Managing Offshore Distribution Channels of SMEs in Healthcare Technology and Medical Automation Industry

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ABSTRACT

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Small and medium enterprises and their internationalization has been a trending research topic. This study researches the next steps after the internationalization and aims to answer how SMEs can efficiently manage their international distribution channels, particularly when operating in healthcare technology industry.

This research was conducted in close cooperation with a Finnish SME which operates in healthcare technology and medical automation industry. Theoretical review consists of in-depth analysis of distribution channels and concepts which are highly linked to management of distribution channels. Chosen methodology was case research because of the practical approach. Empirical data was collected from daily observations in the case company and from two different questionnaires to two different target groups.

As a result, a four step model for distribution channel management was created. This model takes into consideration the limitations of SMEs and perspectives of healthcare technology. This model consists of information and performance measurement system implementations, meetings, incremental steps and iterative nature of the whole model.

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Pienten ja keskisuurten yritysten kansainvälistyminen on ollut suosittu tutkimusaihe viime vuosina. Tämä työ tutkii kansainvälistymisen jälkeen tapahtuvia askelia: miten pk-yritys pystyy hallinnoimaan kansainvälistä jakeluverkostoaan tehokkaasti ja mitä erityisiä seikkoja tulee ottaa huomioon, jos yritys toimii terveysteknologia-alalla?

Tämä tutkimus toteutettiin tiiviissä yhteistyössä suomalaisen pk-yrityksen kanssa, joka toimii terveysteknologia- ja lääkeautomaatioalalla. Teoreettisessa katsauksessa käydään läpi holistisesti jakeluverkostoja sekä niiden hallintaan läheisesti liittyviä konsepteja. Metodologiana on käytetty käytännöllisen lähestymistavan vuoksi tapaustutkimusta, jossa hyödynnettiin case-yrityksessä tapahtuvaa havainnointia ja kahta eri kyselyä kahdelle eri kohderyhmälle.

Työn tuloksena on neliportainen jakeluverkoston hallinnointi -malli. Tässä mallissa otetaan huomioon pk-yrityksen ja terveysteknologia-alan tuomat näkökulmat sekä rajoitukset. Malli koostuu tietojärjestelmistä, suorituskyvyn mittauksesta, kokouksista, inkrementaalisista askelista ja koko mallin iteraatiosta.

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1   INTRODUCTION

Internationalization and SMEs are widely researched fields, but once the company has successfully conducted first steps of international business, what should it do and especially, how should the enterprise manage its offshore distribution channels? Even though interest in SMEs and internationalization of SMEs have raised among researchers during last decades (Ruzzier, Hisrich & Atonic, 2006), there seems to be a research gap in SMEs' distribution channel management. This research aims to fill that gap and rise possible future research topics among internationalized SMEs and their distribution channel management.

This research was done in close involvement with a Finnish SME which is operating in healthcare technology and automation industry. Topic for this research was molded during discussions with the executives and active involvement in the case company's daily activities within its international business sector. Management of the case company was not satisfied on their current situation with their distribution channel management. Healthcare technology, and especially automation segment of it, has great potential and the case company management thought that they were not getting the best out of it.

During the discussions and active involvement researcher noticed the gap in previous researches of SMEs and their offshore distribution channel management. Dynamic industry and active involvement in mind, it had to be taken into account that the research questions and goals might slightly evolve and probably had to be adapted during the research.

1.1   Background of the study

Distribution channel is defined as companies or entities that participate in the flow of goods from manufacturer to the end customer (CSCMP, 2013). Mulky (2013) states that companies can achieve competitive advantage with superior channel design management. Kotler, Keller, Brady, Goodman and Hansen (2009, 627)

confirm this by stating that distribution channel can earn margins from 30 to 50 per cent of the end customer price. These statements highlight that distribution channel is extremely important factor and channel design decisions are one of the most important ones to the management.

Case company of this research is 2007 founded Finnish SME which offers medical automation solutions mainly to hospitals and pharmacies. It is market leader in hospital and pharmacy automation in Finland. Finnish healthcare is highly appreciated abroad and strict Finnish regulations in medical industry are widely known. Internationalization of the company occurred in 2013 and it currently has active distributors in six different countries. Potential of the company and industry is huge, but as a typical SME the case company is lacking resources and especially employees which are putting effort to the internationalization and distribution channel management. However, case company has future plans of creating joint ventures and founding subsidiaries in foreign countries. These plans show ambition of trying to reach their full market potential but also highlights the importance of creating more efficient distribution channel management and understanding different foreign operating methods: how to adapt or switch them.

Healthcare technology is dynamic, diverse and innovative market which offers drugs, devices and medical procedures that are utilized in healthcare. It requires focus on product development because new innovative products can be seen as a necessity in this dynamic market. Customers range from big corporations and public organizations to individual end users. (De La Lama, González & Marco, 2010; Eatock, Dixon & Young, 2009) Importance of SMEs in medical technology is highlighted in MedTech Europe's (2015) study, which states that even 95% of Europe's medical technology companies are small and medium enterprises. Finland is one of the top healthcare technology providers in Europe and according to FiHTA (2016) it is the largest hi-tech sector of Finland and represents almost half of all hi-tech exports. Annual trade balance of healthcare technology exports and imports in Finland has raised from 300 million to over 900 million in 18 years. According to European Commission's (2015) research, SMEs operating in medical device sector

are facing barriers when trying to reach their full potential, and one of these problems is distribution channel.

The case company focuses on medical automation, which is defined by Felder (2009) as system, process or apparatus that operates as self-acting or self-regulating mechanism in the practice of medicine. SMEs have limited resources and operating in such industry require focusing on research & development. The case company offers solutions which consists of long and elaborative projects. These projects require fluent communication between the manufacturer and end customer. This demands even more resources, and especially employees from the case company. In overall these factors create problems with resource management and the company cannot put enough effort in internationalization and distribution management.

1.2   Research questions, objectives and methods

Research questions and objectives were conducted in cooperation with the case company's management. When the research proceeded, the questions had to be adapted, adjusted and stilted, as it is typical for qualitative research with inductive analysis and active involvement. Main research question was:

How SME can efficiently manage its international distribution channel in particularly when operating in healthcare technology industry?

During the research it was noted that information systems and performance measurement of distribution channels were important factors in distribution channel management. That is why these supporting research questions were conducted:

How can SME use information systems as supportive tools for managing their distribution channels?

Why and how to measure the performance of SMEs' distribution channels?

Goal of this thesis is to present possibilities for better distribution channel management for the case company and also on general levels for SMEs, especially for those which operate in healthcare technology and medical automation industry. During the research it was noted that information systems and performance measurement are in important role with distribution channel management. Thus this thesis focuses also on how the case company and SMEs can benefit of information systems and performance measurement regarding their distribution channels.

This thesis was conducted as a qualitative research. Chosen methodology was case research because case researches are able to present business problems in practical format, research questions arise from practical settings, they are typically involved in real-life environment, have multiple sources of information and active involvement is often required for efficient results. Data of this research was collected mainly from daily observations of the case company and unstructured survey. Survey consisted of two questionnaires which were targeted to internationally operating Finnish healthcare technology SMEs and distributors of the case company.

1.3   Structure of the thesis and limitations

This thesis consists of nine chapters. First chapter gives the reader introduction of the thesis and answers the question why and how this thesis was conducted. Next four chapters are focused on theoretical background of the researched topic. Theoretical background includes comprehensive views of all the topics but focuses on distribution channel, SMEs and healthcare technology perspective. Figure 1 describes briefly the content of introduction and theoretical parts of the study.
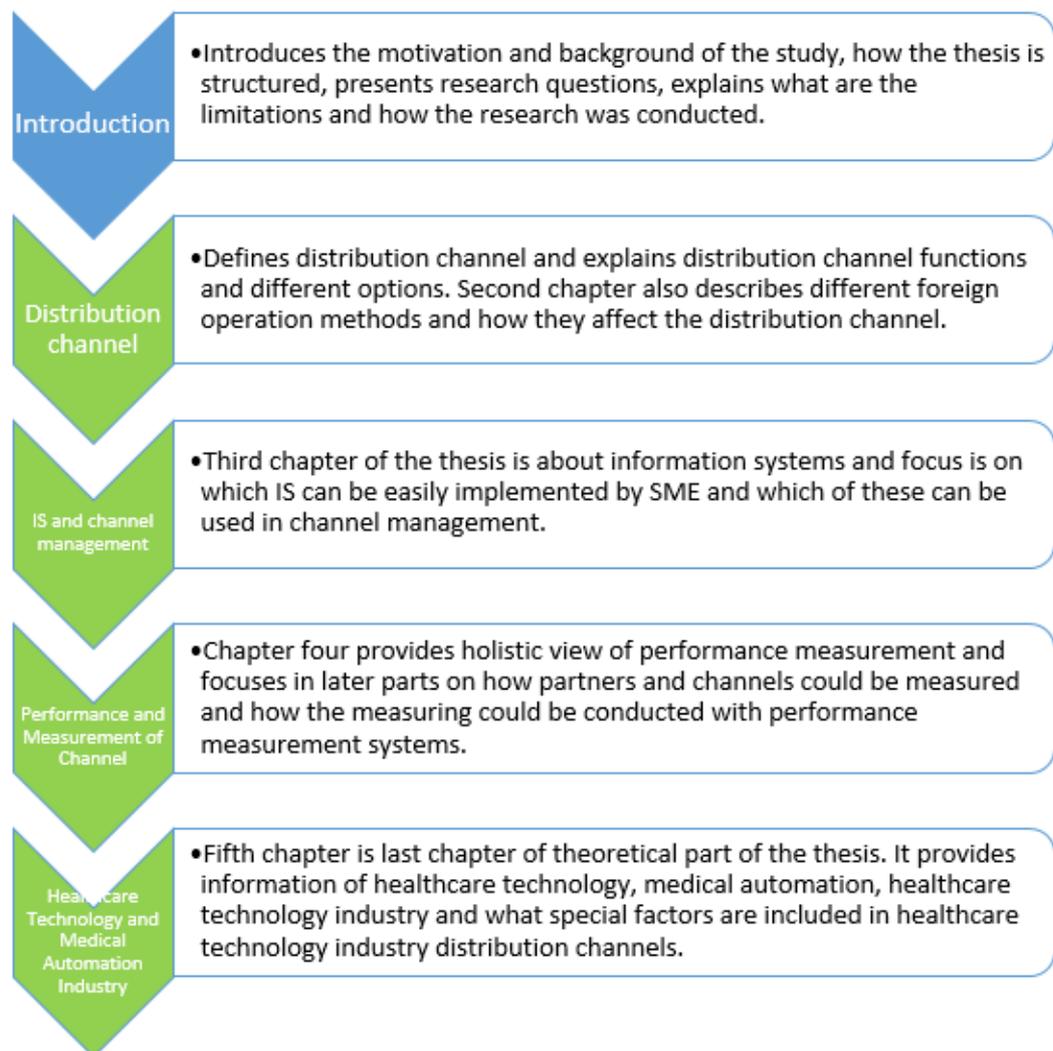
Figure 1. Theoretical part of the thesis.

Empirical part of the thesis begins with the introduction of the case company. Next chapter is methodology to explain what kind of research methods were used to conduct this study. Eight chapter presents comprehensively researcher's interpretations of the theoretical parts, observations and questionnaires. Last chapter summarizes the study and answers to the research questions. Figure 2 lists the empirical and summarizing parts of the thesis.
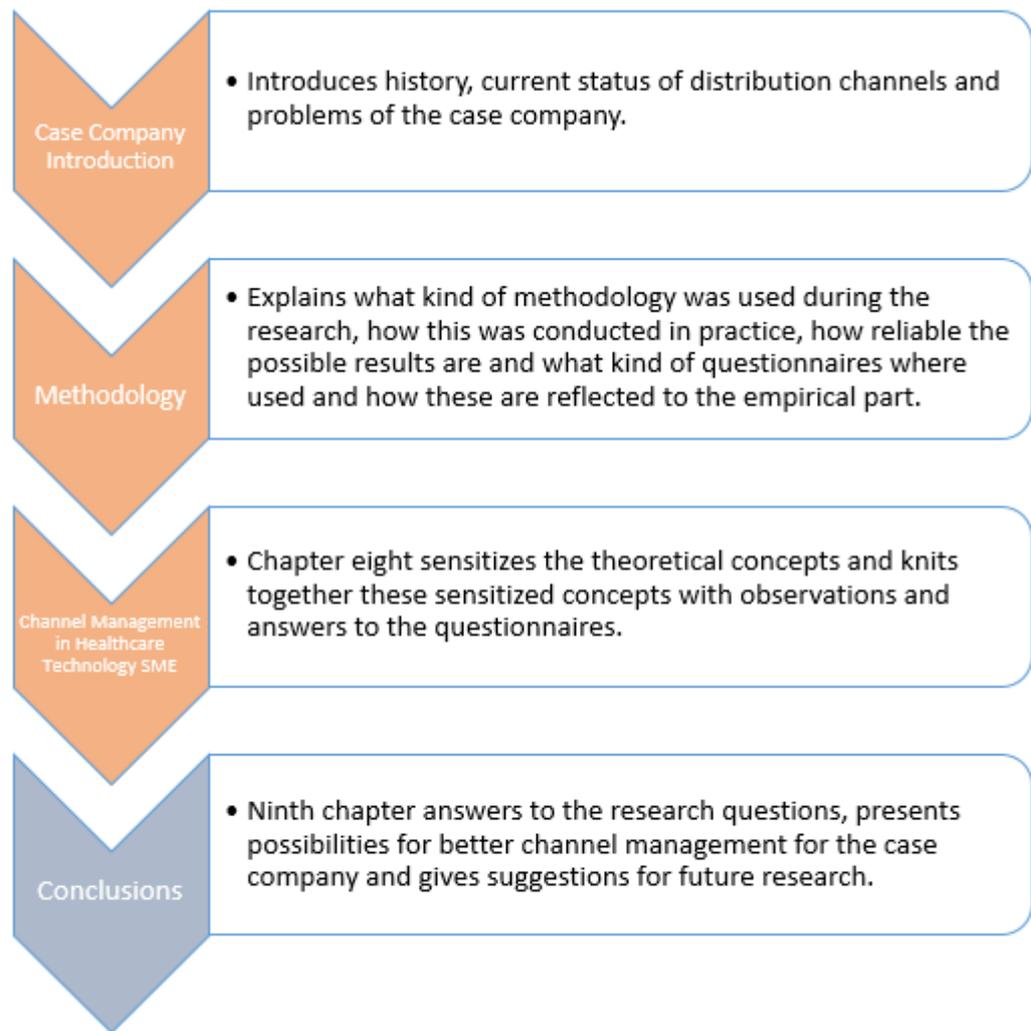
Figure 2. Empirical part of the thesis.

