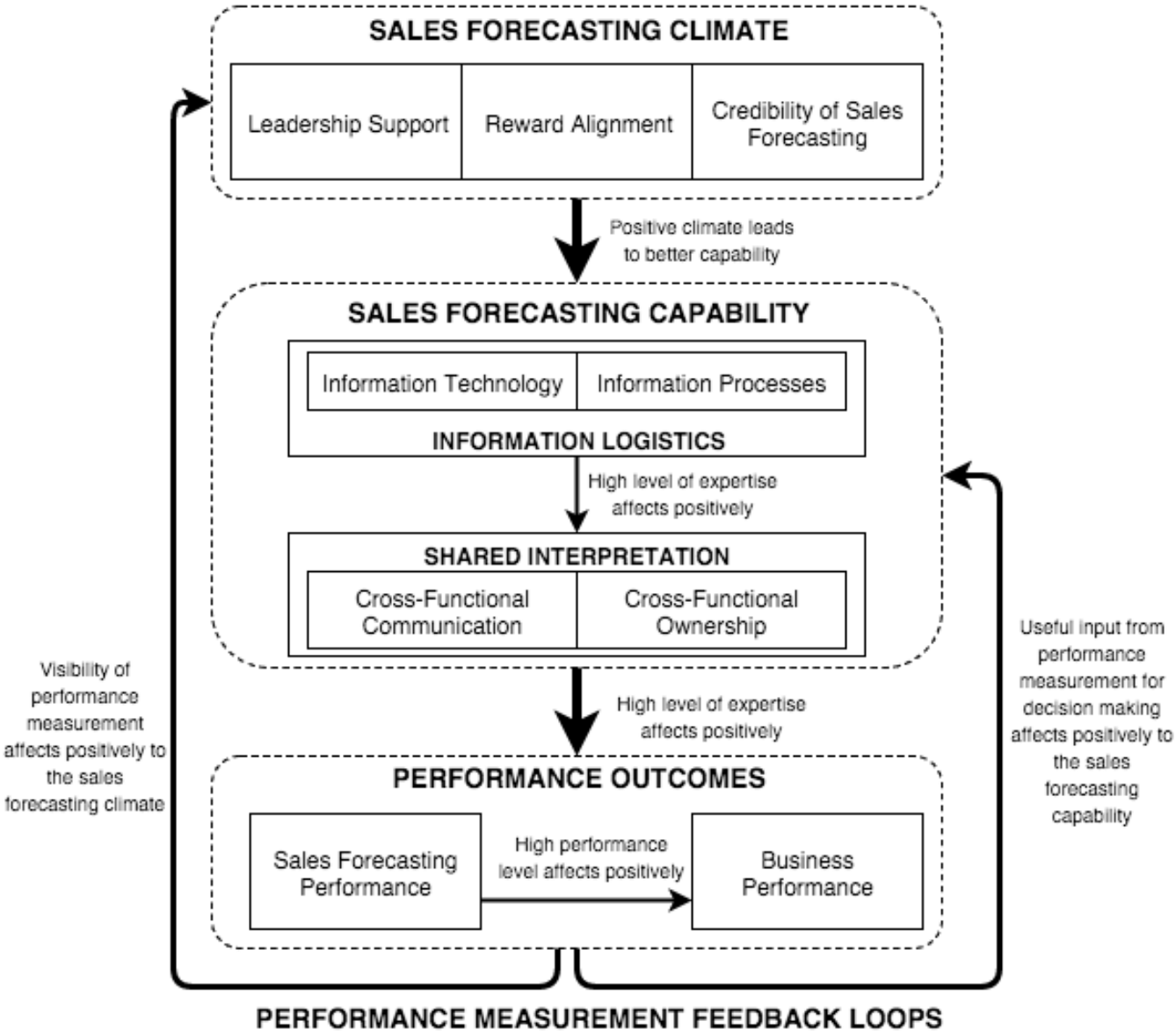

Figure 8. *Sales forecasting management framework. (Davis & Mentzer 2007)*

The illustration of the sales forecasting management framework shows that there are four main components: sales forecasting climate, sales forecasting capability, performance outcomes and performance measurement feedback loops that are linked together in the framework. Sales forecasting capability consists of shared interpretation and information logistics and the level of latter one will affect directly on the level of shared interpretation. The sales forecasting climate gives base for the sales forecasting capabil-

ity; the more positive climate is the better is the capability of the organization. The level of performance outcomes is strictly related to the level of sales forecasting capability. The performance outcomes include sales forecasting performance itself which will positively affect to the business performance. In order to continuously improve the sales forecasting management, the performance measurement feedback loops are essential inputs to both sales forecasting climate and capability as all the components are linked together. Continuous improvements in sales forecasting climate requires visibility of performance measurements whereas improving sales forecasting capability needs useful input from performance measurement in regard of decision making in that specific phase of the system.

The simplified idea of the framework is that a weakness in any component or link between the components will finally result as incapability to improve sales forecasting performance and also business performance with the help of forecasting capability. According to the Davis & Mentzer's (2007) research, the most important component leading to success is information logistics and right after performance measurement feedback loops. The following chapters will take a closer look for each component in the framework.

3.1 Sales forecasting capability

In Davis & Mentzer's (2007) sales forecasting management framework, the sales forecasting capability is defined to mean accumulated knowledge that is then used to coordinate activities for better results. In practice, the capabilities are based on two main factors: The first one is information logistics which includes used information technology and processes. The second one is shared interpretation and that comprehends cross-functional communication and ownership. According to the research Davis & Mentzer (2007) done, the significance of these two do not compete against each other, but instead, both are necessary in order to continuously improve the target activity. Even so, significance of the information logistics seemed to have higher emphasis over the shared interpretation according to the research results.

3.1.1 Information logistics

Used information systems and implemented information processes are in an important role in successful sales forecasting (Moon et al. 1998; Mentzer et al. 1999; Moon et al. 2003; Davis & Mentzer 2007). The most successful results in sales forecasting accuracy are achieved in companies where IT infrastructure was integrated with centralized databases and end-users are served with user-friendly interface to gather and analyze the data (Kahn 1998; Schillewaert et al. 2005; Davis & Mentzer 2007; Barker et al. 2009). Nevertheless, it is misleading to trust that without paying attention to the managerial factors and just by using right IT systems forecasting will be automatically end up on a

satisfactory level (Moon et al. 1998). Still, the worst results occur in organizations that use multiple systems and manual work to conduct the sales forecasts. When the data inputs are very heterogeneous and there is manual work done in adding or transferring the data to the commonly used end systems where results are shown, there is a possibility that the data integrity is compromised (Davis & Mentzer 2007).

Sales forecasting information processes usually include using both internal and external data sources in order to get the best results (Hughes 2001; Harvard Business Review 2006; Davis & Mentzer 2007). One of the most used internal information source is offered by marketing and it includes the unique features of the business offering, competitive advantage of it, segmentation of the customers and branding including the information how the services are communicated to the customers (Day 1994; Lewin & Johnston 1997; Meunier-FitzHugh & Piercy 2007; Geiger & Guenzi 2009; Geiger et al. 2009).

Marketing is not the only function that could offer valuable information. Also operations owns often useful information regarding the issues seen in some services, scheduling, quality control of service delivery, R&D, delivery timeliness and reliability in the past projects (Geiger et al. 2009). In some cases, especially if the sales personnel are responsible of the pricing and profitability of the services, the information from finance is also valuable to the sales personnel in order to know how much they are able to negotiate with the prices to create valuable long lasting relationships (Geiger et al. 2009). According to Davis and Mentzer's (2007) study, historical sales data is also commonly adjusted with a multiplier that is transformed from the qualitative data when conducting the sales forecasts. The adjustment data inputs can include, for example, marketing campaigns, customer satisfaction from earlier projects, winning rates on past cases and so on. However, this type of forecasting method especially for longer time period is seen the most valuable in business that has clear customer segments, buying behavior and the business environment is mature in a way that the yearly demand is relatively constant without high short-term variance (Lu 2014).

In business-to-business professional services market, valuable relationship for both parties requires more complex information than in product business for example (Davenport et al. 2001; Helfert et al. 2002; Gebert et al. 2003). When internally available transaction based information is not sufficient to understand the customer, especially more extensive use of external sources of information are essential. The customer information from external sources can include different levels and types of information. According to Rollins et al. (2012), examples of those are: Market and industry level information including competitors moves, development of the market and demand in regard. Also information regarding organizational and individual level of the customer relationship are considered to be something that sales personnel are responsible for interpreting (Sonmez & Moorhouse 2010; Rollins et al. 2012). Consequently, sales personnel are considered to be one of the most important sources of external information in

addition to the internal functions mentioned before (McDonald et al. 1997; Geiger et al. 2009; McCarthy Byrne et al. 2011).

According to multiple sources (see for example Festervand et al. 1988; Harvard Business Review 2006; McCarthy Byrne et al. 2011; Cravens et al. 2011), sales personnel are able to gather information regarding the customer relationship quality. In addition to that, also the situation on the target market including competitors moves and own company's position are things that sales personnel can get information of. Even if those types of information could be beneficial and possible to be gathered with low costs, too often organizations are not able to take all possible benefits out of the information. For example in many cases, the information is not put into explicit form, and after that, analyzed and integrated as a part of the general market intelligence (Geiger et al. 2009). Secondly, the sales personnel might be also unwilling to share the information with marketing if the usefulness of the information is not clearly communicated or there is not any incentive to share the information with others (Homburg et al. 2008). Third reason is that organizations are not always able to identify customer's further needs during ongoing projects. The underlying reason for this might be that the people responsible for delivering the services are not trained or otherwise able to identify the customers' needs while they are working with them (Geiger et al. 2009). In addition to the sales personnel and other people working in the customer interface, the external data input can be conducted for example from economic trends, directly evaluating competitors and by taking relevant government regulations and changes in the legislation into account if they can affect to the demand (Davis & Mentzer 2007).

As particularly the sales personnel's knowledge is seen in a very important role, it is reasonable that the sales force composite forecasting method is very commonly used qualitative forecasting method (Fildes & Hastings 1994; Mentzer & Kahn 1995; McCarthy Byrne et al. 2006; McCarthy Byrne et al. 2011). In the sales force composite method, each sales personnel are responsible for conducting their own forecasts regarding their own market areas and there will be a consensus forecast done based on them (Winklhofer & Diamantopoulos 2003; McCarthy Byrne et al. 2006). Nonetheless, it has been noticed that many sales personnel are unwilling to put effort to the forecasting process as they see time put in the sales forecasting is taken away from customer relationship management and ongoing sales opportunities (Moon & Mentzer 1999). To solve this issue, some organization use a combination of automated and manual input for the forecast to reduce the needed time for conducting the forecasts. In some cases this kind of combination also improves the overall accuracy of the forecasts as there is less space for manual mistakes. (McCarthy Byrne et al. 2011.)

The organizations are ought to have information logistics that gather all the necessary information and consolidates it for the end user (Fildes & Hastings 1994). In order to benefit from successful information logistics, it is essential that the information processing is standardized and the information technology solutions available are able to

process the data in a reasonable way. Information technology is also used to provide communication methods for collaborative information interpretation and also to share the information. The main goal of the whole information logistics is to process and offer right up-to-date information for relevant stakeholders and avoid data fragmentation and barriers for information sharing. (Davis & Mentzer 2007.)

As mentioned before, in addition to the information processes, used systems are also in significant role in the field of information logistics. Sales supporting technologies are originally designed to increase the productivity of the sales force and to maximize the customer value creation (Ahearne et al. 2007). In the optimal situation the information systems are involved in the whole customer lifecycle from the early stage prospecting to the maximizing lifespan of the customer relationship in the final stages. There is actually a great potential included in the right type of using information systems for example in offering relevant information for each sales stage and measuring performance when trying to improve sales related activities (Ledingham et al. 2006).