Some of the listed topics in theoretical part of the study are popular among researchers and there is a huge amount of information available of them. Thus many of the chapters in this thesis have limitations. In distribution channel chapter it is necessary to give the reader holistic view of different distribution channel possibilities and foreign operation methods so it is clear what kind of options are available. Later the focus moves toward Small and Medium Enterprise (SME) point of view in distribution channels and emphasis on foreign operation methods is on SME perspective and distribution channel formation. Foreign operation methods are vital for this study because of their different distribution channel formations but also because the case company is expected to grow and they have to consider different options for operating in foreign countries. In overall focus on distribution

channels is on management side. Even though choosing the proper distribution channel, distributors and external players in the distribution channel is a vital part, the actual focus of the thesis is not in this. Choosing these is a multidimensional and complex process which would need its own research and there are already many researches done of this topic.

Information systems and channel management have to be described broadly to make sure that the reader understands different possibilities and almost unlimited options of these systems. Main focus on this chapter is on the solutions which are typical for SMEs and available with their resources. Also the emphasis on that chapter is on systems which can benefit the management on distribution channel monitoring and measuring. Healthcare technology is a broad industry so the focus on healthcare technology chapter is in medical automation because the case company is mainly involved in the medical automation business.

2   DISTRIBUTION CHANNEL

According to Mulky (2013) effective channel is an important part of any company's strategy. Superior channel design and management can give companies competitive advantage compared to their rivals. (Mulky, 2013) Kotler et al. (2009, p. 627) state that decisions about distribution channel are one of the most significant that management face. Members of distribution channel have earned margins that account for 30-50 per cent of the end customer price, when the same per cents for example advertising are usually among 5-7. (Kotler et al., 2009, p. 627)

Distribution is defined according to Ross (2015, p. 46) as a set of activities which are performed by various supply chain entities associated with the movement of finished goods from producer to customer. Distribution process includes the communication management between supply channel entities of disruptive events, inventories and customer delivery statuses. Typically, distribution process includes warehouses which make inventory management and delivery more efficient. (Ross, 2015, p. 46-47)

Distribution channel refers to companies or entities which are participating in the flow of goods or services from the producer to the end user or consumer. (CSCMP, 2013) Distributor is an entity in a supply chain which does not manufacture its own products. It purchases the products and resells them. (Blackstone, 2013) The Council of Supply Chain Management Professionals defines distributor as *"A business and industry that acts as a third party local representative and distribution point for a manufacturing firm. These firms may perform some light assembly or kitting of goods, but generally provides a buffer for finished goods. Distributors typically purchase the goods in quantity from the manufacturer and ship to customers in smaller quantities."* (CSCMP, 2013)
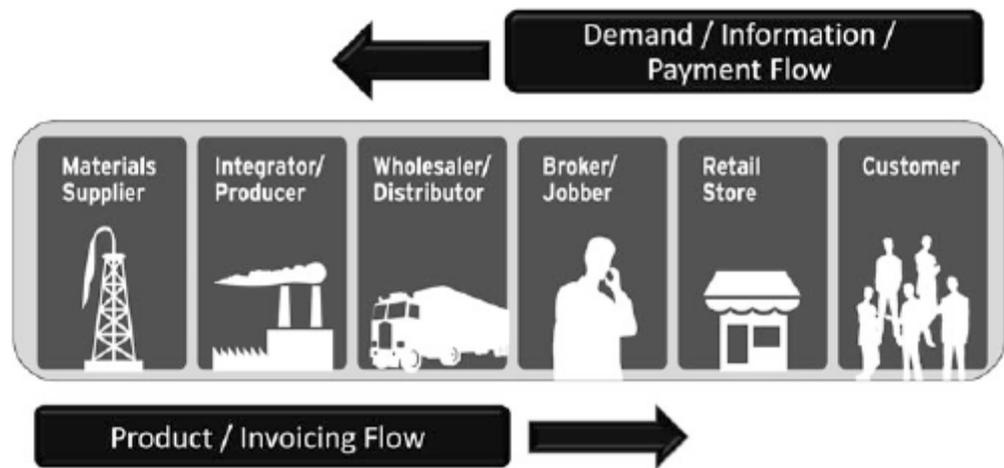
Figure 3. Supply chain divided into six parts with product and demand flows (Ross, 2015, p. 48)

Figure 3 gives an example of whole supply chain, from raw material supplier to end customer, with product and demand flows. Distribution channel can be seen as the product flow from integrator or producer to the end customer. (CSCMP, 2013) As it can be seen from figure 3, distributor is only a link between the manufacturer and customer. Distribution process to the customer can have more links between distributor and customer: brokers or jobbers and retail stores. Several links between producer and end customer are more typical when distributed objects are consumer products. (Ross, 2015, p. 48)

Distribution channel can be direct which means that producer performs most of the distribution functions. In indirect distribution channel there are some external intermediaries and channel partners who take care of the distribution functions. Nowadays business is more dynamic which requires more dynamic supply channel and that adjusts the definition of distribution channel. It means that the description of distribution channel and its formats are broader: it can mean any organization that sells goods or services to retailers, industrial, institutional and to all kind of end users including consumers. (Ross, 2015, p. 50) Typical entities in distribution channels can be:

- Merchant wholesalers

- Manufacturers' branches and offices

- Channel service formats: e.g. brokers and agents

- Retailers

- Exporting and importing distributors

- Specialized distributors

- E-business channel formats (Ross, 2015, p. 49-53)

2.1   Functions of distribution channel

There are various critical functions performed in distribution channel whether they are executed by producer itself, independent distributor, channel service formats or e-tailers. There are three problems these wholesalers try to solve: specialization, functional performance and reduced complexity. These intermediaries are focusing on facilitating and rationalizing the flow of information, products and services through the supply chain pipeline while the goal of whole distribution is to increase the efficiency of time, place and delivery utilities. As a whole, distribution tries to ease the performance of following flows:

- Forward: physical possession, ownership and promotion

- Backward: marketing information, negotiating and risk taking

- Exchange: buying and selling

- Logistic: transportation and storage

- Facilitating: financing and payment (Ross, 2015, p. 66-67)

Effective and efficient management of the inventory flow throughout the supply chain can be seen as the single most important role of distribution channel. Supply channels can be categorized into three different types according to their demand. (Ross, 2015, p. 68)

1) Independent demand from final user
2) Derived demand from upstream channels

3) Dependent material demand from upstream channels

Even though efficient forward inventory flow's management is probably the most important role of distribution channel, lately the reverse logistics have gained bigger attention. These reverse logistics consists of returns, repair, remanufacture and recycling. This is mainly because of companies' focus moving towards more sustainable and green operating. Corporate social responsibility and sustainable business models are driving companies to think beyond profits also when considering effective and efficient supply chain. (Ross, 2015, p. 78)

Kotler et al. (2009, p. 632) are looking at distribution channel from marketing point of view. They too divide distribution channel to forward and backward flows, but they also list flows which go both ways. Forward flows consisting of physical, title and promotion while backward flows are order and payment. Flows which go both ways are information, negotiation, finance and risk taking. Main functions of distribution channel according to Kotler et al. (2009, p. 633) are:

- Gather information of the marketing environment: potential and current customers, competition and other vital forces effecting the market.
- Agreeing with customers about price and other terms so that the possession of goods or services can be transferred.
- Persuasive communications to reach purchasing decisions
- Ordering from manufacturers
- Provide the logistics of products
- Provide financial flows to both ways in distribution channel
- Make sure that the actual transfer of goods or services goes fluently

2.2   Distribution channel relationship, management and support

According to Frazier & Summers (1984) being part of a distribution channel is usually a long term relation and when channel entities expect numerous interactions they act more cooperatively (Young & Wilkinson, 1989). That is why enhancing

and embracing distribution channel relations are truly important. Especially fluent and often occurring communication is major factor when creating and maintaining a successful distribution channel.

Kotler et al. (2009, 638) list four most relevant issues when considering distribution channel relationship maintaining and management:

1) Training and motivating channel members
2) Gaining cooperation and channel power
3) Evaluating channel members
4) Modifying channel design and arrangements

Matear et al. (2000) lists some of the same factors under channel support, which are:

1) Sales force training
2) Technical assistance
3) Marketing know-how and promotional support

Ross (2015, p. 61-62) has same kind of thoughts under channel service outputs: Selling and promoting, postponement, transportation, warehousing, sequencing, merchandizing and marketing information.

Rosenbloom (2012, p. 266) states that channel members usually receive unorganized support on ad hoc basis. Instead of ad hoc support in problem situations, producers should focus on well planned programs using above mentioned channel management, support and service outputs. This way the problems can be avoided before they even appear.

2.2.1   Training and motivating

According to Kotler et. al. (2009, p. 638) producer company should consider channel members as clients. Intermediaries in the channel are partners which are in joint effort to make as satisfied customers as possible. Understanding and fulfilling

the needs and wants of channel intermediaries will allow them to perform at their best level. (Kotler et al., 2009, p. 638) Rosenbloom (2012, p. 260) mentions these same factors as the key concerns in motivating channel members: identifying the needs and problems of channel members, offering support for these needs and problems, and using power effectively to gain clear leadership over distributors.

Previously mentioned needs of channel members can be fulfilled with training, market research and other capability-building programmes. (Kotler et al., 2009, p. 638) All of the programmes should be planned according the particular needs of each channel member and implemented in the most appropriate way. At the same time these programs can be one the most effective ways to build promotional cooperation and joint strategy. Training programs usually consist of product knowledge, selling techniques and customer counselling skills. These training programs can also be two-way: while producer is providing product knowledge and selling techniques the channel member can give updates of customer applications, operational procedures and customer needs. (Rosenbloom, 2012, p. 356)

2.2.2   Technical, marketing and sales support

Technical support usually consists of inventory control, logistics and customer service support for distributors. This technical support can reduce the costs of distributors and eliminate overlaps while producer is enabled to give better service which leads to end customer getting better service. Distributors do not have to invest greatly in their own technical representatives and their training. Technical support to resellers can be categorized to three levels: online portal for technical data and information, support via phone by producer's service engineers and local technical representatives from producer. (Anderson, Narus & Narayandas, 2009, p. 382)

Channel members' success is depending on the demand they receive in their market. Creating and taking advantage of demand of producer's products and services in reseller's target market is also the most influencing factor for successful channel member. Demand depends a lot on marketing and resellers are typically not capable

of being fully responsible for marketing by themselves so they need marketing support from producer. This support can consist of producer's effective branding and advertising in the target market or producer can give resellers necessary tools for this. (Friedman & Furey, 1999, p. 119) Marketing support can be divided into two different strategies: push and pull. Push strategy includes motivating and pushing resellers for more active sales. On the opposite pull strategy means that supplier puts effort in direct contact with consumers by advertising and promoting in the target market so that the consumers reach for resellers in that market segment. Producers should find the suitable balance for these strategies in certain markets because successful companies tend to use both of them. (Kotler & Keller, 2006, p. 468)

Examples of marketing support actions in practice:

- Marketing research (Anderson et al., 2009, p. 380)
- Cooperative advertising (Rosenbloom, 2012, p. 344)
- Promotional allowance (Rosenbloom, 2012, p. 347)
- Trade shows (Rosenbloom, 2012, p. 352)
- Special deals and merchandising campaigns (Rosenbloom, 2012, p. 169)

Marketing research can help resellers to identify emerging customer segments or adapt their offerings to meet the changing customer preferences. Resellers do not usually have enough resources to conduct broad market researches regularly. That is why supplier should help on conducting these or give financial support for the researches. (Anderson et al., 2009, p. 380) In cooperative advertising producer provides financial and material support for resellers to advertise producer's products and services. It is also one of the most effective ways to ensure bigger demand and that way make sure that channel members are getting bigger sales. (Rosenbloom, 2012, p. 344) Promotional allowance motivates resellers to get bigger sales by supplier giving resellers commission percentage or certain direct payment for every sale. (Rosenbloom, 2012, p. 347) Trade shows are a great way to get direct sales but also to promote products and services. Trade shows also allow

producer to meet and communicate with their distributors face to face. (Rosenbloom, 2012, p. 352)

2.2.3 Enhancing cooperation with channel powers

Cooperation between producer and channel intermediaries is seen as a huge challenge. Kotler et al. (2009, p. 638) also state that different channel powers enable producer to effect on channel members' behaviour and decisions to their or mutual benefit. Following channel powers can enhance the cooperation:

- Reward power: extra benefit for channel members if they are performing well or do some specific acts or functions. Typically reward power has better results than coercive power, but channel members can start to expect reward each time it does certain functions.
- Coercive power: producer can threaten to terminate the relationship with channel intermediaries which are not cooperating. Using coercive power can be effective, but it can also occur in unnecessary conflicts.
- Legitimate power: create contracts between producer and channel members. Using legitimate power requires that channel members view producer as a legitimate leader.
- Expert power: intermediaries value producer's special or unique knowledge and skills. Intermediaries may acquire this expertise, so it is important that producer keeps developing its knowledge and skills so that they have something to offer for channel members.
- Referent power: intermediaries have respect towards the producer and they are proud to cooperate with the producer. (Kotler et al., 2009, p. 639)

Reward and coercive power are objectively measurable compared to legitimate, expert and referent power which are more subjective. Producers often try to enhance the relationship and motivate their distributors by higher margins, special deals, premiums, cooperative advertising, display allowances and sales contests. At times negative sanctions can motivate channel members: decreasing margins, apply longer delivery times or even threaten with termination of the relationship.