Studies show that especially less experienced sales personnel gain benefit the most from the pre-processed information offered. More experienced sales personnel might be able to pre-process meaningful information by themselves based on their earlier experiences and therefore the gained advantage is minor, but still not insignificant. The sales force should be able to get automatically information whenever there is something new significant information available regarding their existing customers. This means, for example, projects that are about to end soon, if there are changes in the customer satisfaction compared to the earlier projects, the results of customer satisfaction from people sales personnel are now working with or people changing positions in customer companies. (Ledingham et al. 2006.)

According to multiple studies (See for example Corner & Hinton 2002; Schillewaert et al. 2005; Ahearne et al. 2007; London & Lucas 2012), used CRM- or ERP-system is in a crucial role when considering the relevant information collecting, storing and offering it to the correct persons with right timing in regard of the sales forecasting. The usage of CRM- or ERP-system and external information sources do not automatically lead to better sales results and use of customer information. The most probable reason for failing to use customer information properly lies in the lack of motivation for using systems to collect information or the qualitative type of information is too difficult to be stored in any systems in an usable form (Corner & Hinton 2002; Rollins et al. 2012). In addition, in many cases customer information is fragmented into multiple systems and it makes harder to use all the available information effectively (Missi et al. 2005). Even though the used information management systems are in a crucial role in customer related information use, they are not the only key to success. The personnel's motivation and skillset are at least as important as the systems themselves (Rollins et al. 2012).

3.1.2 Shared interpretation

The sales forecasting should not be seen as an individual activity totally separated from the processes that are integrated into the whole sales and service delivery process (McCarthy Byrne et al. 2011). Therefore there is shared interpretation as second part in sales forecasting capability and it means that all the relevant roles should be able to get their input to the sales forecasts (Davis & Mentzer 2007). This shared form of interpretation ensures that there are not information silos formed blocking relevant information sharing (Nonaka 1994; Davis & Mentzer 2007). In addition, the cross-functional communication makes also constant organizational learning possible as the useful information assets are shared between different functions. Also the routines causing blindness are more likely to be avoided if there is information input that sees things from a different or fresh aspect (Sinkula 1994). With shared interpretation, sales forecasts are also probably made more realistic as they are not made only by looking some single key figure regarding the market and then the sales goals are set based on that singe key figure (Davis & Mentzer 2007).

Some interview answers in Davis & Mentzer's research (2007) imply that the shared interpretation is very important addition to the information logistics. In shared interpretation people are more aware of each other's knowledge regarding the competitive situation and possible sales opportunities on the own market. With the help of described information, people can share knowledge more effectively and ask questions what are the drivers for the made forecast numbers for example.

Successful shared interpretation includes also the aspect of using shared integrated data warehouse instead of individually generated and used spreadsheets as it turned out to be quite common according to the Davis & Mentzer's (2007) research. Poor data quality and usability of the systems were revealed to be some of the main reasons for using personal spreadsheets instead of using shared database directly if it existed.

3.2 Sales forecasting climate

Business managers are usually responsible for creating controls and structures that guide organizational learning routines that support achieving goals (Child 1972; Weick 1979). The controls and structures create a climate through rewarding and punishing certain type of actions (Davis & Mentzer 2007). The organization climate has a lot in common with organizational culture in academic research. Anyhow, the main difference is that the climate is more related to some specific subject and object. (Denison 1996.) In this context the object is sales forecasting and subject is all the personnel involved in the forecasting process.

The sales forecasting climate is in a critical role when considering the accuracy of the forecasts. If the executive management demands for increasing sales numbers with no

excuses or constructive conversation, this might end up to climate where sales personnel are forced to show unrealistically optimistic forecast numbers instead of realistic ones. The optimistic attitude might do good for the sales forecasting climate amongst the personnel responsible for the actual sales activities, but in long run it will not help the management with realistic information. In order to offer realistic forecasts, the people responsible for conducting the forecasts need to be aware of the whole forecasting process too. (Davis & Mentzer 2007.) To understand these issues better, Davis & Mentzer (2007) have identified that the three most important factors affecting the sales forecasting through the sales forecasting climate are: leadership support, credibility and reward alignment.

3.2.1 Leadership support

In many studies (see for example Hughes 2001; Moon et al. 2003; Winklhofer & Diamantopoulos 2003), it has been comprehensively noticed that the leadership support and commitment are in a critical role for building sales forecasting climate. Studies show that leadership commitment and support have a critical impact on continuous organizational in regard of the sales forecasting capability. If the management has not communicated the significance and the purpose for the forecasting, there is a risk that the whole forecasting performance will not ever develop on a satisfactory level (Davis & Mentzer 2007).

The management should be also interested to hear feedback from the sales force about the satisfaction level of the forecasting process in order to improve possible weak spots that cause low motivation (McCarthy Byrne et al. 2011). It is also ludicrous if people use their resources doing in-depth analysis in regard of forecasting and then the results are interpreted in a few minutes by the management because of they either are not really interested putting effort to the forecasting, or they do not understand the logic and significance of it (Davis & Mentzer 2007). If the management cannot tell the significance and purpose of the forecasts, it is hard to communicate the importance of putting effort to the forecasts to the personnel responsible of doing it.

3.2.2 Credibility of sales forecasting

The credibility of sales forecasting means the level of confidence people are having towards the sales forecasting functions (Lawrence 1983; Schultz 1984; Jobber & Watts 1986). Basically, reaching a high level of confidence requires that the forecasting methods are appropriate for the purpose, and in addition, there is someone who understands the whole process flow of the forecasting system and therefore might be also responsible for the process (McGill et al. 1992). The person accountable makes sure that the forecasting process is developed continuously by identifying possible problems faced and how they could be solved (Day 1994). In addition, when there is a named person

who is accountable, it increases immediately the credibility of the whole forecasting and also the motivation to participate in an appropriate way. Illustration of the whole sales forecasting process could also help increasing the credibility. With the support of the illustration, the people responsible for conducting the forecasts can be trained in order to achieve better understanding, and through that, better credibility for the sales forecasting. (Davis & Mentzer 2007.)

Through multiple researches (See for example Fildes & Hastings 1994; Winklhofer et al. 1996; Moon et al. 2003), it has been remarked that the centralized forecasting function is the best solution for businesses that have either stable business environment or centralized organization model that helps building forecasting expertise. Centralized method means basically that there is all the relevant information available for the single entity which is responsible for conducting the forecasts and improving the practices during time (Davis & Mentzer 2007).

In contrast, business environments with very turbulent and uncertain market conditions, also decentralized sales forecasting might be the most effectively working solution as there is need for doing adjustments and learning by multiple stakeholders in relation to the forecasting practice (McGill et al. 1992; Slater & Narver 1995). In this type of practice, there are not any bureaucratic controls in the sales forecasting process that would proactively give insight how different types of inputs realize into forecasting results (Davis & Mentzer 2007). In addition to that, decentralized forecasting function sets a clear need for getting feedback from the sales forecasting performance. Otherwise, as the input for the forecasting is fragmented, it is very challenging try to improve continuously the implemented practices (McGill et al. 1992; Slater & Narver 1995).

3.2.3 Reward alignment

There is controversy between how well individually set incentives help organizations to achieve better performance level. There is academic study-based evidence that the individual, pay-per-performance type of incentives does not help organizations perform better in all cases (Chen et al. 2015). Still it is one of the most used way to compensate individuals when striving for business success (Pfeffer 1998; Jensen 2001; Hope & Fraser 2003). It has been noticed that especially in knowledge intensive businesses, individual persons are usually part of a complex system in a way, that it makes it impossible, and in many cases impractical try to measure individual's precise contribution to the results in some very specific function (Simons 1995).

Of course, if the person is personally accountable for some function as a whole, it might be reasonable and possible to be measured. However, there lies always a problem when incentives are based on some preset target that is based on forecasts. In sales forecasting, for example, people can pull or push sales towards wanted target period depending if they have already reached their target, or if it seems impossible to reach goals during

the ongoing period. (Jensen 2001.) This manipulates the real demand and also takes sales personnel's time from real sales to planning how should they prioritize sales opportunities in order get them closed during a target period in which they benefit the most for closing the sales opportunities. Also, it is necessary to be cautious that the incentives are not rewarding sales personnel who can go over the forecasts they have set by themselves earlier. This type of practice can end up easily giving way too low forecasts in a hope for higher bonuses and the sales personnel with the most accurate forecasts are not rewarded for the expertise and effort put into forecasting. (Davis & Mentzer 2007.)

3.3 Performance outcomes

Forecasting accuracy has been widely accepted as one of the most important performance indicators regarding sales forecasting (See for example Kahn 1998; Lawrence & O'Connor 2000; Lawrence et al. 2000; Moon et al. 2003; McCarthy Byrne et al. 2006). According to the studies, it is also too often the only indicator used in forecasting performance measurement. Nevertheless, it means that organizations see getting the most benefit out of the information that predicts the upcoming demand and requirement of the resources.

In addition to the sales forecasting climate, forecasting capability consisting of information logistics and cross-functional communication are seen as the key factors in getting accurate forecasts (Davis & Mentzer 2007). In relation to the accuracy, uncertainty included in the forecast numbers is also considered to be a valuable factor when evaluating the probability of getting the future sales realization numbers match with the conducted forecasts. Right after accuracy, the next important indicator is timeliness of the forecasts which means that the numbers are up to date whenever they are interpreted (Winklhofer et al. 1996). Good sales numbers accuracy with inaccurate timing eliminates the possibility to act proactively and also might give misleading information for the executive management in regard how well the goals are achievable at each moment (Davis & Mentzer 2007; Tuomikangas & Kaipia 2014).

The sales organization effectiveness is considered to be one of the main contributors that affects how well the business objectives are achievable (Cravens et al. 2011). Only looking at the total revenue generated or forecasted by the sales organization gives very ambiguous picture of the sales organization performance. Of course, the total revenue can be considered as a critical indicator how well the sales organization performs, but it does not really give any unambiguous information why or how the revenue is generated and what could be actually done to improve sales functions in the long run. (Davis & Mentzer 2007; Tuomikangas & Kaipia 2014.)

Factors affected by the sales forecasting practices, and factors that have an impact on the bottom line, should be considered in some cases as part of performance indicators.

Examples of those are customer service levels, profitability, opportunity cost and in product environment, inventory levels and supply chain costs by mentioning a few. (Davis & Mentzer 2007.) In professional services business the product environment indicators could be substituted, for example, with utilization levels regarding different skillset fields and the costs of unbillable work when preparing proposal that lead to either win or loss of the case. Also customer feedback and satisfaction level is very valuable indicator as the final results of some service cannot be seen in practice beforehand (Rollins et al. 2012). Other commonly used key performance indicators in sales management are for example: number of contracts made in specific customer segments, growth of order volumes regarding strategic and key accounts and cancellation rate in service contracts (Geiger et al. 2009).

Customer penetration can also give useable information how well there is established connection in the customer's organization regarding different service areas (Dannenberg & Zupancic 2009; Becker 2013). Share-of-wallet is one of the widely used indicators to give information how well the customer penetration is reached. However, it might not be one of the best ones in service business environment. The reason underlies in the fact that many service purchasers distribute supplier risks by using multiple suppliers. Building a beneficial customer relationship takes time and purchasing volume based discounts are not so common in service business environments. (Parvinen et al. 2013.) Therefore reaching exclusive supplier role can be challenging and it might be more reasonable measuring changes in the share-of-wallet than expecting to reach the status of single supplier.