2.2.4 Measuring channel members' activities & relationship

Regular evaluation of channel members' performance is necessary and Kotler et al. (2009, p. 639) mention following factors which could be measured:

- Sales quota attainment
- Average inventory levels
- Customer delivery time
- Treatment of damaged and lost products
- Cooperation in promotional and training programs (Kotler et al., 2009, p. 639)
- Customer satisfaction (Friedman & Furey, 1999, p. 123)

Measuring intermediaries can reveal that producer is paying too much attention to some channel members and focusing less on some parties which would need more attention. Eventually producer might find out that it has been investing in unprofitable intermediary relationship. Channel members which are performing poorly have to be counselled, retrained, motivated differently or even terminated. (Kotler et al., 2009, p. 640)

Friedman & Furey (1999, p. 124) also confirm that it is important to measure the relationship and receive feedback from channel members. Surveys and structured interviews to channel intermediaries are excellent ways to receive important information of the current relationship, statuses from different locations and also gain some information from different kind of perspective. Surveys reveal if channel members are satisfied or not in producer's support and relationship but for the actual causes, producer has to create more time consuming structured reviews. (Friedman & Furey, 1999, p. 124-126)

2.2.5   Adjustments to channel design

When producers notice that the distribution channel is working poorly, consumer behavior changes, market is expanding, new competition arises or the life cycle of products is changing, they have to modify the channel design and current arrangements. For example, if product life cycle is changing from early buyers to stagnating consumers, producer have to consider different and cheaper channels: e.g. e-channels. Depending on the competitiveness and entry barriers every market's optimal channel structure will change in some time period. Producer has to adapt and make changes according to new factors so that the channel maintains optimal. This might mean that producer has to terminate existing channel relationships, gain new ones or develop a new way to deliver their solutions to customers. Decision to add or drop a certain channel intermediary requires an incremental analysis. Producer has to analyze how these intermediaries effect on revenue and profit. Nowadays manufacturers collect, or at least they should collect, data from their distributors and use analytics of this data to support these add or drop decisions. (Kotler et al., 2009, p. 641)

2.3   International distribution & foreign operation methods

Rosenbloom (1990) states that international distribution channels are typically more complex compared to those found in domestic markets. Increased physical distance leads to difficulties in communication and limits face to face meetings. At the same time cultural and religious differences can make this gap between manufacturer and channels even bigger. The complexity of international distribution channel is also strongly affected by international marketing's external environment: economic, cultural, political and legal environments, competitive forces, geography, level of technology and distribution structure. (Rosenbloom, 1990)

When an enterprise is exporting it has to decide the level of channel integration in the target markets. Highest level of integration is forward vertical integration when the enterprise is taking care of all the distribution channels functions by itself. This

can be done by own exporting or founding a subsidiary in the target market. Lowest level of integration is when the producer is using intermediaries to perform all of the distribution channel tasks. When the enterprise is using distributors or strategic alliances in some of the distribution channel functions, it can be seen as intermediate level of integration. Integration level is a management decision which depends on the wanted degree of control, resource commitment and the uncertainties faced in the offshore markets. (Klein, Frazier & Roth, 1990; Robinson, 1978, p. 51-57)

Foreign entry mode describes how enterprises gain access to foreign markets with their products, technology, personnel and financial capital (Albaum & Duerr 2008, p. 276). Different entry modes can be divided into three categories: exporting, contractual and investment modes (Welch, Benito & Petersen, 2007, p. 4). These entry modes have different levels of commitment, control and involvement which results in different levels of risks (Albaum & Duerr 2008, p. 276). Welch et al. (2007, p. 361) refer to foreign entry modes as foreign operation methods (FOM) after the first market penetration is done. Operating company could switch or stretch these FOM strategies to gain deeper penetration of the market or to withdraw from it. Matear, Gray & Irving (2000) state that "*within international business, distribution channel management is a key concern*". That is why this chapter introduces different foreign operation methods and focuses also on examining how the distribution channels are formed within these.

2.3.1 Export modes

Export as an entry mode binds least resources which makes it easiest choice for international market penetration with less risks compared to other modes. In exporting mode enterprise manufactures products in home or third country where the products are transferred to target countries' markets. Exporting is popular especially among SMEs and enterprises which are starting their international business, mainly because of the low risks and lesser financial investment. It does not require big changes in the organization and the sales process can remain almost the same compared to domestic sales. (Welch et al., 2007, p. 237-241)

Exporting can be divided into subcategories depending how the distribution process proceeds from the manufacturer. (Hollensen, 2007, p. 311) These subcategories have differences in distribution channels so each of them will be individually analyzed. Exporting modes are categorized by the type of intermediary and these subcategories are named indirect, direct and own export according to Luostarinen & Welch (1990, p. 25). Exporting type should be adjusted by the enterprise's products, target market, cooperation and resources.

Indirect export can be compared to domestic sales. Integrator or producer makes the transaction with home market intermediary: agent, distributor or export organization. Actual exporting and the transaction to end customer in foreign market is done by this distributor or there might be additional intermediaries between this distributor and end customer. This will set limits for the integrator or producer because they will not receive comprehensive information from the end customer and the actual target market. Manufacturer is only in contact with this domestic intermediary so the information flow is fully depending on the communication between these two.
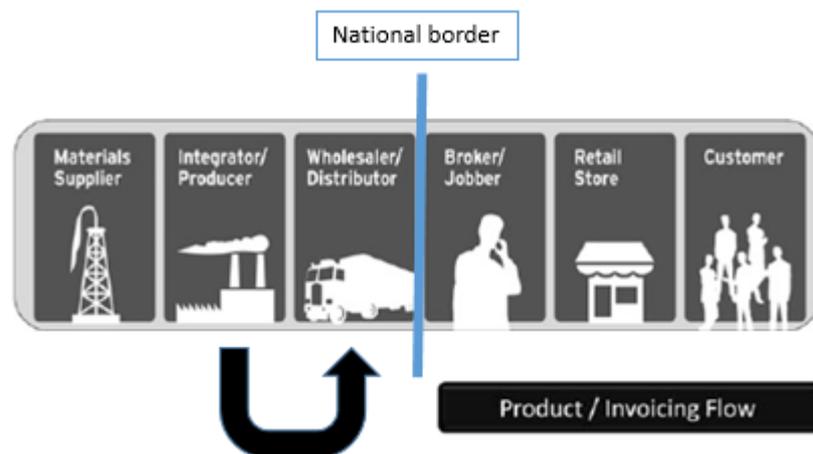
Figure 4. Indirect export. (Adapted from Ross, 2015, p. 48; Hollensen, 2007, p. 312)

Figure 4 shows an example of indirect export. It does not necessarily require broker, jobber or retail store. The product flow can move straight from domestic distributor to the end customer. Producer is not operating at all in the target market so it has to rely on the information which it receives from the intermediary. This will be problematic when producer is analyzing the market demand and potential. Second problem is marketing and after sales: manufacturer's only link to the target market is this intermediary so the whole marketing and after sales process is in their hands. This can reflect to company's brand and image in the target market. As a conclusion indirect export suits a company which has limited resources for international business, it wants to internationalize step by step or the company wants to try the potential of different geographical market segments without big investments. (Hollensen, 2007, p. 313-314)

Direct export is similar when compared to indirect export, but the producer is responsible of exporting the product overseas. Producer or integrator is cooperating with an intermediary which is located in the target market and this allows stronger involvement for the manufacturer.
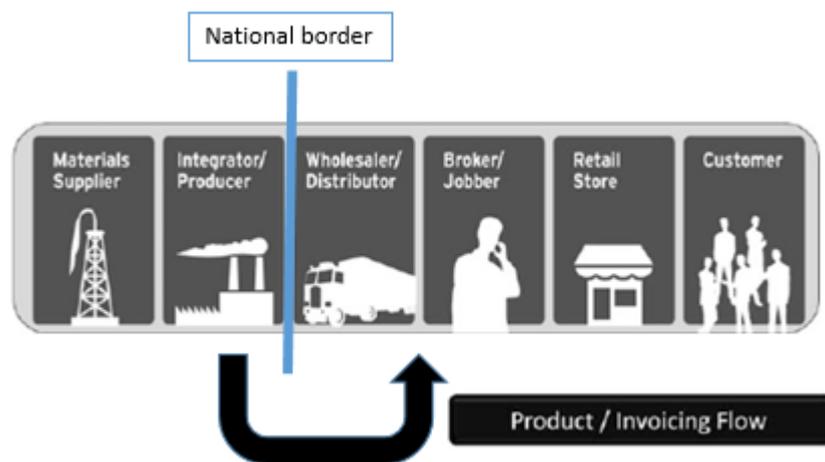
Figure 5. Direct export (Adapted from Ross, 2015, p. 48; Hollensen, 2007, p. 312).

Figure 5 explains how the distribution channel works with direct export. When a company is direct exporting the sales process is more complex compared to indirect export or domestic sale because this time the producing company is responsible for the transaction which is made to the foreign target market. Direct export usually

shortens the distribution channel because the producer is in contact with the target market and additional players in the channel are not needed as much as in indirect export. This gives the manufacturing company better knowledge of the market potential demand and end customer needs. It also enables that the producing company can be more involved in the marketing process and brand creation, depending on the relationship to the target market distributor and the contracts between these two. On the other hand, direct export requires more resources and better knowledge of the target market. Producer has to take care of the actual physical distribution of the products, customs and possible tariffs. Producer has to have some knowledge of the legal, political, cultural and religion differences in the target market to be able to operate fluently with the intermediaries and end customers which are based in the target market. (Hollensen, 2007, p. 317-321)

Own export removes the additional players from the distribution channel. Manufacturer is directly in contact with the end customer and takes responsibility of the whole export and distribution process. From the management perspective, distribution channel is easier to control because there are no third parties involved. Communicating, managing and measuring is much easier for the producer because everything is done internally. On the other hand, own export requires much more resources, time and knowledge compared to previous export modes. When dealing directly with the end customer, producer has to have wide knowledge of the local political, legal, cultural and religion aspects. (Luostarinen & Welch, 1990, p. 26)

Usually indirect export is just a temporary solution. It is the easiest method to get products to foreign countries but it is not the best and longest lasting solution. It is great for companies to try the potential of different geographical segments but in the long run there are too many intermediaries. (Hollensen 2007, p. 313) Intermediaries want their share of the deal which decreases margin for producer or increases the price for end customer. Although some countries, public sectors or companies might be problematic for own exporting because they require a domestic partner. Thus intermediary is needed or the producer has to think about vertical integration to the target market or founding a subsidiary there.

2.3.2   Contractual modes

Contractual modes can be seen as intermediate foreign entry mode when considering the risk level. Contractual entry mode does not necessarily involve big investment and resource commitments so it is good option for SMEs with limited finance and resources. Some enterprises may try different offshore geographical segments with contractual modes as first steps of market penetration and in some cases foreign regulations do not allow foreign direct investments. Typical contractual modes are licensing, franchising, management contracts, international subcontracting, project operations and alliances. (Hollensen, 2007, p. 329-330)

Licensing allows licensee to manufacture certain licensor products, use a patent or trademark from licensor for agreed royalty or fee. Thus licensing allows companies to expand their production internationally without huge investments. Licensing enables rapid expansions but it also has downsides. Agreements are the only control what the licensor company has over licensee. (Hollensen, 2007, p. 332) From managerial perspective licensor does not have any control of the licensee so quality and production risks, opportunism and contract enforcement may occur (Kotler & Keller, 2012, p. 608). This might lead to decreased brand and company image in the eyes of the customers and these may have long term effects.

Franchising means that franchisee is allowed to use a ready or localized business concept from a franchisor for a certain royalty. Basic business concept, brand and trademarks usually remain the same, but according to the agreements between the parties, the franchisee can slightly adapt these to local demand and needs. Franchisor supports franchisee with capital, marketing and managerial advices. Franchising allows rapid growth, decreases geographical limitations and it is popular among business to consumer companies and service based sector. (Hollensen, 2007, p. 335) Distribution channel point of view depends on the contracts between franchisor and franchisee, but usually franchisor is responsible of central R&D and marketing and the franchisee delivers the products and services

to end customers. Franchisor and franchisee responsibilities are always clearly stated in the contracts and the relationships are highly dependent on those. Franchising is not so common within SMEs because franchisor should usually provide lot of resources to the franchisee. (Hollensen, 2007, p. 337)

Management contract consists of managerial consulting in the foreign country. Producer can buy this sort of management know-how from a company which has better experience and knowledge of this certain foreign market. Usually these contracts aim at training employees of the producer to be able to continue the operation in the foreign country without the support of contractor. Producer company is responsible for value chain and capital, mainly receiving information and managerial perspective of the target markets political, legal, cultural and business differences. Management contract's compensation is often related to the producing company's performance in the target market. It could be a driver of financial success or percentage of profit. This makes management contracts less risky choice for SME's to try market penetration in offshore locations. On the other hand, management contracting creates demand for key personnel which are not always available in SMEs. (Hollensen, 2007, 347)

International subcontracting enables companies to use local services or materials for their products or solutions. Contractor purchases these parts or services from subcontractor who is not involved in the end solution or communicating with the end customer. (Welch et al., 2007, p. 164) International subcontracting decreases the financial investment of the producer and in the long run can reduce costs by using local workforce. Subcontracting is usually seen as part of production or purchasing some parts for the end solution. Lately it has been common to outsource activities which are not part of the enterprise's core competences to subcontractors. International distribution channel depends on the level of outsourced activities to subcontractors. SMEs can benefit of international subcontracting because lack of employees. SME could outsource some of the production or not so vital functions of the company to foreign less expensive countries. (Welch et al., 2007, p. 166-167)

Project export is not actually a foreign entry mode but rather a combination of different modes. Its final output is a complex solution which could be for example a nuclear plant, factory, factory line or an industry machine. Project operation may consist of many different companies from different markets but usually the reason for international project operation is a technology gap between the exporters and importing target country. These exporters offer better, or even unique, technology, knowledge or product which is suitable for the project. These exporters can produce different parts to the project: whole solution, software, components or services. (Hollensen, 2007, 386) End customers are nowadays demanding whole solution, preferably as a turnkey project, instead of a single or separate products or services. Thus enterprises which operate in foreign countries have to offer more complex and systemized products and services no matter where the end customer is located. This increases the project operation features while operating nationally or worldwide. (Skaates, Tikkanen & Lindblom, 2002) It is typical for project exporting that one firm which is involved takes care of the big picture, including management of the project. This company has to make sure that the project is within its schedules and the distribution channel is functioning fluently. Usually this responsible firm is the contact to the end customer so all the communication goes through the managing company. (Hollensen, 2007, p. 387)

Strategic alliances, or sometimes referred just as alliances, are usually formed because of pressure in global competition and rapid development of technology. Alliances help companies to reduce risks, enables the sharing of technology, enhance global mobility and in overall strengthen their competitiveness. (Tse, Pan & Au, 1997). According to Hollensen (2007, p. 339) strategic alliance is non-equity cooperation with two or more companies without direct investments. These collaborative companies can operate in one or more foreign markets. On the other hand, Welch et al. (2007, p. 277) state that these alliance members can have formal signed contracts or informal contracts which can be just oral agreements. In some formal alliances there can be juridical requirements, equity involved and companies may invest financially into the alliance. Hollensen (2007, p. 339) state that there are

none direct investments in strategic alliance which makes the channel between the alliance companies purely information related.

2.3.3 Investment modes

Investing directly in foreign markets can be divided to three different levels: joint ventures, acquisitions and green field investments. Investment modes give the head office of the foreign operating company more control over its assets but at the same time investments and risks go higher. Thus investment modes are not as usual foreign operation methods for SMEs.

Joint venture is a new entity, e.g. an enterprise in the target market which has shared equity between local and foreign actors. Shared ownership means that revenues and control over the entity are also shared. Benefits of joint ventures are:

- The foreign company gains easier entrance to the target market with local knowledge of the market and culture
- Reduced manufacturing and logistic costs
- Shared risks and costs
- New, locally adopted technologies
- Possibility to avoid legal and trade barriers

Controlling of the joint venture depends on how the equity is shared between the parties. Even though local partner provides knowledge and distribution channel, managing joint venture can be troublesome. Controlling the operations in cooperation is difficult, cultural differences between the joint venture owners still exist, future plans may differ and partners might act opportunistically. (Hollensen, 2007, p. 339-346)

Acquisition occurs when the investing enterprise acquires an existing company from the offshore target market. Acquisition of a foreign company has many benefits, for example it gives the investing company quick access to distribution

channel to the designated end customer. By purchasing the local company, distributor will also receive local knowledge, contacts and employees. One great advantage is acquired company's managements' local knowhow. Negative sides are that acquisition requires big financial investments which leads to a high risk. Also the integration and deciding the integration level of the local company can be problematic. Communication, valid reporting and setting goals between the purchaser and acquired company are high concerns.
(Welch et al., 2007, p. 333-334)

Greenfield investment is definition for an investment mode where the distributor starts completely its own operations in the target foreign country. It allows the distributor to create and control all the processes, distribution channel and brand. Manufacturer can use its own technology and communication should be as fluent as possible. Greenfield investment requires the biggest financial investment compared to other foreign entry modes. It is usually the slowest option to penetrate or to gain market shares in foreign market because everything has to be built from scratch and internal training is necessary.
(Welch et al., 2007, p. 343-345)

2.3.4   Adapting or changing operation methods

Foreign operation methods (FOM) can be switched or stretched to gain deeper market penetration in the target market. It is possible that company has exported to a foreign country and notices huge potential there. In this case the exporting company might want to change the external agents to in-house done operations for example via foreign direct investment (FDI). These switches in operation methods could be from resellers to subsidiaries, licensing changed to local production and international franchisees turned into company owned outlets. It is possible to change operation method other way around too by externalization. This would mean for example that local production would be handed over to local contract manufacturers. (Welch et al, 2007, p. 361)

In some cases, the change of operation method can be dramatic and include fighting over contracts, law suits, compensations, unsatisfied local customers and eventually lead to financial losses. Thus vertical integration and the acquisition of local company or know-how is one possibility. (Welch et al., 2007, p. 362 & 376)

Switching foreign operation method could happen because of managerial misjudgements or change in circumstances. Managerial misjudgements could be that the estimations and projections of target country were too optimistic and the investments have to be withdrawn. It could also be other way around and the potential is much greater than assumed. New, or change in, circumstances can vary but examples are that the local cooperation is not functioning as hoped, local market is rapidly changing or there are changes in local government policies. (Welch et al., 2007, p. 363-366)

2.3.5   SMEs and FOMs

Figure 6 sums up the previously mentioned entry modes and scales them on their investment & control level. Least control over the distribution channel and investments are on the left. Indirect export has the lowest control but requires least investments. On the other extreme, greenfield investment gives company the most control over the distribution channel, but it also requires biggest investments and involves highest risks.
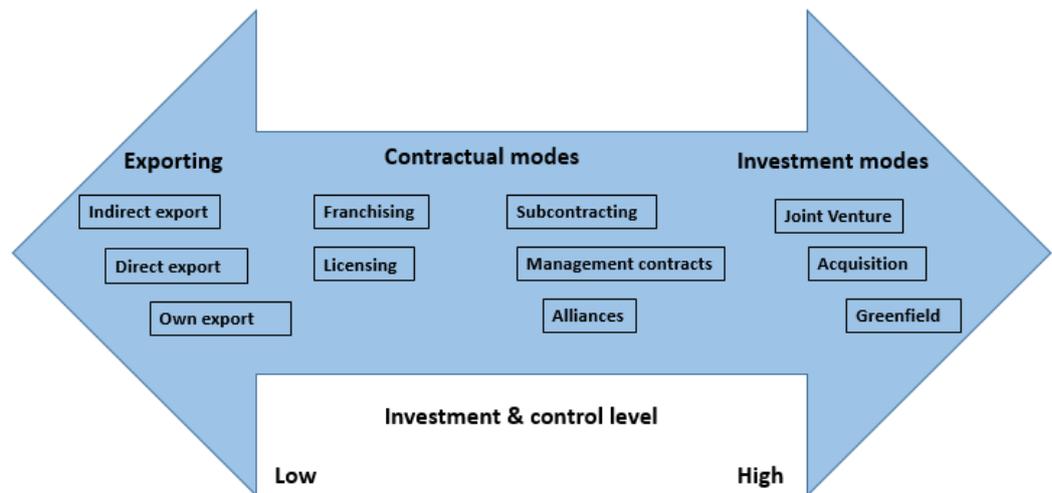
Figure 6. Entry modes' investment and control levels (Adapted from Rothaermel, 2012, 281)

SMEs typically do not have the resources for high investment and control level foreign operation methods. They tend to go with lower risk possibilities, especially in the international market penetration phase. Thus different exporting modes are the most common options for SMEs. All though after the first penetration, it is possible that if the market is feasible, the enterprise has network at the target country and it could take more advantage of the potential, switching or adapting FOM could be considered. If the company has good network in the foreign country, it could benefit out of it by creating strategic alliances or even a joint venture. Acquisition of distributors or even investing directly in the foreign market are possibilities if the management is willing to take the risk. On the other hand, least risky possibilities in a feasible situation could also be considered. These options could be subcontracting and project exporting on the side of exporting modes.

3 INFORMATION SYSTEMS AND CHANNEL MANAGEMENT

Information technology (IT) refers to hardware and software what company is using to achieve business objectives. It consists of all the devices ranging from computers to even mp3-players but IT also refers to the software: operating systems, Office tools and other programs that companies have deployed. Information systems (IS) should be viewed from both technology and business perspective, because they are more complex. (Laudon & Laudon, 2009, p. 10)

According to Laudon & Laudon (2009, p. 11) information system can be defined as "*a set of interrelated components that collect (or retrieve), process, store, distribute information to support decision making and control in organization. In addition to supporting decision making, coordination, and control, information systems may also help managers and workers analyze problems, visualize complex subjects, and create new products.*" Lyytinen and Newman (2008) define information systems as a complex system which consists of employees, hardware, software and data transmissions which are designed to improve, enable or to make specific determined activities easier.

Information systems, as their name refer, are full of information about notable factors within the organization or environment around it. This information can be about people, places and things. Information in this case refers to data that has been transformed into useful and meaningful form which can be easily interpreted by human beings. Data refers to raw facts which are not organized or arranged into an easily understandable or usable form for human beings. Figure 7 represents how information systems transform these unorganized raw facts into easy to interpret form. (Laudon & Laudon, 2009, p. 11)
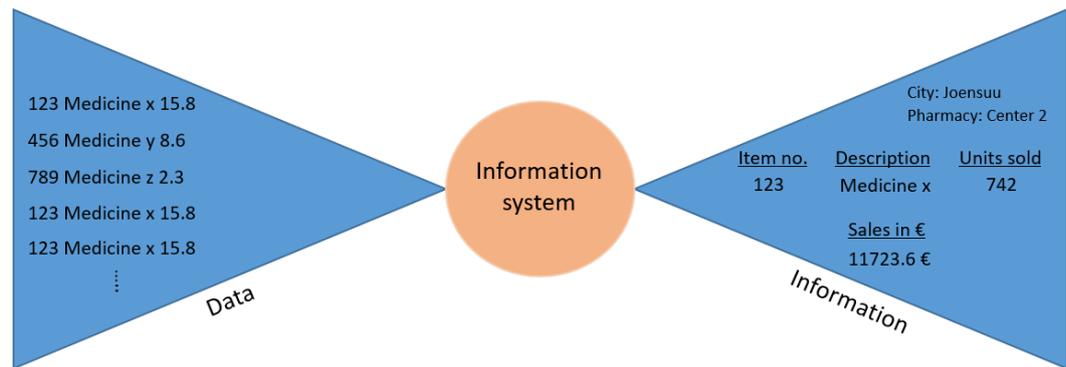
Figure 7. How raw data from sales is transformed into meaningful information for management (Adapted from Laudon & Laudon, 2009, p. 11).

Organizations have different reasons to invest in information systems but mainly it is to improve, enable or ease internal production functions and to adjust and cope with demands of key actors and stakeholders in their environment. (Laudon & Laudon, 2009, p. 47) Johnston, Wade and McClean (2007) state that enterprises invest in IT and information systems to support their business strategies. Laudon & Laudon (2009, p. 47) also give following, more practical, examples:

- To reach operational excellence: productivity, efficiency, agility.
- Develop new products and services (according to changing environment)
- To achieve customer intimacy and service
- Enhance decision making
- To attain competitive advantage
- Assure survival

3.1   Enterprise applications

Organization's business is usually multifunctional and it is divided in different departments, specialties and levels. Thus organizations need several information systems so they can produce and deliver all the necessary information to all functions which need it. Information systems are increasingly developed so that they are groundbreaking and connect multiple functions, departments and levels to each other. Typical organization has at least one information system for each bigger

functionality: production, marketing, finance and human resources. Other typical information systems are developed for decision making which support different levels of organization's management to lead the operative functions. (Laudon & Laudon, 2009, p. 58-59)

Organizations usually end up with many information systems in different functions and levels. It might become a problem when the information flows are getting more complex, different systems are not operating with each other and eventually the information is not moving forward to factors that need it. This leads into inefficient business performance. Enterprise applications (EA) try to solve these problems: EA are systems that span across the functional areas focusing on business process execution and they tend to include all management levels. Enterprise Systems which are also known as Enterprise Resource Planning (ERP) systems are one practical example of enterprise applications. Enterprise systems collect data from different key business processes like marketing, production, sales, finance and accounting. The collected data is saved in a central data storage and managers from different departments can access it. This way they can cooperate better and more complex and linked analysis can be created. (Laudon & Laudon, 2009, p. 59-61)

Enterprise systems give companies flexibility in many areas. They are able to respond more rapidly to customer requests, optimize producing and inventory levels according to actual demand. Shipment accuracy is better, customer satisfaction is increased and costs in overall can be minimized. Enterprises systems also support better decision making because management can receive coherent and up to date information from production and sales. This enables more precise forecasts for sales, production and financial departments. Enterprise systems are spread around the organization so it allows management to do different sort of analysis, for example it can track the correlations between human resource investments (recruitment, compensation, training) on sales and customer satisfaction. (Laudon & Laudon, 2009, p. 61)

3.2   Intranets and extranets: communication in and out of organization

Intranets and extranets are one way to gain information integration in an organization. Enterprise applications are usually costly and their implementation is time and money consuming. Intranets and extranets offer easier way to share information inside an organization without investing as much financially. Intranets and extranets cannot be titled as applications, they are more like technology platforms with what organization can share information internally, to customers, suppliers or to other significant stakeholders. (Laudon & Laudon, 2009, p. 64) Intranets are private networks which use internet standards and web technology. It requires company network infrastructure with Internet connectivity standards and some software created for the world wide web. User can access intranet with different computers and basically with any device that has Internet connection and a web browser. Intranet differs from world wide web because it is not available for everyone. It is restricted by firewalls and security systems so the access is limited. (Laudon & Laudon, 2009, p. 212)