Traditional activity based performance indicators such as number of sales calls or emails to the customers are not seen relevant in professional services business as they do not give any information of the reasons for outcome which more important over measurable activities (Kahn 1998; Moon et al. 1998; Mentzer et al. 1999; Moon et al. 2003). Detailed performance indicators regarding each sales stage such as conversion through each sales stage lead times give more information about the current outcome and how it has been composed (Li & Mao 2012).

Outcome based performance measurement can also have a significant role in the sales goal setting and furthermore forecasting accuracy. If the sales personnel's goals are set without any help of historical outcome performance other than generated revenue, for example, it is hard to understand if the sales personnel are continuously learning and developing their skills. Based on appropriate outcome based performance indicators the sales personnel should be able to learn how to prioritize specific sales opportunities better, win more cases and increase awareness how well they are actually performing on each area of goals set and compare the results to the past evaluation periods. Ignorance of the performance indicators can lead to both unrealistic goals and forecasts. (Davis & Mentzer 2007.)

3.4 Performance measurement feedback loops

The performance measurement is a basic tool for executive management to get information how business has performed during some specific timeframe. In contrast, forecasting is a way trying to predict how things will go in timeframe that is upcoming (Davis & Mentzer 2007). In this research the forecasting function is sales, and in sales forecasting as alike any other forecasting targets, it is necessary to have feedback loops in order to continuously learn how forecasting could be improved (Davis & Mentzer 2007). Successfully implemented performance measuring includes indicators that show finalized information which can immediately been taken into consideration in the decision making process (Crandon & Merchant 2006; Day 1994; de Waal 2002).

In every case, it might not be self-evident what could be the most important information to grant for the executive management and therefore what should be measured. According to Crandon & Merchant (2006) there are three main factors to consider when choosing the performance measures: Measures should be decision-based which means that the measure indicators should give direct input to the decision making situations. For example, financial figures as such do not give information that could be used for decision-making. Instead, figures need to be translated into more concrete measures which would tell what are the options regarding decisions if there is something that needs actions. Secondly, the measures need to express broad enough performance because, for example in sales forecasting, if only forecasting accuracy is followed it does not consider in any way the forecasting timeliness. This can end up misinterpreting the results in a way that the accuracy would seem to be inaccurate even if the problem is that there are accurate results put in a wrong forecasting time period. Thirdly, there are factors that are controllable and uncontrollable amongst the organization's management. It is not reasonable to measure performance only based on the factors that are totally uncontrollable because there is then nothing to do fixing possibly identified problems (Davis & Mentzer 2007).

Sales forecasting performance is dependent on the forecasting climate. The forecasting climate can be improved if the performance measurement is communicated effectively to the persons responsible for the forecasting functions (de Waal 2002). This implication is based on that if people are aware how their actions conduct to the business performance, it increases the motivation to improve factors that affect to the performance.

4. EMPIRICAL PART – RESEARCH METHODS

This empirical part of the research is conducted by using previously done researches and other literature introduced in the previous chapters as a theory base. Introduced theoretical knowledge regarding professional services business and sales forecasting management is used further to evaluate the practices in the case company which is introduced in the Chapter 1.1.1. The findings based on the evaluation are introduced in Chapter 5. By reflecting the findings to the good ways of working perceived in the previous researches, there will be recommendations in Chapter 6 for the case company on which things to concentrate on in order to improve the sales forecasting management. Both of the results chapters are structured similarly to the theory section in which the phases of the Davis & Mentzer's (2007) sales forecasting management framework are used to divide the chapter into subchapters.

The required information is gathered in the target organization mainly by using observation technique. The observation is done by the researcher who is working full-time in the team which is responsible for the activities in relation to the sales forecasting. The researcher is not responsible for conducting the forecast numbers but instead supporting the whole process of sales forecasting. The observations started since the implementation of the present practices of sales forecasting methods in June 2015.

Basically the information is gathered mostly amongst everyday work duties that are closely related to the sales forecasting activities. In more detail, everyday activities involved in the observations are essentially the maintenance of the forecasting tools and participating the discussions that are related to all of the phases illustrated in the sales forecasting management framework. The most in-depth information in regard for this research is got every week in the sales team meetings where the sales forecasting related things are discussed collaboratively. These situations include discussing the forecasting accuracy, possible issues and other findings in conducting the forecasts. The meetings include also very closely related topics such as discussions of the reasons for losing and winning sales opportunities. All the relevant observations related to the topics addressed in the theory base of the research are documented and then structured into Chapter 5 which is the results part for the observations.

Alongside of the meetings and day-to-day duties, additional information is gathered by actively observing the information systems and possible documentations and guidelines for the ways of working. For example the information systems used in the sales forecasting might need exploration in order to understand how they work and what kind of possibilities there are for different kind of practices. Also, if there is guidelines or other

documentations that at least should steer the ways of working in regard of the sales forecasting, they will be included in the observations too.

In order to get in-depth enough kind of information regarding the observation findings and topics introduces in each phase of the sales forecasting management framework, there will be also ad-hoc unstructured interviews with people who are responsible for either putting input for the forecasts or evaluating the results. Presumably the unstructured interviews are going to be very short ones with the only purpose of clarifying things that are not come up comprehensively enough through the observations.

After the results Chapter 5 is finalized, the results are reflected through the information of the theory section in Chapters 2 and 3. Then the recommendations are formed based on the information in earlier researches and other literature. In this part the identified best ways of practice are adapted to the business environment of the case company which means taking the features of the business environment including used information systems for example into account. The ultimate goal is to find ways how to improve sales forecasting management related functions based on recommendations that are based on the perceived best practices in the previous researches but still such ones that can be considered to put into practice in a relatively easy way. The recommendations are introduced in the results Chapter 6.

Figure 9 offers a retrospect summary view how the empirical part of the research was eventually done and which ones of the research questions are answered in each one of the phases.

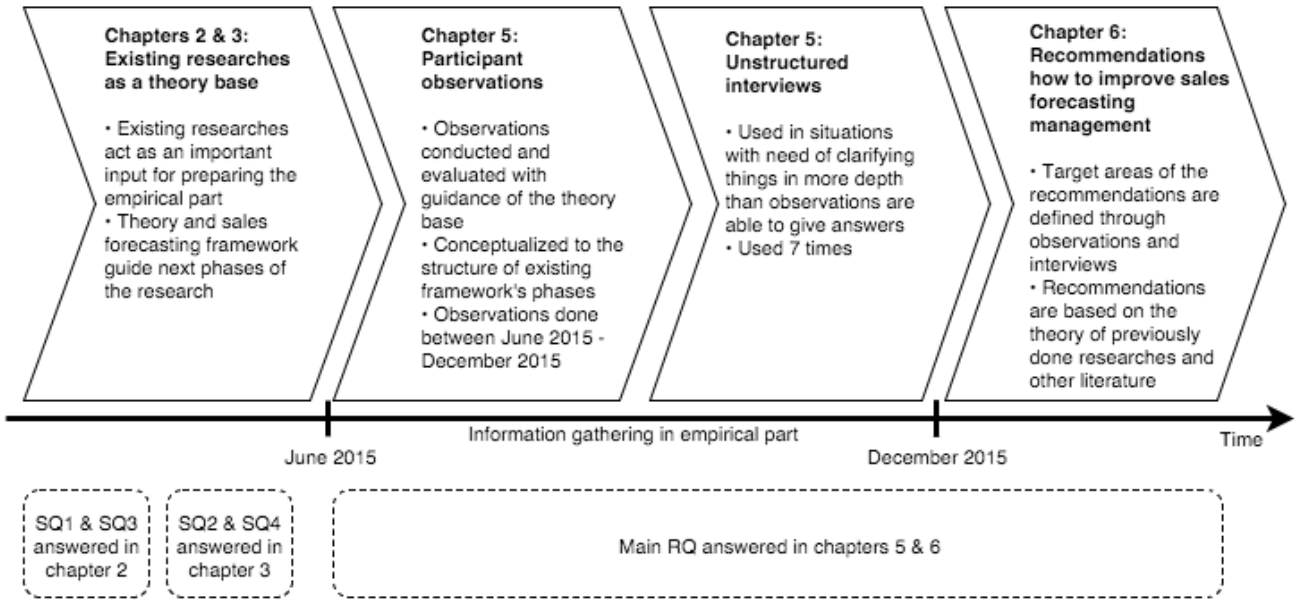

Figure 9. *Phases of the research and their relation to the research questions.*

All of the observations and unstructured interviews were documented in timeframe from June 2015 to the end of December 2015. Here are summarized details of the research methods used in the empirical part of the research:

- Approximately 110 days of observations
- Sales team meetings 20 times
- Unstructured interviews used 7 times
    - 5 times with the sales personnel responsible for conducting the forecasts
        - 2 times with salesperson A
        - 2 times with salesperson B
        - 1 time with salesperson C
    - 2 times with the person responsible for managing sales teams and evaluating the sales performance

As shown in Figure 9, the sub-questions of the research were answered in the theory Chapters 2 and 3 and the final answer to the main research questions is in Chapter 6. However, Chapter 5 is an essential basis for the recommendations in Chapter 6 and therefore both Chapters 5 and 6 are involved in the formalization of the answer to the main research question.

5. RESULTS – PART I: THEORY BASED ANALYSIS FROM THE OBSERVATIONS AND UNSTRUCTURED INTERVIEWS

5.1 Sales forecasting capability

5.1.1 Information logistics

Information logistics including information technology visible for the personnel involved in the forecasting and information processes are very essential part of the whole sales forecasting management. There are quite a few information technology (IT) systems or solutions used in the current sales forecasting process in the target organization, and they are listed in the following Table 7.

Table 7. *List of currently used information systems or solutions.*

IT system/solution	**Role**
ERP-system	ERP-system includes CRM and the whole system is used to collect all the explicit input data for the sales forecasting. ERP is also used to maintain the input data which is used for conducting the month and quarter forecast numbers.
Spreadsheet software	The spreadsheet software is used to collect monthly forecasting and sales realization numbers. The results are visualized here.
Intranet	Intranet is used as a platform to share the forecasting spreadsheet and ensure that there are not multiple versions shared.

In the beginning of this research, the sales forecasting tools were the same as listed in Table 7 except that the intranet was not involved. Instead, the person responsible managing sales team gathered separate forecast numbers from the sales personnel who sent them weekly via email. The forecast numbers were not evaluated commonly in this early stage of sales forecasting method used in the beginning. This practice was changed in

August 2015 to the shared solution in which sales personnel are responsible to add new numbers weekly to the single spreadsheet which is shared in the intranet system. This quick fix increased productivity and the integrity of the data as there were less copy and paste actions needed. Also discussing the forecast numbers and each salesperson keeping track of their own numbers was easier with this single shared solution.

Information logistics flow through each forecasting cycle in the current sales forecasting system can be illustrated as follows in Figure 10. In more detail, the figure illustrates the information sources and phases of forecasting iteration cycle made weekly for each sales case.