Kennedy & Dysart (2007, 15-16) state that intranets are one of the most significant factors that enable information and knowledge sharing within organization. Intranets used to be static html sites but nowadays they can be dynamic and complex solutions. Laudon & Laudon (2009, p. 64) define that intranets are built on same basis and communication standards with internet. Intranets can be used as a storage for corporate policies, programs and data but according to Kennedy & Dysart (2007, p. 16)   intranets can also have access to dynamic information from business applications, portals, emails and collaboration sites. Intranets are repositories of static and dynamic data but they have developed towards communities. Possible virtual spaces in intranets allow communication between organization's individuals, teams, units and departments even globally. Figure 8 shows the conceptual framework of an intranet.
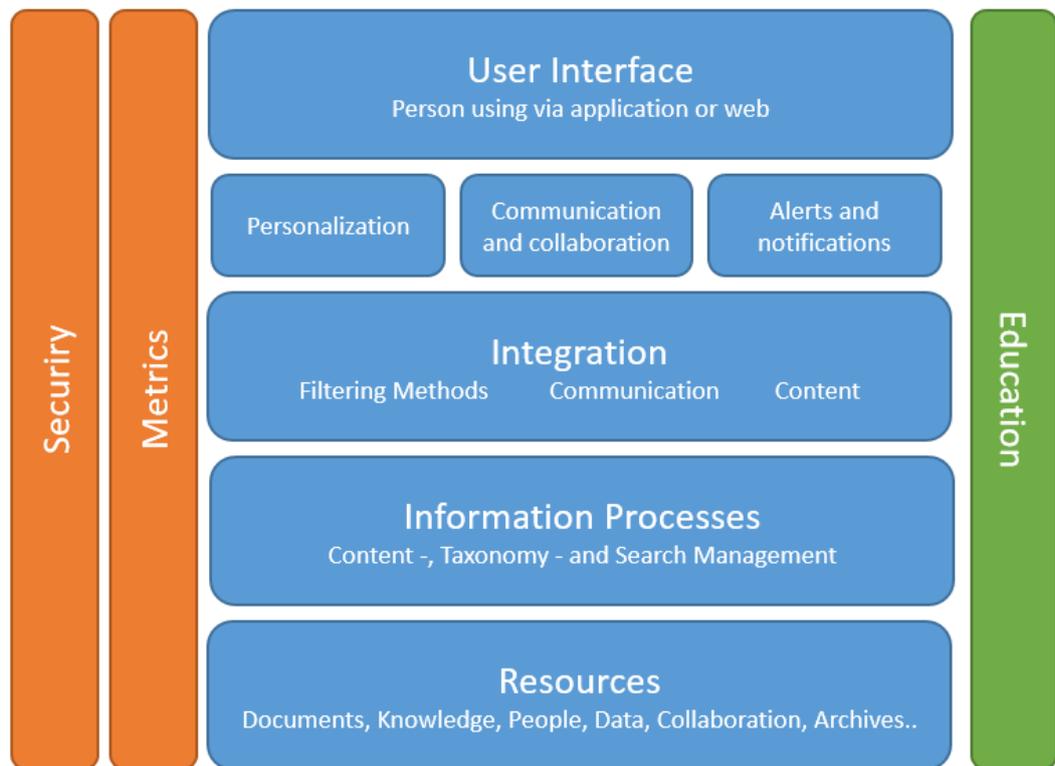
Figure 8. One view of framework of an intranet (Adapted from Kennedy & Dysart, 2007, p. 18)

Extranets are basically intranets which are extended to external users with authorization and certain level of access to the information and applications in intranet. Typical extranet users are suppliers, customers or other stakeholders who should have and could benefit from the access. Also channel partners could benefit from the access and information which is located in an extranet. For example, SwissAir has given their cooperative travel agents access to fare data from their intranet so they could work more autonomously. Giving access to intranet and its information and applications for external users gets more difficult when the intranet solution is complex and if different external users should have different kind of accesses.

Kennedy & Dysart (2007, p. 18) lists some of the options that intranet should have:

- Internal communications
- Administrative tasks

- Procurement

- Searching and collaborative filtering

- Training and e-learning

- Team collaboration

- Messaging

E-mail and instant messaging are seen as the major communication and collaboration tools (Laudon & Laudon, 2009, 66). Still most of these intranet options are linked to communication which brings up the importance of communication in an organization. Information systems allow information flows to go across the organization but it is important that these flows go both ways. Communication between different factors have to be fluent, content cannot change, it should be secured and it should be easily accessible, all of these regardless of users' physical location.

Intranets and extranets are especially important for SMEs because they are less expensive compared to more complex systems like ERP, CRM and PRM. They are also easier to implement and they are easily adjustable according the organization's or SME's current business processes. Intranets and extranets offer excellent information and knowledge sharing possibilities within the organization or enterprise and its partners. Particularly extranets are a great choice for SMEs and their channel partners. Extranets do not require high technological orientation from partners because they are mainly working on world wide web.

3.3   Customer relationship management systems

Customer relation management (CRM) systems provide organizations information about their processes regarding their customers. This information can be related to sales, marketing, leads, services, customer satisfaction, customer retention and exiting customers. CRM helps organizations to manage their relationships with customers, enables prioritizing customers on analytical basis which allows the

organization to provide better customer service and gain bigger sales. (Laudon & Laudon, 2009, 62-63; Hunter & Perreault, 2006)

Similar to other information systems, CRM collects information in a single repository and allows it to be accessed by certain people, teams and departments. CRM typically links together sales, service and marketing departments which have not always cooperated so fluently and some essential customer information could have been missing from some departments. (Shoemaker, 2001) CRM tries to solve this problem and it consolidates information for all the customer related departments from all possible sources: e-mail, phone, brick and mortar stores, wireless devices, web and so on. Figure 9 demonstrates an example of different departments and data sources. (Laudon & Laudon, 2009, 278-279) Great amount of well-organized customer information enables properly aimed marketing campaigns, high quality customer support and service, better leads for sales personnel and better view of actual customer needs. (Sharma & Sheth, 2010)

Figure 9. Example of customer related departments and sources which from they collect data to CRM. (Laudon & Laudon, 2009, p. 279)

Organizations can develop CRM on their own or they can buy a commercial solution which can be a software, software as a service solution or web based

application. Commercial solutions of CRM vary from niche tools with limited functions to large-scale enterprise applications which can be integrated to other applications. (Laudon & Laudon, 2009, 279) CRM can be divided in operational CRM and analytical CRM. Operational CRM consists of marketing automation, sales force automation, call center and customer service support. Analytical side of CRM includes the software that collect and analyze the data that operational CRM has generated. These analyzes give information especially to management to improve business performance. (Laudon & Laudon, 2009, 282)

3.4   Partner relationship management

Producers are used to communicate with their distribution channel, and especially distributors, ineffectively via phone, e-mail, slideshows, face-to-face meetings and some even still use faxes. Ineffective communication also leads to fragmented information and requires a lot of labor resources. This sums up in difficulties at management of the channels, measuring their success and in worst cases: losing potential customers. Software vendors noticed these problems and they decided to develop a new kind of CRM system which was focusing on producer-distributor relationship: partner relationship management (PRM) system. (Mirani, Moore and Weber, 2001; Murtaza & Shah, 2004)

PRM in general can be seen as a strategy, technology or a system which focuses on producer and channel partner relationship. Goal of PRM is to ease the managing of the distribution channel, create long lasting, productive and evolving relationships between supplier and distributors. This will lead to better customer satisfaction and more accurate response to customer needs. Especially businesses which provide solutions that require consultative sales and services would benefit of functional PRM because these products cannot be sold in the most popular direct channels. (Mirani et al., 2001; Murtaza & Shah, 2004) Hayes and Ref (2003) researched large manufacturing organizations and the benefits of PRM practices. They found that it can reduce reseller costs by 32% and increase sales by 17%. Their conclusion was

that PRM also improves business process efficiency, customer service and the whole producer-distributor relationship.

PRM system should collect data from partner touch-points which could be service, sales, contact center, headquarters, accounting and training. Data to PRM can be collected directly from partners' employees or through online systems. PRM deployment can be troublesome because it should be integrated to producer's enterprise system and CRM to gain the best benefits. Enterprise systems and CRM contain classified data so the forward integration to partners might reveal some of this information. Suppliers usually have complicated and heavy ERP and CRM systems which distributors probably do not need. (Murtaza & Shah, 2004) PRM implementation also depends on channel partners' willingness to commit and their technology orientation. Channel partners have to be technology oriented and they have to commit to use the system on regular basis and as agreed. (Zablah, Johnston & Bellenger, 2005)
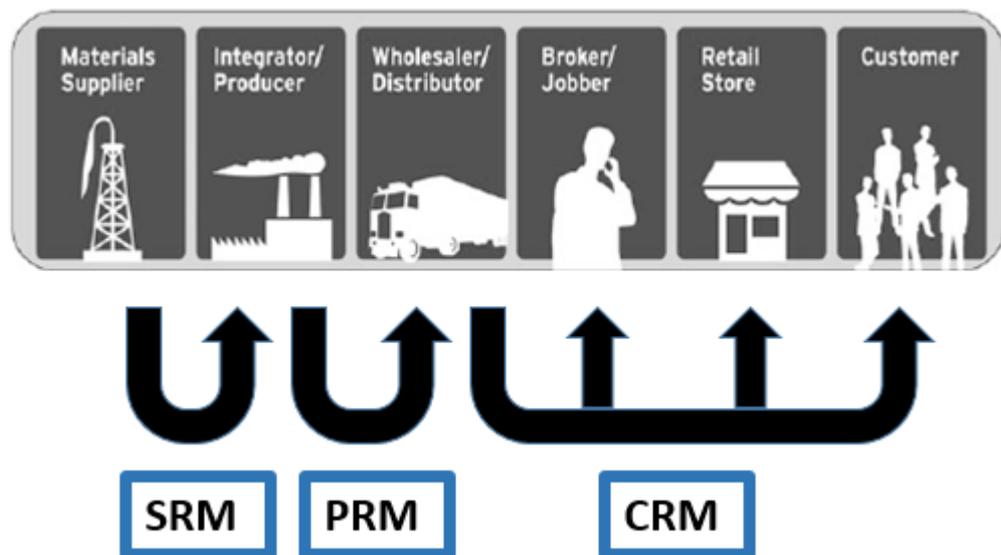
Figure 10. Typical use of relationship management systems within distribution channel (Adapted from Agarwal & Singh, 2014; Ross, 2015, p. 48).

Figure 10 describes how organizations typically use relationship management systems in their distribution channel. Material suppliers link their actions to

producers with Supplier Relationship Management (SRM). Producers use PRM in communication and information flows towards and from their distributors. CRM is typically used between distributors and customers. Producer receives information from end customer through distributors' CRM which can be connected to PRM, but this kind of linking might leave some vital information out of producer's hands.

3.5 Information systems in globally operating organization

Laudon & Laudon (2009, p. 98) state that information systems knowledge is vital for managing globally operating enterprises. According to Laudon & Laudon (2009, p. 99) there are four different types of system configurations in global organizations. First one is *centralized systems* where systems development and operation happen completely in domestic headquarter. In *duplicated systems* configuration development occurs domestically but operations are handed to autonomous units across the foreign locations. Third one is *decentralized systems* which means that each unit in a foreign country develops its own solutions and is responsible of system operations. In *networked systems* development and operation of systems happens in coordinated and integrated fashion across domestic and foreign units.

When globally operating business is creating or purchasing information systems which are going to be deployed in multiple units in different countries it has to take software localization into account. This does not only affect global businesses, but also enterprises which are operating in several countries and have partners from different cultures with differences in business processes. System and software localization may require language interfaces, consideration of local culture differences or business processes which differ from domestic or parent company ones. Some of the cross-functional systems, like ERP and supply chain management systems might not be compatible for software localization because of their complexity and vendors which do not offer localization. (Laudon & Laudon, 2009, p. 145)

Implementing information systems to abroad units or channel partners can be difficult compared to single unit or headquarter adaption. Information requirements, business processes and work cultures may vary a lot depending on the location. New systems can interfere or seem to complicate current business processes of the unit or channel partner so convincing local managers can be difficult. People, especially the managers, have to be involved in the implementation and they have to be assured that the new system is good for all units in a long run. Involvement may consist of including abroad unit's employees in the information system project or managers of abroad unit can participate in the purchasing meetings with vendors. (Laudon & Laudon, 2009, 394-398)

4 PERFORMANCE AND MEASUREMENT OF CHANNEL

Control and directing are considered as the most important roles of measuring. (Taticchi, 2010, p. 3-4) Usually measuring of performance is done in an inappropriate way or it is executed poorly. One of the most common mistakes in measuring is that sales organization is looking at total sales volumes instead of dividing sales according the goals which have been set. Measuring these more detailed and divided parts of sales would enable analyzing more specific results and describe how each of these units have performed during the measured time period. (Mueller, 2011, p. 111-112)

According to Neely (1998, p. 1) measuring can also cause trouble in an organization. If measured meters and units are set in a wrong way without consideration, it is possible that measuring has negative impacts. Neely (1998, p. 1-2) has an example of British Telecom company where management started to measure how long does it take a customer service employee to answer the phone. This did not work as the management thought because now during the rush hour these employees started to keep their phones on hold to avoid getting poor results in the measuring. It is typical for management to focus on the name of the meter and how and what does it measure when creating meters. These are important factors, but Neely (1998, p. 2) lists following factors almost or even as important:

- Repetition of the measuring
- Time period of measuring → How often are the results needed?
- Access to the necessary data and how is it gained
- Implementation of the measurement in processes
- Who is responsible of measuring and analyzing of the gained information

Transparency is important factor when creating and implementing a measuring meter. Employees and especially management should know what, why and how are they measuring, what is the aim of measuring and what are the possible actions after results. For example, one would assume that analyzing sales efficiency in

turnaround time of a bid is easy. Problem is that when does the turnaround time start: from the moment sales department of an organization receives the tender? Tenders are usually missing some vital information for sales persons and they have to be in contact with potential customer to gain this information. This example explains why communication is important when setting up meters and measuring. (Neely, 1998, p. 1-3)

4.1   Why and how to measure performance

Performance measuring is mainly a way of management to keep on track of organization's efficiency. Measuring and the results can support decision making and measuring can also help in creating control methods to achieve the best possible efficiency. Organization has to collect data from different systems or directly from employees to gain accurate information. Sometimes this data has to be modified, calculated or analyzed before it is valid and usable. To gain valid and usable results for decision making, this data has to be current and accurate. (Simons, 2000, p. 4-5)

Management uses performance meters and indicators to sustain and develop organization's business processes. Measuring can continue after the decision to develop these processes somehow and measure if the change was to a better way. Measuring and the choosing of meters should always be done according to organization's strategy and goals. Thus these meters can indicate if the strategy and goals are successful or successfully implemented. (Simons, 2000, p. 7)

Organization should use three sources when creating meters and goals: history, financial predictions and external information. History information should not be used alone or to compare performance. Combination of all three sources would enable the most comprehensive meters but the most efficient tactic is to use external data and internal financial predictions. External data would consist of competitor information and financial predictions should include market development and changes. Thus these two supplement each other and allow creation of holistic

meters. Organizations should always take open communication of their goals and meters into consideration because openness drive for better performance. (Likierman, 2009)

Hudson, Smart & Bourne (2001) defined six different dimensions as critical measurement areas. First three are time, quality and flexibility dimensions which are referred as operational performance dimensions. Fourth is customer dimension: how is the company perceived externally? Human resource is the fifth dimension and it tries to define the cultural aspects of the working environment. Last dimension is finance. Even though Biazzo & Garengo (2012, p. 3) warn about financial estimates as performance measurement meters, they are really important as complementary dimension. Hudson et al. (2001) noticed that there is at least one common factor in all performance measurement models. It is holistic use of various meters from different dimensions and finding a balance between them. Biazzo & Garengo (2012, p. 56-65) listed what they found as main characteristics of performance measurement models:

- **Alignment with strategy.** Performance measurement affects the corporate behavior thus it eases successful strategy implementation. Achieving the end goals with performance measurement will not be possible if strategy and measured meters are not in alignment together.
- **Development of strategy.** Performance measurement meters should be developed according firm's strategy but it should also support the definition, development and possible changes in strategy. Strategy and meters should be kept separated but still deeply linked to each other so the meters can point out possible needs for change and at the same time reflect the priorities of current strategy.
- **Focusing on stakeholders.** Latest performance measurement models take stakeholders into account because they have such a deep impact on achieving company's goals and best possible performance. Commitment of stakeholders (e.g. employees, owners, customers) will assure greater accomplishments.