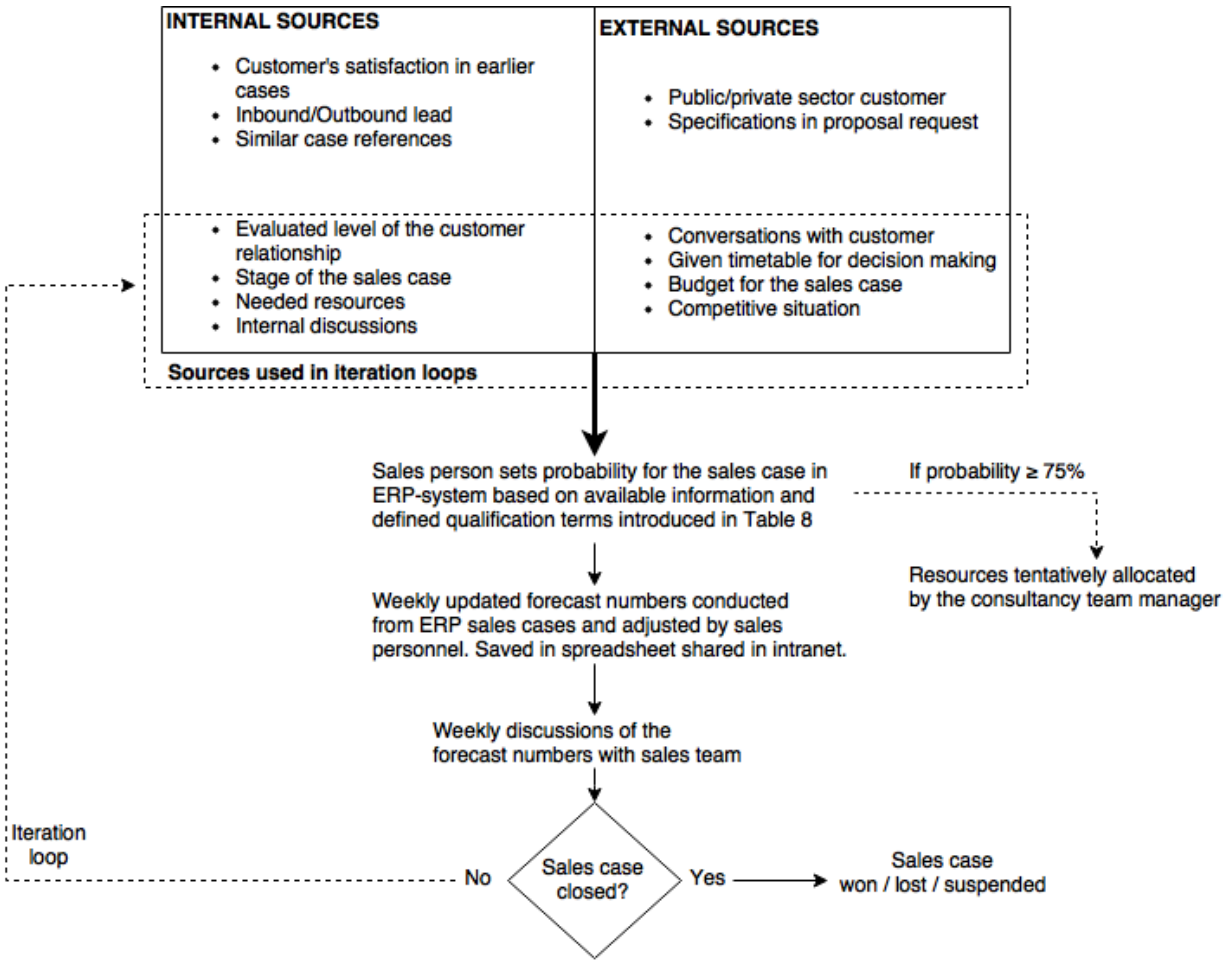

Figure 10. *Illustration of the forecasting cycle made for each sales case.*

The main issues in the current system are related to the facts that the management responsible for the sales goals and results, are unable to transparently see from which cases the forecasts consists of and what has happened when there are changes in the numbers between iteration rounds. Of course, the causes for the changes are discussed together in the weekly meetings, but still, the causes are not stored and shared in an explicit form and everyone cannot give such input to the weekly discussions. This weakens the chances to form systematically a clear big picture of the changes, and not to mention, the possibility to learn forecast more accurately in a long run. Figure 11 shows

how the changes between forecasting iteration rounds are shown to the whole sales team in weekly meetings.

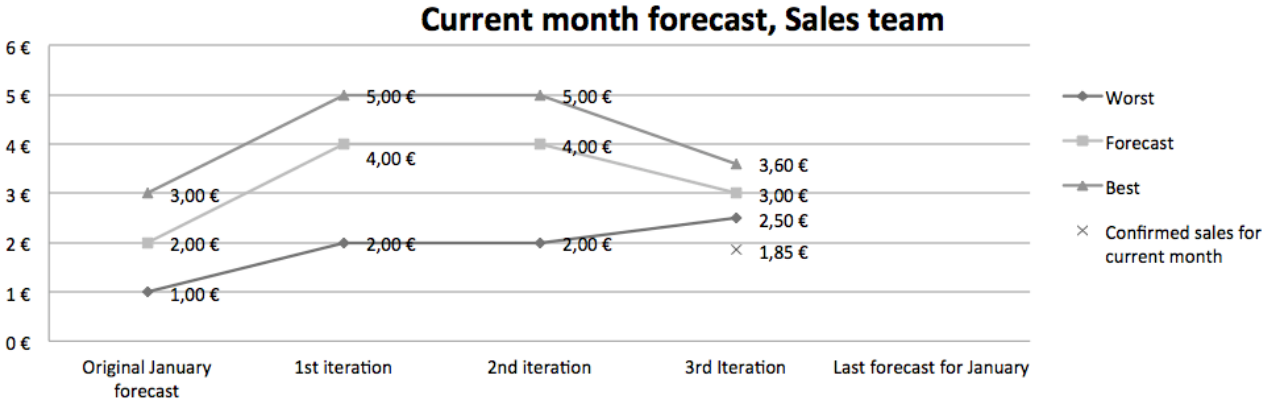

Figure 11. *An example of the forecasting results view.*

The view in Figure 11 shows the changes of forecasting numbers in relation to confirmed sales numbers between weekly made iteration rounds but it does not give actually any information regarding based on what the changes happened. Similar view is offered for month and quarter forecast and also for individual and team level.

Used systems are also isolated from each other in a way that there is need for manually add the forecast numbers for each iteration round into the used forecasting spreadsheet. This increases the overlapping work to manage the sales cases' information in the ERP-system and also the numbers in the spreadsheet. In addition to the higher probability to lose the integrity of the sales case numbers while copying them from ERP to the spreadsheet, this current practice also does not give transparently information how the forecasted numbers are formed as there is only expected sales numbers with uncertainty boundaries.

In addition to the weaknesses in integrity and transparency of the forecast numbers, used probability qualification terms are not validated in a way that they could be considered to be very reliable in general (see probabilities and qualification terms in Table 8). For example, with a quick look for the past cases, the qualification terms for 50% probability cannot be stated as very reliable. In addition to the win rates of cases with 50% probability, simple check with statistical method implies that the qualification terms for 50% probability are quite optimistic. If there is not more detailed information of the relationship between customer and the number of other possible suppliers on the shortlist, 50% chance of winning the case seem very optimistic. Probability stages are planned in a way that probability of 75% gives information for the team manager responsible for resource allocation to create tentative allocation for the resources to be used in that specific case. When the customer preliminarily informs that the decision is made and the resources needed, this should ensure that the resources are already reserved for the case with wanted schedule. This should ensure that there are not cases

gone through the sales pipeline and lost only for the reason of unavailable resources on the specific moment when the project should start.

Table 8. *Qualification terms for each probability stage.*

Probability	**Qualification terms**
10 %	• Cold or otherwise unpredictable case • Inbound RFP and no earlier experience of the customer • Public sector case without earlier contact
25 %	• Inbound / Outbound lead from existing customer with positive experiences earlier & validated need • Public sector case which is somehow specified for the supplier
50 %	• Earlier positive experiences with the customer & clear signs that the supplier is on a short list of suppliers • Supplier has been helping with the RFP / other similar advantage against competitors
75 %	• Customer has clearly informed to prioritize supplier • Key accounts that orders straight from the supplier
100 %	• Won / otherwise special case

The used probability qualification terms are also problematic due to the fact that the customer satisfaction results that are mainly used to measure the earlier experiences are not very easily available for the sales personnel. The results are kept in separate spreadsheet divided for each half and therefore it is inconvenient to check the experiences for the last two years for example. It is also simplified mindset to think that the earlier positive experiences in the customer's organization means straightforwardly higher probability to won future cases too. This is the case mainly in bigger organizations in which there might be multiple persons making the decisions and there might be individuals with both good and not so good experiences influencing the decision of choosing the supplier. It is not always possible to get the information of the people influencing the decision and it would be very inconvenient to find manually all the persons that have answered the customer satisfaction survey in the near past. Therefore all the relevant information of earlier customer satisfaction survey results and answerers should be available in the ERP-system in the view which is used to manage the sales cases.

Also, for example, competition situation is occasionally hard to get as the purchaser might use competition situation as a negotiation tool and some purchasers do not want to talk about the possible other suppliers used or considered in the current case. In addition, the feature made for keeping track of competitors included in each sales case is not

used in a way that it could be used in future sales cases. If the competition information is available at all, it is usually documented in the additional information box which is not in anyhow in use for example when using search form of the ERP system to find similar cases or information of competitors in the past cases. This makes it very challenging to find similar cases in the past to get input about the possible competitive situation.

5.1.2 Shared interpretation

Shared interpretation is included in the sales forecasting management process to ensure that all relevant stakeholders are able to give their input to the sales forecasting to find the commonly accepted consensus. Shared interpretation is also necessary to avoid information silos in situations when two-ways information sharing would benefit either forecasting itself, or spotting drawbacks that affect to the forecasting results.

There are mainly two types of shared interpretation activities in the target organization regarding the sales forecasting. First of all, the month and quarter forecasts are updated weekly by each salesperson. These forecasts are then discussed very briefly in weekly meetings held by sales and marketing team. When the end of each month is approaching, it is time to start forecasting the next month and in that point there is also a slightly broader discussion regarding the forecasts. Everyone is able to give their input what services are trending, if there are issues regarding some specific sales cases and if there has happened something particularly unexpected in the forecast numbers.

According to observations, the main problem in this shared interpretation is probably that the sharing is based mainly on the sales personnel's self-created forecast numbers and memory regarding any issues or trending services. Self-created forecasts might include baseline errors how the expected numbers are conducted and relying on memory is not reliable way to spot possible trends or issues if there are lots of sales cases in the pipeline. There might be also thoughts that it might not be necessary to share commonly if there have been some interesting lost cases because it is seen that nothing can be done them anyway at this point.

As the sales forecasts are normally shared only amongst executive management, sales and marketing people, there is a possibility that team managers are isolated from being aware what kind of cases there are coming up in the sales pipeline. Team managers usually do not get the information of the soon upcoming cases until the resourcing needs to be done. Before that they usually are aware only about the cases in which the sales personnel need to check from team managers if they have suitable consultants available with some very specific skillset that the sales personnel are not aware of for example.

Basically this might be a problem in two ways: First, team managers are responsible for allocating resources available for each specific moment. If there are not resources avail-

able, the options are either try to adjust the timetable for the assignments, use resources from different teams if there are required skills, subcontracting or simply just lose the case. In order to act proactively, and avoid especially the last one of the options, it would be necessary that the team managers are early aware if there are sales cases approaching that need allocating limited resources.

In contrast to possibly insufficient resources, second thing that might be a problem caused by the weak shared interpretation is that there is some specific skillset resources about to get freed from the ending assignments and there are not sales cases in the pipeline which would mean new assignments for those consultants. According to observations, this might an issue only in cases in which the typical assignment for the consultant's skillset is long-term and therefore usually takes some time to get through the sales pipeline. As the consultants with this specific skillset are in long-term assignments, the sales people might not reasonably be active on prospecting new sales cases into the sales pipeline which would be suitable for this specific skillset group consultants. To avoid this type of situations, the sales persons should be aware when assignments are possibly about to end regarding some specific skillset to start prospecting possible customer cases.

5.2 Sales forecasting climate

5.2.1 Leadership support

Leadership support is seen in a critical role when considering the continuous learning process in regard of sales forecasting capability. If executive management just demands higher and higher sales numbers all the time and does not explain how the forecasts relate to goals and how the forecasts are used, it is very unlikely that this results as accurate forecasting. This described situation can easily end up forecasting what the management wants instead of realistic expectations of near-future sales. Also, if the people responsible for conducting the forecasts will never see why they have used time for creating forecasts, it is very obvious that the motivation for the whole forecasting will end up to be very low.