- **Balance.** As Hudson et al. (2001) noted the balance between different meters from different sections is critical. Old fashioned performance measurement models focused on purely financial meters but nowadays these models focus on balance between short and long term and internal and external meters.

- **Ability to adapt.** Performance measurement meters should be monitored and analyzed. If for some reason the model does not function well or there are some changes in internal or external environment it should be easily adaptable.

- **Focus on processes.** The importance of process management is rising because of increased competitiveness. Processes should be efficient and they should respond to stakeholders' needs. Thus some of the meters should focus on processes, how they could be optimized and which processes are slowing down the operations.

- **Depth and Breadth.** Depth of meters refers how specific the meters are. Breadth means how holistically the meters measure different functions of organization. When organization is implementing performance measurement it should consider the breadth of it and how widely it wants to measure different functions. After the decision of breadth, the organization should decide how specifically they want to measure different functions. These will affect how quickly the performance measurement can be implemented and how specific information they want to gain for decision making.

- **Causality.** Performance measurement gives the organization information and results but these alone are not enough for management. The information and results should be analyzed and causalities should be defined. Defining causalities will help the organization to notice if their decisions according the information and results were correct.

- **Clarity.** Simplicity and clarity are vital for performance measurement so the implementation will be easier and the results successful. Clarity depends on the number and definitions of meters, communication of results, collecting the information and how the information is analyzed.

4.2   Performance measurement in broader entities

According to Pekkola (2013) strategic performance meters describe organization's long term goals and success but these meters can be more specific and aimed at certain departments or even teams. On the other hand, these strategic performance meters can also be used in broader entities: distribution channels, networks and cooperative relations. Performance measurement system operating on network-level could help managing the network and assist in the pursue of common goals. (Pekkola, 2013) Network level is a broader entity compared to distribution channel, thus it is possible to adjust this thinking on a channel level.

Pekkola (2013) did a research on how a case firm used performance measurement model and how they took advantage of the gained information. This model had four dimensions: financial, future, customers and employees. Financial dimensions consisted of profits, orders moneywise and contribution margins. Future included market forecasts and the number of bids. Customer view was feedback of the service and availability. Employees were measured on satisfaction level of sales team and resellers. These dimensions are similar to above mentioned six dimensions in chapter 4.1 (Hudson et al., 2001) and they also have same features as Kotler et al. (2009, p. 639) mentions when discussing about evaluating channel members in chapter 2.2.4.

Idea of this network performance measurement model was that every member of network used same the same meters. Pekkola (2013) noticed that sales management and resellers were using the gained information most. Sales managers experienced that the performance information of the network was reliable and could be deployed in decision making. This information also helped the case company to recognize weak links in the network and it was used for planning and targeting training sessions. At the same time this information of network functionality was seen as a great help for marketing and analyzing if certain market campaigns were successful or not.

Performance measurement system which was implemented to the network created information of the whole network but also from individual distributors. This information gained interest especially within distributors and these resellers analyzed the information even more specifically than the main company. The information allowed that distributors could compare their performance to another distributors in the network because the information was comparable. Comparability of the information allowed that distributors were comparing their sales, reclamation numbers and customer satisfaction to another resellers in the network. This way these individual distributors gained better information of their market environment and situation but also gave better view of the main company's operative functions. (Pekkola, 2013)

As a conclusion Pekkola (2013) states that performance measurement system which covers the whole network offers broad range of information which can be utilized in the main company but especially within the distributors. PMS also helped the distributors to understand better how the manufacturer was operating and how their business processes were functioning. The information what was gained from PMS helped companies in the network to develop and set goals and at the same time it eased decision making because now it could be based on facts. PMS motivated distributors to operate better and communication, trust and commitment in the whole network was increasing. (Pekkola, 2013)

Implementing a PMS on network-level would help managing and evaluating channel members. Kotler et al. (2009, p. 640) and Friedman & Furey (1999, p. 121) mentioned that regular evaluation of channel members' performance is necessary. Receiving feedback by creating surveys and structured interviews are excellent ways to receive information from current supplier-distributor relation but well implemented PMS could do the same thing. PMS also allows two-way information changing and distributors will receive information of suppliers' operations.

4.3   Performance measuring and SMEs

Hudson et al. (2001) and Biazzo & Garengo (2012) have researched performance measurement in SMEs. They found certain features which caused difficulties and in worst cases, prevented performance measurement implementation and deployment in SMEs. According to Biazzo & Garengo (2012, p. 55-56), following features were especially problematic:

- **Human resources.** SMEs have limited human resources. Most of the employees in SME are working in daily operation and their job description is much broader compared to bigger enterprises. Thus SMEs have trouble to have employees who have enough time to focus, implement and follow performance measuring.

- **Managerial capacity.** SMEs tend to prioritize technical features and operative processes instead of management and managerial culture. Managerial tools are not seen as important factors and manager's responsibilities can be wide. One manager can have several roles and organizational structure is not usually on multiple levels. Thus operative and strategical responsibilities tend to rely on same departments.

- **Limited capital.** Implementation of performance measuring can be expensive and SMEs may consider it as a waste of resources and limited capital. Performance measuring usually requires information systems which are typically expensive and not suitable for smaller enterprises.

- **Reactive approach.** SMEs do not typically have clear strategies and decision making processes. They tend to react to problems instead of preventing them. Paucity of monitoring processes and specific strategy supports reactive actions which is common for SMEs.

- **Tacit knowledge.** SMEs do not collect as much data as MNEs. SMEs' information and knowledge tend to be tacit and linked to certain employees instead of information systems which would enable knowledge sharing among the whole organization, information processing and analyzing for further use.

- **Misunderstanding performance measurement.** Performance measuring is not implemented if the benefits of it are not understood. Many SMEs see performance measuring as increased bureaucracy and more limitation to flexibility.

Hudson et al. (2001) state that limited resources are the most significant factor preventing SMEs of implementing performance measuring. Thus performance measuring models for SMEs should be easy to implement, operate efficiently and respond to their specific needs. Communication within the SME has to be fluent so everyone who is affected of performance measuring is aware of the changes and especially benefits. Open communication increases motivation and employees have to be involved so the organization gains most benefits of the implementation. Enterprise should have clear organization structure, strategy and operational knowhow when they start implementing performance measuring. Measuring should be linked to managerial processes and adopted to SME's limited capital and resources. (Hudson et al., 2001)

4.4 Information systems and performance measurement

Many information systems can be used in performance measuring. For example, enterprise systems can measure the performance of production, CRM can give hit ratios on leads which eventually became customers, PRM is able to measure the performance of partners, intra- and extranets can be used to store data of performance and later on this data can be modified into statistics and information of performing.

One good example of information systems and performance measurement cooperation is researched by Pekkola (2013) in a case where measurement meters where integrated to a CRM of a manufacturing firm. CRM was implemented on a network level and resellers of the manufacturing company could use it as a regular CRM but also to write down performance data. These resellers were also able to analyze their own data and they could even benchmark how successful other

resellers where. Distributors liked this option, the integration of measurement meters was easy, follow ups of these meters and the controlling of results was efficient. (Pekkola, 2013)

Dannenberg & Zupancic (2009, p. 184) reminds that information systems are just tools and the most important things about successful implementations are how well the employees are trained and how the processes around the systems are built. Dannenberg & Zupancic (2009, p. 184) analyze some typical CRM implementations. Organizations think that the system would drive their sales on a whole new level but eventually the system just becomes a better customer database and many who should have used it did not understand the meaning of the system. Users of the system just thought that it made their tasks more complex and wasted their time. They did not understand the actual meaning of system and just thought it as a nuisance. (Dannenberg & Zupancic, 2009, p. 184-185) It is important that information system implementation includes comprehensive training and explaining why it is beneficial to use it. Same goes with performance measurement systems or information systems which have integrated performance measurement in them. If the systems are not used actively or correctly the organization does not benefit at all, or even worse: are wasting its resources.

Combination of information system and performance measurement system makes the performance measurement process more automated. Thus it binds less employees to gather and process the data into more informative and possibly visual information. SMEs have limited human resources why it would be important to automate these processes as much as possible. On the other hand, SMEs have to be careful with IS and PMS implementations because IS or PMS project gone wrong can be damaging to finance and efficiency. Also as Dannenberg & Zupancic (2009, p. 184-185) mentions, it is vital that these implementations are done processes and persons first. Implementation gone wrong will have long effects on the processes and especially on the persons' mindset towards these systems.

5 HEALTHCARE TECHNOLOGY AND MEDICAL AUTOMATION INDUSTRY

De La Lama et al. (2010) define healthcare technology as drugs, devices and medical procedures which are utilized in healthcare and supportive systems of healthcare. In general, healthcare technology is dynamic, diverse and innovative market. Focus on product development and new innovative products on such a market are necessity to meet the changing requirements. (Eatock, Dixon & Young, 2009) Healthcare technology industry serves customers from huge public organizations to individual end customers but typically manufacturer has a distributor or deals directly with the public or private organizations or companies without being in contact with the actual end-user. This might be problematic when creating supplier – customer relationships, because there is usually a middle man between supplier and the end customer. (Eatock et al., 2009) This gap between supplier and customer may create problems to research and development, especially in product development when considering customer opinions. Rarely or never happening direct communication between supplier and end customer makes any market difficult to operate in, and this applies to healthcare technology sector too. (Nass, Paul, Alexis & Crocker, 2006)

Business to business (B2B) and business to organization (B2O) markets have typical features which can be applied on a general level to healthcare technology market. Products of B2B companies are often more complex compared to business to consumer products (B2C) which means that the product development is more resource and time consuming. Customer base is smaller in B2B or B2O market when compared to B2C because customers are usually big organizations or companies which buy typically in higher volumes or complex solutions. Customers of these large organizations or companies tend to have purchasing department or a decision making unit which decides of buying certain products or solutions. Thus the buying decision has to get support from various people who have experience and who will evaluate and consider many factors and do research on the topic. This will occur in longer buying decision and buying process in total. (Kärkkäinen,

Jussila & Viitainen, 2013) Long and elaborative buying process highlights accurate, up to date and in general fluent communication to the customer regardless of the channel format: direct channel or middle men between supplier and customer.

European Commission (2015) state that SMEs cover 80% of companies in European medical technology industry. This industry is considered as one of the most innovative in the world and it employs approximately 534,000 people around the Europe. According to National Industry Associations survey (European Commission, 2015) there is close to 7000 SMEs which operate in medical device and diagnostic products sectors. These companies are facing many barriers which restrain their full potential. These are:

- Product registration
- Reimbursement
- Procurement
- Health technology assessment
- Access to R&D incentives
- Distribution channels

5.1 Medical automation industry

Felder, Alwan & Zhang (2009, p. 1) define medical automation as the application of process automation principles to the practice of medicine. Automation is defined as the technique of making a system, process or apparatus to operate as a self-acting or self-regulating mechanism. Sheridan (2002, p. 1) defines automation as mechanization or computerization of data processing, sensing or action execution functions. Benefits of medical automation can be reductions to costs but the main reason is to improve the quality of medical process and that way increase patient safety (Felder et al., 2009, p. 2). Demand for medical automation has risen because researches show that 50,000-100,000 people die annually in the US due medical errors which could be prevented (Kohn, Corrigan & Donaldson, 1999, 26). Public sector is facing a lot of pressure on optimizing everything and creating savings in

costs, especially in healthcare. Automation is one key issue in achieving these with the increased patient safety on the side. (McKinsey Report, 2012)

According to M2 Presswire's (2014) research, medical automation market is valued at 43 billion US dollars in 2013. Growth estimations are that it will reach 55 billion USD in 2020. Global medical automation market is highly competitive so all the players in the market have to develop their products to maintain their market share. Technological innovations and advancements in automation solutions, financial support from governments, increasing labor costs and growing need for reproducibility and accuracy are key explanations for such a huge growth of medical automation market. Medical automation still has high costs and it needs long-term investments and this is restraining the market. (PR Newswire Europe, 2016)

5.2 International distribution channel in medical automation industry

There is not much research of distribution channels in medical automation industry so this chapter relies on researcher's observations of the case company, market situations and interviews. Typical customers of medical automation companies are public sector organizations or big companies. The procurements are usually expensive and project oriented. Costs for medical automation solutions are typically over 100,000 euros and maintenance costs vary on the solution but are typically around 10% of the procurement price per year.