In the target organization this possible issue regarding leadership support is identified. According to the observations, it is clearly communicated by the executive management that the forecasts do not help decision making or understanding the business environment in anyway if the only purpose for doing forecasts is to show, for example, high optimistic numbers. Despite the clear communication for the purpose of forecasts, there is a conflict caused by the periodical goals. If there are signs that sales are not able to reach the goals in some time period, sales personnel are encouraged commonly in weekly meetings to stretch and confirm that it is possible to still increase the current moment's forecasts. Of course, it is natural and desirable to be positive regarding own

work and its results, but this type of cheer-up talks might also cause over optimistic forecasts especially in the situation in which the sales personnel are fully responsible conducting the forecast numbers.

On the other hand to the support from the management in regard to the mainly favorable climate for doing realistic forecasts, there is still a slight inadequacy in communicating the significance and purpose for conducting the forecasts. According to the observations, there are signs of low motivation for putting effort to the forecasts especially in the first rounds of each month and those are the most important ones regarding the possibilities to influence to the sales cases and act proactively. According to the sales personnel, the main reason for low motivation underlies on the lack of training for conducting the forecasts and also the unawareness of the end-use and significance of the forecasts.

5.2.2 Credibility of sales forecasting

In order to succeed in this area, it is necessary that the sales forecasting responsibility is either centralized or decentralized depending on the business environment and how the sales forecasting numbers are conducted. In addition, it has also a significant impact on the whole forecasting how well the personnel responsible understand the forecasting process.

The target organization is involved in a business type that is mostly considerable as turbulent as the demand of different types of services have been under strong variance albeit the total demanding have been expanding mainly due to digitalization and industrial internet. Even though the size of the market is constantly getting bigger and the demand is increasing, the business is mainly project oriented and the projects vary from one man-day project to projects including thousands of man-days and the need of different types of projects fluctuates a lot. In addition, there are occasionally new players entering the market, and also frequently acquisitions and mergers, so the changes in the competitive environment are unpredictable and they cause challenges to the sales forecasting.

Due to the turbulent business market environment and the constant need of information from the customer interface, it is natural choice that the forecasting practice is decentralized. Each one of the sales persons are responsible for conducting and updating their own monthly and quarter forecasts and the results are then combined to get the bigger picture for the management. This type of forecasting practice is called the sales force composite method and it is presumably suitable to be used in described environment.

Even though the used forecasting type is suitable to the environment, according to observations there is lack of understanding how the whole forecasting process proceeds from the beginning to the point where the sales realization is compared to the forecast. At least some part of the sales people have been a bit confused if the monthly forecast

numbers supposed to include already closed cases and where each salesperson can see their won sales cases that are already included in each month's sales realization numbers. Regarding the timing questions, there have also been unclear things if the sales personnel are supposed to forecast the timing for when they are able to close each deal or on which date the official confirmation of the deal, in other words the signature to the contract is gotten from the customer side. These are very significant questions when the forecasts are conducted by dividing longer term forecasts into one month long periods that are evaluated separately. Lack in understanding of the practices can cause big errors for each month's forecasts numbers. This is caused by the fact that the people responsible for conducting the forecasts are not aware of the terms within the forecasts should be done and how the won cases are taken into account for each month's realization compared to forecast.

5.2.3 Reward alignment

According to the Davis & Mentzer's research (2007), reward alignment was the least significant thing affecting the sales forecasting climate. Reward alignment increases its significance in situations when the sales preset goals are based on forecasts that are conducted by the sales persons themselves and the sales persons get extra rewards if they are able to exceed the goals.

In the case company, there is not a conflict as described in the goal setting and rewarding from reaching the goals. The goals are preset for longer time period than the forecasting periods that are made with rolling method for each shorter time period. In addition, the sales personnel are not rewarded by exceeding forecasts or even reaching the forecasts they have made as the longer term preset sales goals are separate from the shorter-term forecasts. Basically the forecasts might be manipulated on purpose only in situation when trying to either advance or postpone the order confirmations in the end of each longer term goal setting period. However, this type of action does not actually affect to the forecasting accuracy. The reason underlies in the fact that the sales personnel are responsible for conducting the forecasts so probably they will take this type of situations into account in the forecasting numbers if they are intended to try to adjust the order confirmation dates.

As there is not permanent rewarding system for the accuracy of forecasting, it might affect to motivation and the forecasting performance. This has been considered though by offering occasional instant rewards for the most accurate forecasters. As the forecasts are also discussed in the weekly meetings, there might be also some sort of social pressure to put effort to the forecasting but this, of course, might have different level of impact on different types of personalities. All in all, the most obvious cause of unfavorable sales forecasting climate is avoided in the case company in regards to the reward alignment practices.

5.3 Performance outcomes

The performance outcomes in this case include both forecasting and business performance outcomes. In the target organization sales forecasting performance is mainly measured by keeping track of the weekly iterated forecast numbers and also comparing them to see how they evolve during each forecasting period. Also in the end of each month, the sales realization is compared roughly to the conducted and evolved forecasts. This phase also includes detailed reports of the sales cases won so the sales management is aware of the won cases. This type of performance measuring is reasonable in following how well sales goals are achieved, what kind of assignments have been sold and what is the forecasting accuracy. However, as the forecasts are discussed based on the numbers sales personnel have done, there is a lack of information what sales cases the forecasts actually include.

The case is made even more challenging due to the fact that there might be a delay in information of the confirmed sales cases in the ERP-system's view that sale personnel see. Whenever the sales opportunity is won, the sales case is not seen as confirmed until the operations function has created the project to the ERP-system. If there is a queue in creating the projects, it might cause confusion amongst the sales personnel doing the forecasts as if they do not see all the sales cases with signed contract in their confirmed sales amount.

Along with the mentioned challenges, unavailability of the sales cases included in the sales forecasts and the timeliness of the confirmed amount of sales makes it more difficult to understand what have happened between the forecasting iteration rounds unless the sales personnel are able to share the information in the weekly meetings. Used method does neither give information about cases that were won even if they were unlikely to be won according to the winning probabilities of each case in the conducted forecast numbers. Measuring this types of gaps between probabilities of sales cases and outcomes of them could help to improve forecasting accuracy especially in regard to the first round forecast for each month which can be considered as the most important one from the point of view in which forecasting is done to be able to do business planning in a proactive way.

In addition to the difficulties to evaluate forecasts and understand the changes between each iteration round of conducted forecasts, the current practice in following the results of the forecasts does not give in depth information what kind of sales cases have been lost, for what reason and what was the value of cases that could have been winnable if there was required information available, for example, regarding the competitive situation. There is also a lack of available information in regard what situations might have been reasonable to use dynamic pricing in order to achieve higher short term utilization for the consultants, high probability to get form long term customer relationships with smaller first assignments or what cases were lost because there was not free resources to

be used. According to Parvinen et al. (2013), service business relationship starts usually with smaller assignments before more complex ones and therefore it could be reasonable to use dynamic pricing in some situations especially when there are free resources and request for proposals from new candidates for doing business with. Identifying these types of situations can be considered as crucial input to learn from the lost cases what could be done in the future in order to lose fewer cases.

Multiple researches indicated (See for example Kahn 1998; Moon et al. 1998; Mentzer et al. 1999; Moon et al. 2003; Reinartz & Ulaga 2008; Geiger et al. 2009) that the multidimensional measuring, and especially outcome based measuring in professional services business, can be considered one of the most important information input in improving sales forecasting related performance. Based on that, there is a clear need for paying attention to this area then in the target organization. There are actually only several systematically used and continuously available indicators which are related to the forecasting and sales related business performance in a way that they could be used as an information input to the whole sales forecasting. The indicators in use are listed in Table 9.

Table 9. *Forecasting and sales related business performance measures in use that can be used directly as an input for the sales forecasting.*

Indicator	**Description**
Number of weekly created new sales opportunities	Manual track based on the information ERP-system offers and performance evaluation based on the experience of the management.
Number of proposals sent	Current information available for each salesperson continuously in the ERP-system.
Total amount of realized sales	Current information available for each salesperson continuously in separate spreadsheet because the ERP-system is not yet able to offer numbers that match the counting principles of the target company. Especially sales cases with continuous services and additional orders cause distortion compared to the defined counting principles of the case company.
Total amount of realized sales in each one of the service areas	Basic information available from the ERP-system and it needs slight adjusting to get the information match with the defined company-wide track keeping criteria.

Accuracy of the forecasts; total amount of realized sales compared to conducted forecasts	Current information available for each salesperson continuously in separate spreadsheet. This indicator includes the absolute numbers and roughly measurable graphs that help to get a big picture of the forecasting accuracy per individual salesperson and for the whole team.
Customer satisfaction	Customer satisfaction is pursued to be gathered from each project and continuous services. However, some part of the satisfaction surveys are never answered. Therefore it is impossible to know if there would have been critical lessons to discuss and learn from regarding the customer relationship level. The results of the surveys are shared in separate spreadsheets for each half. If there are clear dissatisfaction then the information is shared immediately to the relevant persons involved to the assignment.
Reason for winning or losing sales cases	Sales personnel are responsible for documenting this information for each sales case in the ERP-system. This information is available only in minor part of the past sales cases.

ERP-system used gives an opportunity to drill further to the indicators to get more specific information. For example, using different kinds of filters and views to can be used to arrange the data as wanted, and in addition, any kind of custom reports can be ordered from the ERP-system's developer. Still many of the indicators are used to evaluate the upper level information how sales related things are going on each moment. This kind of tracking does not match with the recommendations of multidimensional indicators. In addition, the current practice is not very systematic and reliable way to evaluate the real outcome based sales performance in order to understand what went well and what not so well during each evaluated time period. Also each separate indicator does not offer a holistic view how well the sales activities are performing as a whole compared to some other specific time period.

According to Davis and Mentzer's (2007) study, better sales forecasting performance is seen to be linked also with better results in business performance. This can be basically measured with anything that affect directly to the business profits and business activities directly linked to the sales forecasting performance. Basic things to measure are profitability of each project, utilization of each team and maybe even each person with some special skills to spot if there are possibly bottle necks in the consultant pool slowing the business growth. Measuring profitability and the utilization on team and personal levels

are ordinary things to do in the target organization but the utilization in relation to the specific skills is not measured. The lack of skill based utilization measuring makes it more challenging to borrow resources between different teams that have similar competence.

Sales personnel are forced to discuss about resource allocation with multiple team managers which makes it inconvenient. This might also significantly increase the cost per opportunity ratio in described cases which can considerably be a problem especially with lower valued sales cases. In order to spot described issues in the stage of proposal preparation, it would be necessary to measure costs per opportunity if it is possible without increasing the unwanted bureaucracy regarding reporting each work task with very detailed level.

5.4 Performance measurement feedback loops

Performance measurement feedback loops are supposed to be designed in a way that they offer actionable information that can improve sales forecasting climate and especially capability. The underlying issues in regard might be both individual or organizational so both factors should be taken into account when considering the performance measures in feedback loops.

In the target organization, the sales forecasting accuracy is available for each individual in addition to the whole organization. Accuracy is illustrated in visualized form in order to perceive easily the performance for each month. Also numerical data is available for more detailed evaluation. Nevertheless, the results are not communicated in a way that it would conveniently improve the sales forecasting accuracy and explain the reasons behind the numbers. According to Davis & Mentzer (2007), the financial numbers should be coded so that they give practical information what underlies behind the numbers. This type of information is more likely all the details in each sales cases and what is the performance level of the sales activities. As an example, average time for decision-making after quotation for each customer and even decision maker would be valuable information when conducting the forecasting numbers.

In addition to the information offering transparency issues for each sales case, there should be feedback how well sales activities are fulfilling the sales goals and what are the costs of the forecasting in relation to the accuracy. Furthermore the accuracy should be given in a form that it helps to realize more easily how far the forecasting accuracy is from the realized sales numbers.

6. RESULTS – PART II: RECOMMENDATIONS HOW TO IMPROVE SALES FORECASTING MANAGEMENT

This chapter introduces ways how to improve the sales forecasting management in the target organization. These recommendations are based on the theory introduced already in the earlier chapters and by adding ad-hoc recommendations from other researches. The structure of this chapter follows the earlier ones by introducing the recommendations sorted accordingly to the Davis & Mentzer's (2007) sales forecasting management phases. The only part of the framework without any recommendations was the reward alignment as there was not spotted any significant issues in the case company's current practices.

6.1 Sales forecasting capability

6.1.1 Information logistics: Forecasting systems & tools

Even though spreadsheet software is one of the most used tools to do sales forecasting, using them increases the probability to lose the forecasting data integrity. The reason for that is the way of forming and inserting the numbers to spreadsheet without using real sales opportunities and realization data from the same database which is used by the ERP-system (Mentzer et al. 1999; McCarthy Byrne et al. 2006). In addition, it requires somewhat redundant work from both sales personnel doing the forecasts and personnel responsible for reporting as there is manual work done regarding the numbers. Data integrity issues and decrease in work force productivity could be improved by using either solution that is integrated to the ERP-system, or by using at least ERP-system's database as the source for conducting the forecast and realization numbers. Forecasts could be done by using data of each sales case ERP system's and sales personnel just choose cases that are kept in each iteration round for the forecasts. This method though requires possibility to adjust the uncertainty numbers if needed and there is no plans to automate doing that (Mentzer et al. 1999).

According to the unstructured interviews with the sales personnel conducting the forecasts, the following features should be covered with the tool used for forecasting:

- To see conveniently upcoming cases that are not meant to be included in the furthest point of forecasting time horizon meaning three months at the current moment

- To be able to choose cases for both forecast periods in the target organization; month and quarter
- To see closed cases waiting to be confirmed after receiving the signed contract
- In order to decrease the manual work, the cases should be automatically added to the correct forecast periods based on the closed date
- If possible, uncertainty tolerances should be automatically adjusted based on the historical data and sales case specific probability added by the salesperson

Naturally there are multiple possible ways of getting the listed features into use but the current ERP-system does not natively support the features. In addition to separate tools integrated with the ERP-system, the closest possible solution included already in the ERP-system's features would be the Kanban view for the sales pipeline. The simplified example of using Kanban view in sales forecasting is illustrated in Figure 12.

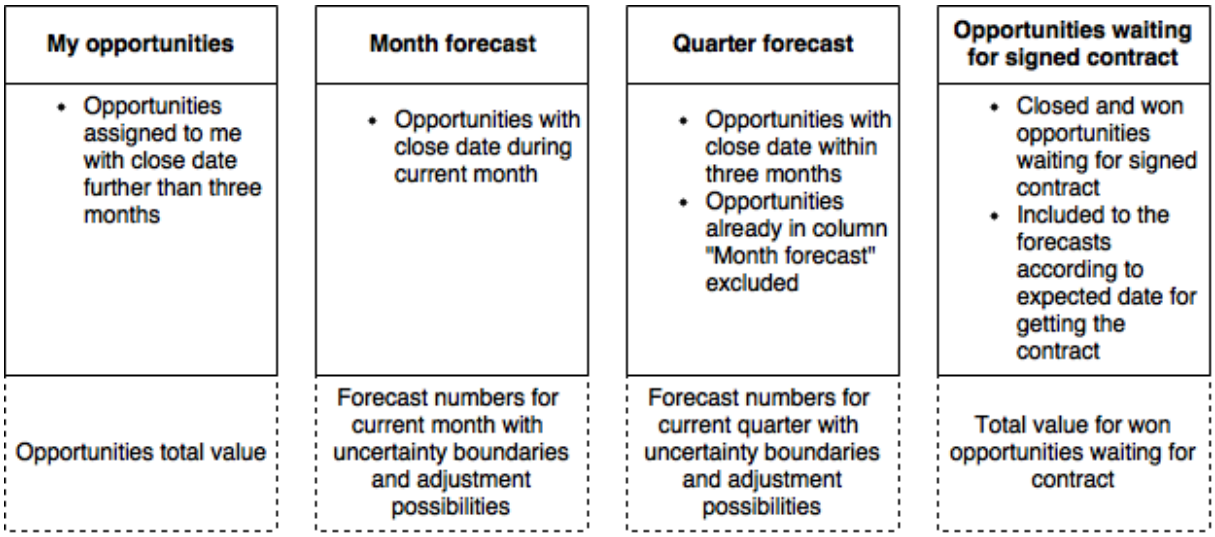

Figure 12. *Example of using ERP-system's Kanban view as an input for forecasting.*

The illustrated view would make it possible to conduct forecasts for month and quarter without copying the numbers to separate spreadsheet which increases the risk of losing the data integrity. By using data directly from the ERP-system's database, it also makes it possible to drill down to the numbers for getting more detailed information out from the forecast numbers. Still the numbers needs to be visualized in order to get insight more conveniently out from the numbers. Currently, both month and quarter forecasts with iteration rounds are visualized and at the same time compared to the evolvement of the sales realization during both forecast time frames. Same kind of practice could be considered with the difference of using data input created in the ERP-system's Kanban view.

Nevertheless, if the solution would be Kanban view or some separate tool, the final solution needs to be planned carefully with the help of end-users. User-friendly way of

conducting the forecasts is listed as one of the key factors affecting the motivation to put effort on the process (McCarthy Byrne et al. 2011).

6.1.2 Information logistics: Forecast numbers transparency

According to Mentzer et al. (1999) forecasting should be done in a way that every stakeholder involved is aware what the actual forecasting numbers include. In the present practice, there is in fact a conflict in both ways of sharing information. Occasionally the sales personnel are unaware what sales cases the realization numbers include for each month. And on the other hand, executive management do not have direct access to information what has happened if, for example, forecast numbers are either significantly increased or decreased during iteration round. In addition, there is a lack of information when evaluating what cases were included in the forecast numbers and which ones of the cases are finally won, lost or postponed.

This information logistics problem could be fixed simply offering information what sales cases are included in the forecast numbers, and in the end of month, include information what cases actualized accordingly. To avoid data integrity problems and decreasing productivity, this should be also done by using common database with ERP-system and offer user-interface which supports simple way of choosing sales cases and adjustment for the forecast numbers. Partial solution for how to conduct the forecasts by using the ERP system is proposed in the previous chapter.

However that solution might not be enough to understand the changes happened during the current sales forecasting periods. It would need a solution which tracks the changes in a way that they are perceivable with a quick look. To give some kind of idea for further development, one draft of the possible solution is illustrated in Figure 13.

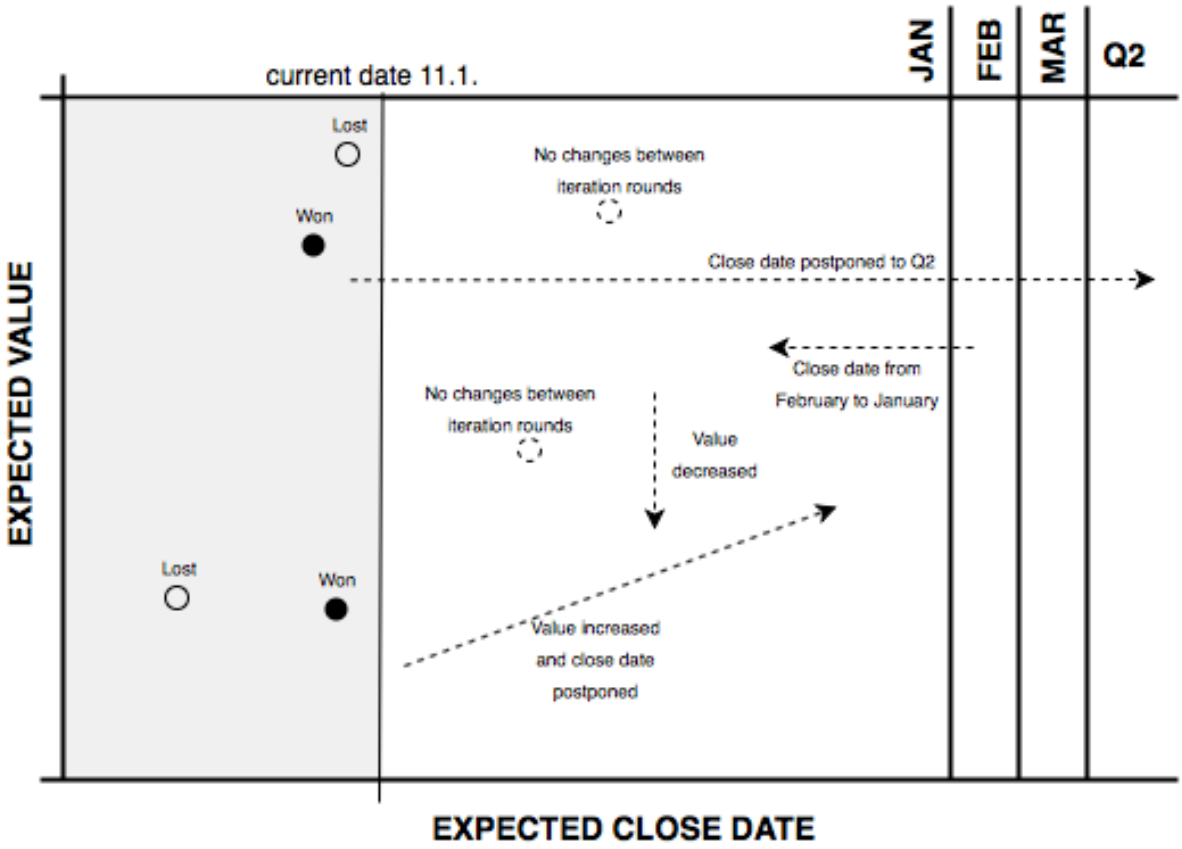

Figure 13. *Example illustration with of the changes between forecasting iteration rounds 1 and 2 during January.*

The example illustration shows the changes of one salesperson's opportunities what has happened during iteration rounds 1 and 2 during January. The additional info next to the arrows should be replaced with the opportunity identification number in the final solution. Vertical axis illustrates the value of the cases and horizontal axis shows the expected close date. The gray area in the left side shows what happened to the cases in past, and on the right side of the gray area, there are upcoming cases and arrows show changes in the value and close dates of the cases. The data for the illustration originates from the ERP-system's database. Similar illustration regarding the whole sales team which would show only the most significant cases would help examining the changes in the forecast numbers. The view in Figure 13 should be accessed by drilling down from the forecasting view in Figure 11.

6.1.3 Information logistics: Sources and usage of information

References are the most important factor in pre-qualifying phase and the customer relationship level is the second important in the final stage differentiation phase (see Table 5 & Figure 7) regarding the criteria for choosing the professional services supplier. Both of the factors are used in the defined qualification terms for different probabilities to win the case (see Figure 10 & Table 8). As so, the reference and relationship infor-

mation should be easily available for the sales personnel while they are estimating the sales case specific probability to win the case. Currently though, reference right information cannot be searched from the ERP system even though it is documented there. It means that every sales case needs to be individually explored for the reference right information and it makes very inconvenient to use reference information as a part of forecasting information source.