Expensive solutions require budgeting, long decision making and the procurement is done in a form of public tender when dealing with public sector organizations. Services and maintenance are important part of the solution and success of a firm which is operating in this industry. Healthcare technology and medical automation have very different legislations and processes depending on the target country. Thus using local entities is almost necessary when conducting business in foreign countries. Organizations may require a local middleman or service provider and in some cases it might be mentioned as a mandatory section to be able to proceed with

the tender. Discussion of localization of products with end customers is necessary because product requirements may vary widely depending on the geographical location. Communication in the distribution channel has to be fluent because received and sent information has to be accurate and up to date. Also the procurement processes are long lasting so manufacturer – distributor – end customer communication has to function well.

If manufacturer is operating in home country, distributor is not necessary and the business can be conducted directly between end customer and manufacturer. When moving to foreign markets, distribution channel has to be formed as described in Figure 11. Wholesaler or distributor could also be a subsidiary or sales branch in the target market.
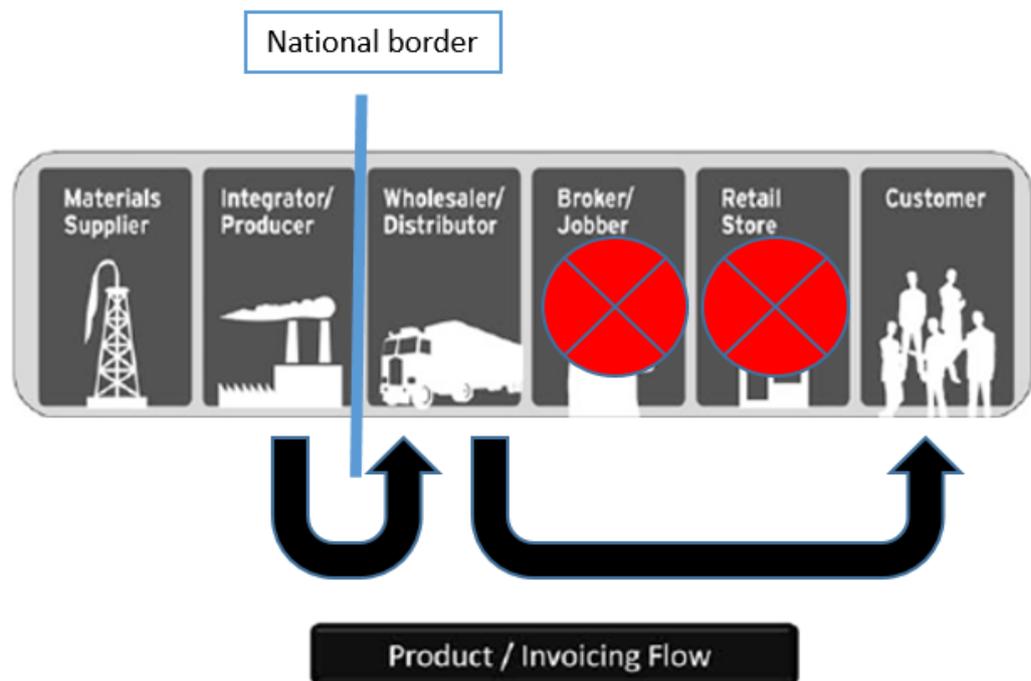
Figure 11. Typical distribution channel in medical automation industry.

Medical automation is project oriented business so there is no need for more middlemen e.g. retailers or warehousing. It is just necessary to have a local representative to provide the local knowledge, close connection to end customer and mandatory services and maintenance.

6   CASE COMPANY INTRODUCTION

This research was conducted in close involvement with a Finnish healthcare technology company. This case company delivers automation solutions to both, private and public sector. The company was founded in 2007 and it can be called a growth company, because recently its revenue and number of employees has risen rapidly. In 2011 it had 13 employees and currently the number is over 50. During 2013 the case company internationalized and sold its first project abroad.

Biggest customer segments for the case company are hospitals and pharmacies but it also conducts business with universities and research institutes. Pharmacies in Finland are mainly privately owned but in some countries they are chained and highly linked to the public sector or insurance companies. Also hospitals, healthcare technology, restrictions and business orientations vary hugely in different countries which create many challenges to international sales of the case company.

6.1   International business of the company

During first years of the company, it was purely operating in Finnish market without any connections to markets or factors abroad. First international operations began in 2011 through so called 'old boy networks' to Russian market. Without any particular strategy or background research, the company decided to give this market a try. Two years after the first international touch point, first project was sold abroad. Company followed the reselling foreign entry mode where the distributing company is located in the foreign market. This entry mode is quite typical for SMEs because it does not bind a lot of resources, contain big risks and require so much local knowledge.

After first touches to international business the company started to conduct some small researches of different markets, prospects and possibilities abroad. After a while the company noticed the growth potentials of abroad markets and started to focus on internationalization. As mentioned before, medical automation alone is

growing to be a 50 billion US dollar business until 2020 (PR Newswire Europe, 2016).

Currently the case company is operating in nine different countries, has sold solutions to three of them and is prospecting for potential markets in several different countries. Most of the active markets are in Europe or Gulf region. Before starting this research, all of the offshore markets were handled by local distributors. Some of the distributors were operating only with case company but some of them were also reselling and distributing different companies' products and services. During the research case company moved towards more controlled and risky foreign operation methods by founding two subsidiaries in two different European countries. After establishing a subsidiary in one of the current markets, the case company also formed a joint venture with a local pharmacy chain to achieve better local knowledge. The case company is certainly adapting and changing towards more controlled but also risky foreign operation methods to achieve its full potential.

6.2 Sales processes and distribution channel

Domestic sales process of the company can be seen in attachments (attachment 3). Process is quite complex due to the project nature of their offerings. It requires a lot of internal communication before the actual quotes and contracts reach the customer. Total prices of the solutions vary from 30,000 euros to several millions but the average price of a project is around 200,000 euros. Complex solutions reflect into long budgeting and buying decisions which means that continuous and fluent communication to end customer is essential.

Domestic sales process of the case company is complex but international sales process is even more complicated because the local entity is added to the process. It still requires all the same internal communication between the employees of the case company but this time there is a middle man between the end customer and internal salesman. This can be seen in attachments (attachment 4). When discussing

with the sales director of the case company he mentioned that even the internal communication is problematic in domestic sales, but with one more additional and external player in the communication chain it becomes much more difficult. In many cases the solutions and products have to be adjusted according the targeted country which requires communication chain all the way from end customer to mechanical engineering and planning of the case company. While participating in actual international sales processes of the case company it was clear that the communication flows between different factors, especially between international salesman and distributors, were not clear and it caused delays and uncertainty in distributors which lead to uncertainty and even miscommunication to the end customer.

The sales processes are complex enough, but usually medical automation companies are conducting business with public sector hospitals. This means that the end customer requires a tender process before making the purchase decision. This makes the sales process even more complex and requires even more communication between the end customer, distributor and international salesman.

Distributors are seen as a necessity in the company due to their local knowledge. Local knowledge is vital because of the cultural, language and business differences, but hospitals, pharmacies, their practical operations and business methods vary greatly depending on their geographical location. Some of the organizations with what the case company is conducting business, request a local distributor or at least service and support which is located in organization's home country. In many cases these requirements make the distribution channels even more complex.

6.3   Current management of the distribution channels

Management and communication to distributors is done on quite ad-hoc basis. Lack of resources is causing that the case company is fighting fires instead of preventing them. Information sharing is done via email, Skype or phone. There are no regular meetings between the manufacturer and distributors. This leads into situation where

distributors may have old information of products and in worst cases they might be selling products which are not even produced anymore.

Data collection is mainly focused on sales numbers and internal employees fill out CRM system irregularly with the information gained from the distributors. Sales numbers are too narrow information for performance measuring, especially when discussing of medical automation business and solutions. These solutions are usually worth over 100,000 euros and include long term investments, projects and maintenances. Actual sales occur quite seldom which makes it even worse factor for performance measuring, especially if it is the only measured meter. The case company and its management have had visions of better distribution channel management but the lack of resources has left these visions on a thinking level.

6.4 Supportive information systems within the company

As mentioned the case company has a CRM system implemented which is used in sales and maintenance. Distributors do not have direct access to this CRM system which means that international salesman have to make all the notes to CRM. Case company lacks resources, especially in international sales, and still international salesman have to make these notes to CRM instead of distributors directly marking them. This causes additional work to already overloaded employees. Case company has implemented intranet but it is not used at all in practice. ERP implementation is in progress but it is mainly for production and financial use. It is not going to be implemented to external partners, wholesalers or distributors. Currently most of the internal data and information changes happen via email and virtual hard drive. Email conversations tend to be unorganized and the virtual hard drive folders have duplicates within different organizations and employees are spending lot of their time when searching for information.

The case company management has discussed about different file sharing platforms where distributors could gain access, CRM access to distributors and extranet possibilities. It has been completely on discussion level and zero research or actual

searching for a proper solution has occurred. The case company has goals that it will have better management of distributors, especially on information sharing. The company has a goal that information could be shared once to every distributor, email chain messages could be history and all the distributors would have up to date information. Management of the case company has also noted that current performance measuring of the distributors is not on coherent level. During discussions with the case company executives, they were not satisfied with current monitoring and information which they receive from distributors. Management does not receive any regular information from distributors and distributors tend to be working completely on their own. Motivating was also raised as one problem: many of the distributors might be selling products of other manufacturers and the case company was not sure how they could motivate distributors to focus more on the case company's products.

7   METHODOLOGY

This thesis follows the principles of a qualitative research. Considering the research objectives and practical involvement it was clear that qualitative research strategy would provide the best tools to achieve wanted results. Hirsjärvi, Remes & Sajavaara (2009, p. 161) state that there is not a clear definition for qualitative research. It can be seen as a combination of different researches and methods but typically the spark for a qualitative research comes from real life situations. Also the research data for qualitative research is usually collected from real life situations and environment. Hirsjärvi et al. (2009, p. 164) give seven typical features for qualitative research:

1) Research includes comprehensive data collecting and data is mainly collected from real life situations and environments.
2) Data is collected from unstructured interviews and can be interpreted. Compare to quantitative researches which usually use forms, scales and yes or no questionnaires.
3) Inductive analysis is used. Testing theories or hypothesis is not the first priority, but the comprehensive and specific observing.
4) Using qualitative methods as data collecting. Discussion, participating in interviews, group interviews and panels are mentioned as typical qualitative methods for data collecting. Opinions and perspectives of interviewees are the most important factors.
5) Target audience is chosen appropriately: quality before volume.
6) Research plan is adaptable and formed during the research. Plan can be adjusted during flexible researching and adjusted according circumstances.
7) Every case is unique and the collected data is interpreted according the surrounding environment.

Qualitative research often involves field work because participation is seen as a crucial factor in most of the qualitative research methods. Practical involvement can be seen as a necessity because researcher should form a comprehensive, clear

and understanding perspective for the researched case to achieve holistic research result. (Eskola & Suoranta, 2008, p. 14)

7.1 Case research

Case research is often used in the field of business. Case study researches are able to present business problems in practical, down-to-earth, accessible and personal format. This explains the popularity of case researches but it has also received criticism of lacking scientific rigor because of labelled anecdotal descriptions. Typical case research features are first defining and then solving the case, real-life environment, contemporary phenomena, multiple sources of information, in-depth data collection, comprehensive analysis and interpretation. (Eriksson & Kovalainen, 2016, p. 132-133)

Eriksson & Kovalainen (2016, p. 165) state that business research is usually related to practical problems of organization's different fields of operation: e.g. marketing, financing, accounting and business development. Research questions arise from practical settings and active involvement with or within the business is often required for efficient results. Case research was chosen as the research method for this thesis because the research included real-life context, active involvement, observations and the main research question was formed with the executives of the case company. The research question arose from practical problem regarding business development of the case company. Forming the main research question can be seen as the definition of the case.

Case research can be conducted in many ways depending of the goals of the study, research design, number of cases and philosophical background of the research. Common way to separate case researches is to divide them into intensive and extensive case studies. Intensive case study focuses on one or a few cases in-depth and extensive case study has several cases and tries to find common patterns in those. (Eriksson & Kovalainen, 2016, p. 133) This study represents intensive case study because there is one case which is analyzed holistically.

Eriksson & Kovalainen (2016, p. 135) state that common challenge in case research, and especially intensive case research, is to create links between theoretical concepts and empirical data which would activate readers to learn and take the initiative. Second challenge is that the researcher should not create any assumptions too soon and go through the theoretical concepts and empirical data without generalizing conclusions. Thus it is important for the researcher to remain neutral with assumptions and maintain dialogue between theory and achieved empirical data during the research. (Eriksson & Kovalainen, 2016, p. 136)

7.2   Research process

Figure 12 describes step by step how the research process moved forward during the study. The beginning of the research, finding the research problem and formation of the case, was done in cooperation with the case company. It involved face to face discussions with executives of the case company and over a month of participant observation. Eventually the case topic was chosen and theoretical concepts of the chosen topic were analyzed. After gaining necessary knowledge of theory background, the research case and preliminary research questions were defined.
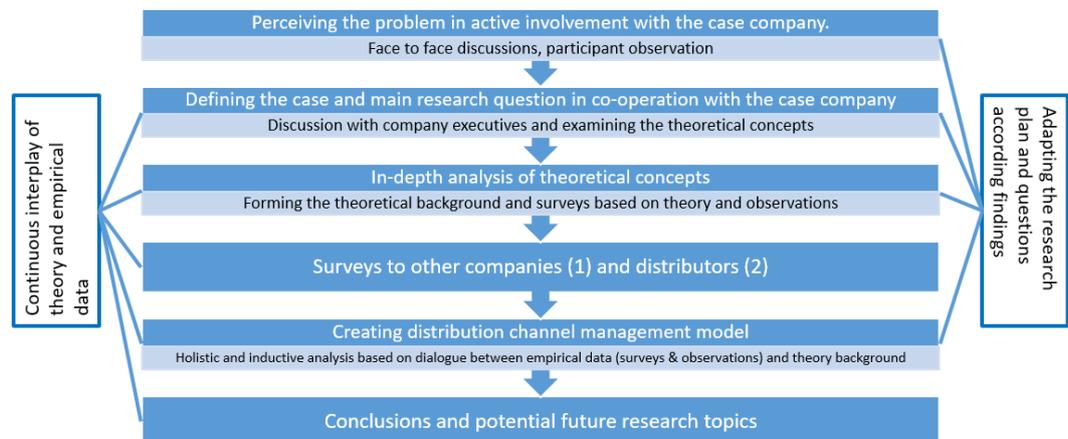

Figure 12. Process figure of the research.