The best way to measure the relationship in professional service business is to use indicators such as customer satisfaction and measurement data from the past sales opportunities for each customer and decision maker. Sales opportunity data means basically win rate, reasons for winning or losing the opportunities and which direction the win rate is progressing and for what reasons. Even though required information is available in the target organization, the situation regarding the systematic information usage is not much better for couple of reasons. First, the customer satisfaction information is only in separate spreadsheets, and secondly, the win rates and customer side decision makers are not easily available in a way that they could be conveniently used each time updating the sales opportunity specific winning probabilities. And thirdly, the reasons for winning and losing the sales opportunities are documented infrequently.

As a conclusion, the customer satisfaction information should be available in the ERP-system's view in which the sales opportunity information is updated. Useable information would be the overall satisfaction and possible remarks from the past cases with an emphasis on the most recent ones. Also, if there have been same persons answering the customer satisfaction surveys that are influencing to the decision made on the customer side, this more detailed level of information should be shown too if it is possible to keep track of organization charts or other relations between people making decisions in the customer's organization. With all the described information the sales personnel might be able to evaluate the win probability better and is more aware how to try influence the people in a right way according to the satisfaction in the past cases. In addition to those two things, the significance of the track keeping for the reasons winning and losing should be emphasized to encourage the sales personnel get the information and file it to the ERP-system. In long run this type of information can be considered as important input for spotting things to improve amongst sales personnel's skillset and also keeping track of the evolvement in the competition on the market.

6.1.4 Information logistics: Documenting acquired skills alongside reporting hours

Knowledge and understanding of the customer's business are seen as some the most important factors for the customer to choose the service supplier (see Figure 7). Currently, the information for each consultant's skill set are mainly available in manually updateable CVs, team managers responsible for the resourcing and consultants themselves.

This practice makes it very difficult to use straightforwardly the best consultants in the pre-sales stage for each types of customer's business environments and case specific skills needed without searching thoroughly background information. Finding the information requires input either from the team manager or consultants themselves especially as their CVs are not up-to-date in every moment. This type of practice is not highly productive and even reliable in every case as there are significant responsibilities put on the memory of individuals.

One possible way of fixing this issue could be some kind of tag-based reporting as the consultants report every one of their working hours to the ERP-system. This could help obtaining multiple benefits listed here:

- CVs could be updated even partly automated way to ensure that they are better up-to-date in every moment
- Map out the skill set and experience in each service field
- Map out the individuals with some specific industry or customer type knowledge
- Spot trends on different kinds of skills needed in the services and at the same time possible bottle necks on available skillset in the near future
- Forecast more accurately as there is more easily input information available for the factors used in the final-stage differentiation by the customer side
- Give input for the sales personnel what opportunities should be prioritized based on the information what specific skills needed in upcoming projects are going to be soon available due to ending projects

Used ERP-system does not include a feature which would conveniently make it possible to report hours with structured form additional information such as tags for example. Description form in the hours reporting allows only use of free-form text. Therefore it would be challenging to manage some kind of in-lined structure regarding each skill to be written to the reports that is already acquired and reported by someone else.

6.1.5 Information logistics: Partly automated forecast numbers

One way to increase the accuracy and satisfaction of the personnel responsible for conducting the forecasts could be a solution in which the adjusted best and worst case scenario forecasts conducting is partly automated. Practically switching to this kind of forecasting method would require a lot of concentration to the data quality in order to be able to automate the process in a way that the accuracy would not suffer. This method requires sales personnel to take care that the probabilities to win the sales cases, and in addition, estimated close dates are always up to date for each sales case. Also the sales cases should go through every sales stage in the CRM pipeline to get enough reliable data for the automated calculations. The calculations would basically base on probability to win the case adjusted by salesperson, close date, history data for conversions and lead times for each sales stage for the specific salesperson. If the sales cases data quality

is appropriate, and there are enough data available for the automation, this method might lead to better results in productivity, sales forecasting accuracy and satisfaction (Lawrence & O'Connor 2000; McCarthy Byrne et al. 2011).

6.2 Sales forecasting capability

6.2.1 Shared interpretation: Forecasts in weekly meetings' agenda

The target organization holds every week a meeting where the forecasts are discussed. According to the observations, the time frame for discussing the forecasts is still finding its purpose and best practice. In the current practice, the discussion seems to be a bit too much based on things that happen to come into mind at that moment. Mostly the numbers are just checked, and then if there are significant differences to the goals on the first forecast round of each month or to the previous iteration rounds, sales personnel are offered a chance to give more details what is behind those changes or differences between the set goals and forecasts. In most cases, the sales personnel are either unable or unwilling to give detailed input what might be the reasons for changed forecast numbers.

There is also a time frame in the weekly meetings in which the sales personnel introduces sales cases that are most probably to be closed during next week. Those cases are based on the expected close dates that are in the ERP-system. This practice could be changed to way of working in which the sales cases included in that specific round of forecasts are discussed. This type of practice would avoid the situation in which there are sales cases with outdated close dates shown in the "to be closed" -list. This optional way of discussion would encourage pay even more attention to the forecasts accuracy as the sales personnel would feel that the forecasts are used more than just by checking the numbers weekly without any in-depth relevance what the numbers include.

6.2.2 Shared interpretation: Information for resourcing

In order to proactively find suitable resources for each sales case in the pipeline, it is necessary that the team managers responsible for allocating resources are aware what kind of cases there are in the sales pipeline. To be more specific, there should be information shared regarding what kind of skills are required for the sales cases and avoid isolating this information only to the team managers for some specific team. This would help sharing resources between teams whenever there are free resources available. Team managers might not always know the specific skillset of each employee and therefore basic information of each sales case would also be beneficial to be shared for consultants so they can actively come up with their relevant skills.

Free consultants would then be able to share their interest to take part in cases whenever they feel they have the needed competence. This kind of resource sharing between different teams is beneficial especially in professional services business because it will help avoiding specific knowledge to be individualized. Therefore more varied skillset of each person lessen the risk of losing crucial knowledge if employees decide to leave the company (Sverlinger 2000.). In some cases, this might also help achieving higher business performance by increasing the utilization levels. It could even happen without over burdening the team managers by forcing them to keep track of all the relevant sales cases in the pipeline that could be suitable for their consultants' skillset who are not taking part of any assignments on some specific moment.

6.2.3 Shared interpretation: Information for targeting marketing and sales actions

If marketing functions were offered with sales forecasting information which teams or service areas are running towards a situation in which the utilization levels are forecasted low, marketing could be able proactively target marketing actions in a way that low utilizations might be able to be avoided. This would need either modeling service area resource pools or more specific skillset pools which take both ongoing assignments and forecasted sales cases into account in estimating utilization levels in the near future.

There is similar situation with the sales functions: If sales personnel are aware of utilization levels each moment and there are lots of sales cases in different stages, it would be beneficial to concentrate on the cases that promotes constant utilization levels on each service areas. In order to do this, sales personnel should be offered with comprehensive information of the average lead times for different types of sales cases on different stages. Otherwise it would be very challenging to estimate which cases should be contributed on each specific moment.

6.3 Sales forecasting climate

6.3.1 Credibility of sales forecasting: Process illustration and accountable person

In order to clarify all the factors affecting on the sales forecasting accuracy and what other functions are linked on the forecasts, it would be necessary to illustrate the whole process. This means phases of the sales forecasting including all the people, systems and other tools involved. In addition, descriptions what are the things affecting on the forecasts and also affected by the forecasts would be essential. With the support of the illustration, the sales personnel could be trained how the sales forecasting should be done and what the management expects from them. With this illustration and training the credibility could be increased. Alongside of the increased credibility, sales forecast-

ing accuracy could be increased because the people responsible for conducting forecasts understand better the consequences of their forecasts, and because of that, the motivation might be higher on putting effort to the forecasting related activities.

According to Davis & Mentzer (2007), it is also necessary that there is named person responsible for the forecasting activities. As there is not a person accountable yet in the target organization, naming one should be considered. In that role the person should be the one who understands the whole forecasting process in-depth and is responsible for making sure that the forecasting is done appropriately. Furthermore, developing the sales forecasting activities would be also responsibilities for this role.

6.3.2 Leadership support: Communicating the purpose of forecasting

Unawareness for the general reasons and purposes for doing sales forecasting can devastate the motivation for putting effort to the forecasting. There were signs of these unawareness and weak motivation issues caused by the ignorance for the purposes why forecasting is done and for what the conducting forecasts have an impact on the business environment. These issues can be partially fixed with increasing the credibility of the forecasting but also leadership support is needed. Eventually the management is responsible for communicating the reasons and purposes for the forecasting actions on which the motivation of putting effort is based on.

6.4 Performance outcomes

6.4.1 Sales forecasting usefulness and accuracy

In the end of each forecasting time period, sales forecasting accuracy is measured mainly by looking each month's last iteration round numbers and compare them to the sales realization of each month. The first round numbers of each month are usually forgotten at this point even though they are available in the visualization of the forecasting and realization. The present way of practice gives no opportunity to do other than very short term forecasting evaluation and proactive business planning according to that.

The underlying reason for the described issue is the typical only one week time gap between the moment of conducting the last iteration round numbers which are going to be evaluated and the end of the forecasting period. In addition to the unawareness of the upcoming cases in the forecasts, described one week time frame evaluation of the forecasting accuracy does not give the opportunity to do proactive moves which would support to win more cases. Or in the other hand, dismiss cases that seem unwinnable in a beneficial way with the help of available information of similar cases and outcome.

There is evidence that sales cases on earlier stages can be affected more in order to win them compared to the later stages (Cravens et al. 2011). Therefore it would be important to do also longer term forecasting to get information which cases need special attention in order to win them more probably. In order to do longer term forecasting successfully in a way that it gives possibilities to win more cases based on the information of past cases, forecasting practice should be done in a way that there is all the relevant information available without trying to search them actively from different systems. Manual way of looking relevant information is both unproductive and there is also a high risk that the sales persons are not motivated to use time for those actions.

In addition to the benefits by moving from very short term forecasting to little longer time horizon, the accuracy of the forecasting numbers could be communicated in a more useful way with a practice of giving information from the relative accuracy for each month. This would make it easier to evaluate the progress in forecasting accuracy compared to just by looking the absolute numbers of forecasts and sales realization. According to McCarthy Byrne et al. (2011, p.8), this communication can be simply made by offering regularly a ad-hoc report which includes all the relevant information of the forecasting accuracy in a form that can be used to critically evaluate own ways of conducting the forecasts.

6.4.2 Measuring sales forecasting related business performance

The main sales related business performance measurements in use are listed in Table 9. All of the listed measures can be considered as important indicators how the business is performing but there are still multiple sales related performance indicators that should be considered to be measured. This means basically sales and business performance indicators that could be used as input for sales forecasting. In addition to the performance indicators mentioned in Table 9, there are multiple indicators in relation to the sales and customer interaction performance that might be used as an input variables in the sales forecasting (Davis 2012b). Table 10 illustrates the performance indicators that could be considered useful in the case company.

Table 10. *Useful indicators for sales forecasting information input. (Adapted from Mentzer et al. 1999; Morgan et al. 2005; Davis & Mentzer 2007; Homburg et al. 2010; Davis 2012b; Davis 2012a; Friend et al. 2014; Virtanen et al. 2015)*

Indicator	**Purpose**
Details of customer profile	Better understanding of the customer's needs, and based on that, better ability to estimate probability to win the case

Conversion per lead source	Better probability estimating regarding winning or losing cases from each lead source
Conversion per sales pipeline stage	Measuring sales team and individual sales person's performance help finding weak spots skills and ways to improve them
Average lead time per sales pipeline stage	Useful for estimating close dates and measuring sales performance
Customer lifetime value	Better estimate of sales case total value especially in continuous services
Costs of sales force supporting activities that do not directly make progress in any sales case	Measuring sales performance especially in productivity point of view; input how to improve sales process and required information availability in each sales stage
Rate of sales cases generating additional sales cases / Churn rate	Measuring sales performance regarding ability to keep up the customer relationship and find new assignments after the finished ones
Reason for choosing or not choosing the target organization to be the supplier	Better estimate for probabilities to win in regard different types of customers and assignments
Costs of lost cases	Measuring sales performance and input for making better decision whenever it is reasonable to suspend going forward in the sales case
Customer satisfaction levels	Ability to measure better the customer relationship, and based on that, better ability to forecast probability to win further sales opportunities
Customer loyalty level	Ability to forecast more accurately if there is information of the win rate indicating customer loyalty and possible other factors indicating how often customer chooses the target organization to be the supplier.

In order to achieve the benefits for the indicators shown in Table 9, it is reasonable to map out the situations in which each one of the indicators are considered useful. As an example, indicators that have something to do as a direct input for the forecasts should

be available in CRM view in which the sales opportunities probabilities are adjusted. In addition, to get quickly an overview of the sales and forecasting performance, some kind of dashboard view with overall performance indicators at least for the sales executive management should be considered (Davis 2012b, p.306). Also categorization to controllable and uncontrollable performance measures is reasonable so sales personnel know if there are indicators looking weak and they are able to directly affect to them.

6.5 Performance measurement feedback loops: Choosing and communicating the feedback loop inputs

In order to continuously improve performance outcomes for sales forecasting and business performance related, it is necessary to have the both feedback loops for the sales forecasting climate and also for the capability phase. Currently, the feedback is already used from the sales force which means any issues, observations from the customer interface and improvement suggestions from the sales personnel responsible for conducting the sales forecasts. Still there is lack of communicating various performance measures in regard of the sales forecasting. There is the same issue regarding business performance which might have an impact on the sales forecasting capability itself.

As Davis & Mentzer point out in their research (2007), there are two main reasons for the feedback loops. First, the performance measurement needs to be clearly visible in order to optimize the sales forecasting climate. And secondly, all the necessary information input for sales forecasting needs to be available and able to be discussed all the relevant stakeholders. This phase in the framework is considerably broad and therefore would need a lot of additional research to do in order to find all the best practices. However, some basic recommendations can be given in this point in addition to the factors affecting to the feedback loops but discussed in the previous subchapters of the recommendations section.

The performance measures listed in the previous chapter need to be categorized into the controllable and uncontrollable. And in addition, division to individual and organizational level measures is essential in order to be able to communicate the performance measures to the correct roles in an appropriate way. For example, sales personnel need individual level measures that the can use to improve the sales forecasting and executive management is more interested of the organizational level measures. Anyhow, the performance measures should be available for all the stakeholders conveniently in the ERP-system as a part of the sales forecasting and evaluation process without any need for active searching for relevant information that the people involved might not be even aware of.

7. CONCLUSIONS

7.1 Introduction

This research started in June 2015 in a situation in which the target organization had started the short-term sales forecasting practice. The practice was put built from a scratch and there was not any actual experience and in-depth knowledge how the sales forecasting should be done in order to get results that support proactive business activities planning. It did not take long to notice that the accuracy of the forecasts is so weak that the forecasts could not be used to proactively plan sales and operations activities according to the forecast numbers. In addition, even afterwards made evaluations to the sales forecasts versus realization did not offer sufficient insight to understand how the forecasting could be improved.

As Geiger & Guenzi's (2009) research indicate, there was very limited amount of researches done regarding sales forecasting compared to other fields of sales management. In addition, there were not researches that would have concentrated to the subject of sales forecasting management in the field of professional services business. Even if there would have been researches specifically from the subject of sales forecasting management in professional services business, it was necessary to use the target organization as a case company for the research instead of just collecting all the information from previous literature for the research. The underlying reason for that was that professional services business are always seen as somewhat unique and therefore there are not universally implementable practices that would automatically work in every organization (Davis & Mentzer 2007; Sonmez & Moorhouse 2010).

This research was conducted as a case study, investigating how the sales forecasting management practice is done in the organization and how the system could be improved. Therefore, it is clear that the results are mainly useful only in the specific case company used in the research. However, this research includes aspects of the commercial issues and questions in the professional services business which are more widely applicable in other businesses too. Theory section as a whole also gives an opportunity to use the same sales forecasting framework and additional aspects from the service business logic to conduct a similar evaluation to other target organizations.

The following chapters analyze more in-depth the contribution and value of this research in regard to the research goals which were: (RG1) *Achieve understanding how the whole sales forecasting management system is formed and linked between different*

functions in the case company and (RG2) *Find ways how to improve sales forecasting management practices in the case company.*

7.2 Discussion

The research made by Moon et al. (2003) shows that there was a lack of comprehensive frameworks that would take the whole system of sales forecasting management into account. Instead, there were only frameworks from the smaller parts of the whole system. In 2007, Davis and Mentzer came up with the framework (2007) that illustrates the sales forecasting management as a whole. Still, the framework does not particularly cover the questions related to the sales forecasting management in the field of professional services business. It is actually surprising that presumably there was not any researches specifically made for sales forecasting management subject in the professional services business as there is a undeniable difference between the business logics of service and goods business, and in addition, the service business in general has a significant role in the international economy (Vargo & Lusch 2004; Central Intelligence Agency 2015; The World Bank Group 2015). Therefore, it was necessary to acquire information of the commercial aspects in the professional services business in the theory section and take that information into account in conducting the empirical part of the research.

First of all, in the theory section this research mapped the factors that affect to the sales activities in relation to the sales forecasting in business operating in the field of professional services. Those factors can be divided basically into two different categories which are internal managerial questions and the factors on the customer's side that are affecting to the choosing of service suppliers. The internal managerial questions included issues regarding the service offering, questions regarding customized or productized services, selling the services and also how to involve the customer to the service delivery. In addition to those internal factors, also the selection criteria for professional service supplier were discussed as it is necessary to understand based on what the customers make their decision and what are the things that can be somehow controlled from the supplier side.

Davis & Menzer's (2007) sales forecasting management framework showed how there are a lot of different factors and phases that affect to the final results and accuracy of the sales forecasting. Even though the sales team is responsible for conducting the forecast numbers in the target organization, they definitely are not the only ones affecting to the whole performance of the sales forecasting system. For example, there are both cross-functional ICT- and human-based factors affecting to the outcome. And if the whole system is not measured in an appropriate way and input given through the feedback loops, there are weak chances to improve the practices systematically in the long run.

7.3 Contributions and a critical evaluation

This research created insight from what factors and phases the sales forecasting management system consists of in general and particularly moreover in the context of the case company operating in the field of professional services business. As there were not researches in the specific subject of sales forecasting management in the context of professional services business, the findings based on the Davis & Mentzer's (2007) framework needed to be analyzed with the help of generic professional services business research literature. Alongside with the more generic studies, there was also material used with the emphasis on the commercial aspects in order to fill the gap between the two main subjects of professional services and sales forecasting management.

This was somewhat problematic as there were not very obvious criteria which should have been used in choosing the commercial elements of professional services business to be included in the evaluation of the sales forecasting management in the target company. In addition, the most of the sales forecasting management researches dealt with the products logic business and therefore supply chain management and information logistics in regard of that was in the focus of the researches. Consequently the researcher needed to adapt the information in the former researchers in the service logic business model which also created certain kinds of challenges.

The research was conducted by acquiring the information for the empirical part by using information gathering techniques of participant observation and unstructured interviews. The observations based on the theory gathered in the beginning of this research and it offered the baseline on which aspects to concentrate in the everyday observations. This combination of using limited amount of theory as a base for human perception and interaction in gathering the information in the empirical part creates some sort of uncertainty factors when considering the trustworthiness of the final results. Also this type of research methods makes it challenging to replicate the results by using another researcher. These aspects were taken into account at the beginning of the research though and were not seen as a major issue when considering the possible contribution made for the case company used in the research.

When considering the scientific contributions, this research was in the frontline of creating insight of the sales forecasting management in the context of professional services business. In addition to the contribution made in that specific field, this research was also an addition to the research field of forecasting which has had relatively little contribution compared to the perceived need amongst the companies (Geiger & Guenzi 2009).

For the case company used in the empirical part of this study, the findings offered a lot of valuable insight in regard sales forecasting management. This was especially the case due to the fact that the present type of practice is a new way of doing short-term fore-

casting from which the organization had no experience of. The results are useful mainly for the executive management responsible for the sales forecasting activities and also for the sales personnel responsible for conducting the forecasts. The management can get a good overview of the whole sales forecasting in order to understand better how the whole systems works and what are the factors affecting to the accuracy. Based on that information the management can prioritize the possible development goals and evaluate when the sales forecasting practices reach that point in which it can be systematically used for proactive business planning. The sales personnel responsible for conducting the forecasts benefit also from the better understanding offered by the overview of the whole system and they can also understand better what are the most critical phases in their work that affect to the accuracy and usefulness of the forecasts.

The summarized view of the sales forecasting management framework and the recommendations in Chapter 6 are illustrated in Appendix A. This illustration offers also the rough level solution for the second one of the research goals (RG2). The get more in-depth viewpoint for the solutions regarding the research goals (RG1 & RG2), it is essential to explore both of the results Chapters 5 and 6. Some minor improvements regarding the sales forecasting management was already made before the finalization of this study. From now on, the rest of the findings and recommendations are going to be further evaluated as a preparation for possible implementation projects.

7.4 Suggestions for further research

As this research was exploratory instead of explanatory, highly in-depth insight of each phase of the framework used in this study is still missing. Also, as noted in previous chapters, there are relatively few researches made of forecasting in the field of sales management. Particularly the business field of professional services is not well covered in the past researches as most of them have researched product business logic. Therefore there are definitely many possible subjects for further research and here couple of examples:

- How to conduct long-term forecasts in the business field of professional services?
- How data science could be used in automating sales forecasting management in the business field of professional services?
- How to form a maturity model for sales forecasting practices in the field of professional services business?
- How existing skills in a professional services organization could be mapped out and kept track practically?
- How the sales forecasting management feedback loops should be implemented in the case company of this research?

These proposed further research subjects covers the main questions that arose during conducting this research. As this research investigated the sales forecasting management

in short-term time scope, the next natural step would be to investigate how longer-term forecasts could be made. One recommendation to the target organization was to consider using combination of manual sales force composite forecasting to conduct the forecast numbers and then use partial automation to adjust the uncertainty numbers. This could be taken further to broaden the usage of data science in the automation of the whole system. For example, automated market sensing, indications of the progress in the evolvement of the customer relationship and conducting the forecast numbers from the beginning to the end would be an interesting topic to make a research. In addition, there is a lack of a maturity model for evaluating the sales forecasting management system in the professional services business so it is challenging to benchmark how things are done in some specific organization compared to the ones which are succeeding in the practice.

The second last suggestion for further research also arose during this research as the knowledge and skills and especially availability of them at some specific moment are in a crucial role in the professional services business logic. Better understanding of the demand and utilization levels for some specific skills can be used as an input for recruitments, subcontracting, spotting market trends and possible risks included if losing some employees for example. Therefore, continuous awareness of skillset enclosed in the organization can be considered as a significant asset and suitable subject for further research at least in the target organization used in this research. The last suggestion for further research is fully related to the case company of this research. As the phase of performance measurement feedback loops in the sales forecasting management framework is considerably wide subject it was not possible to find other than superficial answers how to improve that phase in this type of exploratory research. Therefore, especially that phase in the framework leaves space for another research to be done for the case company.

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APPENDIX A: SALES FORECASTING MANAGEMENT FRAMEWORK WITH RECOMMENDATIONS HOW TO IMPROVE