Framework of the thesis was defined together with the case company and after that researcher began more in-depth analysis of the coherent theoretical concepts. Interplay between observations in the case company and analysis of theoretical concepts formed the attached questionnaires (attachment 1 & 2). Questionnaires to other internationally operating companies were sent first and after responses from other companies, researcher started to conduct questionnaires to distributors of the case company. Second part of the survey was partly based on the received information from previous questionnaires. After receiving all the available responses from other international companies and distributors, researcher began analyzing the theory and empirical data to form distribution channel management model and to answer the formed and adapted research questions.

During the entire research, the researcher participated in daily activities of the case company and gained vital knowledge of real-life situations of the case company. As it is usual for qualitative research, the research plan and questions were adapted during the first five phases of the research according the theoretical and empirical findings. Also directly after first theoretical touch points, researcher started continuous interplay of theory and empirical data and this lasted all the way to conduction of conclusions and consideration of potential future research topics within the context.

7.3 Collecting the research data

Case researches typically have data collected from variety of sources. Several sources create more accurate, convincing and diverse analysis for the research and enable cross-checking the content. Empirical data can be collected from existing information or be produced during the research. Examples of existing data sources are documents, archival records, media texts, digital materials and physical artefacts. Some of the existing data can be found available for public e.g. in the internet but some can be restricted. Typical produced data can be gained from interviews, surveys, protocols, direct observation or participant observation. (Eriksson & Kovalainen, 2016, p. 139)

Empirical data for this thesis was collected from a survey which included two different questionnaires to two different groups and daily participant observation in the case firm. These questionnaires were unstructured. First questionnaires were sent via email to three chief executive officers or managers of internationally operating SMEs in healthcare technology industry. First part of the survey also included some dialogue via phone and email. Second part of the survey was sent to five distributors of the case firm. Responses were initiatively sent via email but final answers were formed from these email responses and face to face discussions, communicating on a phone, via email or VOIP (Voice Over Internet Protocol). These questionnaires can be found in attachments, 1 & 2.

During the research, data and information was also gained from observation and participating in the daily businesses of the case company. Information of company's current situation, goals and international business strategy were achieved in face to face discussions with international business manager, sales director and chief executive officer. Survey to distributors and other companies was generated in cooperation with case company's international business manager. Discussions with international business manager revealed some of the distributors' background information.

First set of questionnaires were sent to Finnish small and medium enterprises which operate in healthcare technology industry. Criteria were that the enterprise had to have manufacturing, long experience of international business and international distribution for several years and to various countries. Three suitable candidates matching these criteria were found after searching enterprise databases and Finnish healthcare technology portals. All three of the candidates responded and researcher had dialogue with all of them. Dialogue consisted of confirming some unclear answers and gaining deeper analysis of some answers. Questionnaires consisted of finding out the background of the company and its current international business, how do they manage the international channels at the moment, what they would have done differently in the past and how do they use information systems and

performance measurement as supporting tools for the channel management. It was important to benchmark different companies in the same industry and receive information from more experienced players from the market and possibly learn from their mistakes. Questionnaires were sent to chief executive officers, international sales managers or other upper management. First set of questionnaires and the answers to them were used when conducting the second set of questionnaires. Other companies' answers to the questions, especially regarding information systems and performance measuring, assisted in forming better questions on these topics to the distributors.

Second set of questionnaires were sent to distributors of the case firm. Five most active distributors were chosen and four of them responded. These distributors were from different geographical segments, mainly from Europe but some also from the Gulf Region. Some of these distributors only distribute the solutions of the case firm but some of them also cooperate with different companies. Questionnaires were mostly sent to chief executive officers or upper management of these distributor companies. Questionnaires to distributors included background data gathering of how the relationship is currently managed, what development could be done, what this development could achieve and how it should be done. More detailed questions of information system deployment and performance measuring possibilities were added to these questionnaires after analyzing the first part of the survey. One idea of the questionnaire was to find out if distributors found IS and performance measuring necessary at all and how ready they are for possible implementations. To develop the channel management of the case firm it is vital to gain comprehensive knowledge of the current situation and also receive information from the distributor perspective. Also, it is crucial for accurate qualitative research results to receive empirical data from different sources. This distributor part of the survey represents this another source and perspective.

7.4 Validity and reliability

Case studies have received criticism of the practical real-life dimensions, biased findings, extensive amount of research data and non-experimental nature. Authors have thus claimed that case researches are sometimes missing scientific rigor. To avoid the lack of scientific rigor the researcher has to follow systematic procedures, and did not allow equivocal evidence or biased views to affect the direction of findings and conclusions. (Eriksson & Kovalainen, 2016, p. 133; Yin, 2003, p. 10) This research had those challenges but also the challenge of active involvement. Observations can be based on feelings, experiences and actions made by the researcher. Also the case company employees may have strong opinions which easily could direct the research to a wrong path. In a case research it is vital that the researcher does not have any assumptions or generalize conclusions. Thus it is important to make a clear research plan or design, follow it strictly and analyze collected data inductively.

This thesis clearly states the research process and structure which were carefully designed. Goals of the thesis were based on the research topic and process. Researcher remained as a neutral observer in the case company and did not make any assumptions. Observations were mainly used to create an idea of case company's current problems and processes. Opinions and solution suggestions from case company management were not noted when conducting the research design and goals. This is a common challenge in qualitative research that the case company traditions affect the research results, so it is crucial that the researcher remains neutral. Also the questionnaires to other healthcare technology companies give more comprehensive sampling and can be compared to the made observations.

Reliability of the thesis is based on multiple sources of data. These sources were carefully selected and researcher had continuous interplay between empirical data and theory background. Quality and amount of literature sources also describe the credibility of this study. This comprehensive literature review was also basis of the conducted survey.

Questionnaires which were the most important part of the empirical data were sent to interviewees who were informed of the background of the study and research plan. These questionnaires were conducted and designed carefully in cooperation with the case company but they were also reflected to the theoretical concepts which were studied according the research plan. According to Yin (2003, p. 9) it is vital for successful case research that the research questions and surveys are based on previous researches and theory of the topic. This dialogue between theory and case company needs enabled the optimal amount of knowledge from case company to achieve interesting results. The survey still remained neutral when considering the research goals because of the theoretical aspect. Questionnaires were created for two different target audiences. Questionnaires to second interviewees, the distributors, were vital to gain more holistic empirical data. Questionnaires to distributors also gave the case study different point of view and it is important for qualitative research to collect data from various sources and different aspects.

7.5   Analyzing the case

For case research it is typical that analysis of the data and data collection go interlocked. Researchers conducting case research should start the analyzation of collected data in the early phases of the research. Case research has two main strategies of analysis. First one is based on pre-formulated theoretical propositions and second relays on development of case description which forms the basis for emerging research questions and a framework. (Eriksson & Kovalainen, 2016, p. 140) Yin (2003, p. 111-113) also mentions these same strategies for analysis, and this research follows the latter one of these: development of case description. This includes interpretation of the research materials and not so formal coding procedure. Business researchers favor this strategy too because it is more inductive and it does not relay on pre-formulated propositions and theory frameworks. It also allows more refining and refocusing of research questions and the whole plan. (Eriksson & Kovalainen, 2016, p. 140)

As it is typical for development of case description strategy, researcher approached the collected material in as inductive manner as possible. Eskola & Suoranta (2008, p. 19) state that when data is being analyzed inductively it is possible to construct new information from the gathered data. Interpretation of the collected data is necessary in case research study and it has to be taken into account that researcher's perceptions and imagination may affect the final findings of the research (Eskola & Suoranta, 2008, p. 145). Thus even though inductive strategy of analysis is used it is common to use theory concepts from prior researches to sensitize the empirical data and to gain more reliable results. Sensitizing concepts refers to a strategy where researcher searches theoretical concepts and uses them to describe and analyze the features of empirical data and the reasoning behind them. (Eriksson & Kovalainen, 2016, p. 141) This is called sensitizing concepts and this particular analysis was used in this research. Theoretical concepts were searched for background information and knowledge to support the findings from observations and the survey.

8 CHANNEL MANAGEMENT OF SMES IN HEALTHCARE TECHNOLOGY AND MEDICAL AUTOMATION INDUSTRY

Eight chapter highlights the most important parts of the previously mentioned theoretical background when considering SMEs, healthcare technology and medical automation perspective. Theoretical concepts are sensitized on the basis of gained empirical data. This chapter also presents a suggestion of a four step model for efficient distribution channel management. This suggestion is targeted for the case company but it can be generalized for SMEs and especially for the ones operating in healthcare technology and medical automation industry.

First sub-chapter describes that the SME should choose proper entry mode and operation method for the designated foreign country. After this decision the company can start to form the distribution channel all the way to the end customer. While forming the channel, the manufacturer has to take into account how they are going to manage this distribution channel. It depends on which foreign entry mode and operation method it has chosen. After stating the proper foreign operation method for SMEs, the following sub-chapters describe options and supporting tools which SMEs have when managing the international distribution channel and distributors. These sub-chapters also use the theoretical background and empirical data as the basis. Fourth sub-chapter suggests a four step distribution channel management model for SMEs operating in healthcare technology industry. This model is based on observations from previous chapters and the two-part survey. Last sub-chapter analyzes how these foreign operation methods, supporting tools and the four step model are generalizable for different kind of companies operating in different markets.

8.1 Selecting proper foreign operation method and distribution channel

Even though distribution channel tries to ease the product and information flow from producer to customer and from customer back to producer (Ross, 2015, p. 66),

having distributors in the distribution channel makes it more complex. In many cases entity in the foreign market is a necessity in the distribution channel: for example, usually when an enterprise is delivering products and services offshore to a public sector or to a company which requires local intermediary. Considering the SME perspective, it should maintain low risk levels, especially when penetrating to a new foreign market. Using a distributor when penetrating to a new market lowers the risks and requirements for own capital and resources. Distributor also provides an easy way to gain local knowledge of the market. Thus it is recommended for an SME to first use exporting modes as a foreign operation method, at least in the beginning of the market penetration phase.

In exporting modes, the distribution channel can be formed in three different ways: indirect, direct and own export. Indirect export has the least control over the distribution channel from the producer's perspective. Indirect export may consist of two distributors or a home country distributor which would eventually add more commission costs compared to direct exporting to a foreign distributor. Own export is not always possible because the end customer organizations may require local intermediaries, support or services. Thus direct export seems to be the best option for a SME operating in healthcare technology industry. This can also be seen from the first part of the survey: none of the three companies have subsidiaries or branches abroad. One of the companies had subsidiaries in two different countries but terminated those operations.

Direct export means that there is a local distributor in the distribution channel. It is typical for healthcare technology industry enterprises that the sales process is complex and takes a long time which can be seen from attachments 3 and 4. Also the products, projects, services and in overall the whole industry has strict regulations. These factors require proper management and fluent communication towards and from the external distributors. This highlights the importance of distribution channel management which can be eased by performance measurement and relationship management systems.

At some point the manufacturer could consider switching the foreign operation method to a sales branch or subsidiary if the market potential remains good or if there is an insight that it is changing to better. Vertical integration by acquisition or greenfield investments are options for this. Acquisition could be more beneficial for the producer if the distributor relationship has been well functioning and the distributor company is willing to be purchased. This leaves the distribution channel in almost the same way as it was before and the distributor can still provide the local knowledge, customer base and networks. If market potential or the distributor cooperation does not look good or there have been some negative changes it could be essential for the manufacturer to terminate the whole operation in that country and end the distributor relationship. These decisions can be determined by sales of the distributors or even more specific performance meters.

8.2 SMEs and channel management in healthcare technology industry

As mentioned in chapters 5.2 and 8.1, proper channel management and communication is vital for successful operating in healthcare technology industry because of complex sales processes (case company examples seen in attachment 3 & 4), differentiated products, restrictions and legislations depending on the location of the end customers. Direct supplier to end customer relations rarely exists or are not even possible which also highlights the fluent communication between supplier and distributor.

Observations and the survey showed that channel management was not on a great level in any of the companies. As Rosenbloom (2012, p. 266) states, channel members usually receive unorganized support on ad hoc basis. This is typical on average level so SMEs might have it even worse, and that seemed to be the case according the observations and questionnaires. Lack of resources which is typical for SMEs seems to affect the management of distribution channels in a negative way. This statement is also supported by the research from European Commission (2015). According to the survey, most of the companies were satisfied with their current situation on distribution channel management even though they were

basically measuring their channel only on sales. Communication was mainly happening in all of the firms via email, phone and Skype. They did not have any other information systems implemented to their channel partners except Skype. These companies had ERP, CRM and finance systems in internal use but none of them were deployed further in the channel. Marketing director of one of the interviewed companies commented the following of their performance measuring: "*Distribution channel performance is mainly followed by the sales numbers. Certain targets are set for each distributor to keep/gain certain discount levels. Also with some partners a bonus system is agreed when exceeding the targets*". Marketing and sales manager of another company commented almost similarly "*The measuring of the performance of our distributors is mainly done by looking at the sales results. Of course, also the know-how & experience of the company from particular market area, as well as important / big reference customers are also a factor, but the main concentration is on sales where all know-how, contacts etc. is reflected in the end (i.e. the better know-how and contacts, the better sales results).*"

Case company had noticed that their distribution channel management was not on as efficient level as it could be but they had done nothing concrete to develop it. Case company management described that it was due to low amount of resources and capital. Even though SMEs have limited resources and capital, they should invest and focus on distribution channel management. Starting to operate internationally opens huge markets to the manufacturer. Especially Finnish healthcare technology markets are a fringe compared to worldwide markets, so internationalization for some companies is a necessity. As Kotler et al. (2009, p. 627) states the entities in distribution channel can form 30-50 per cent margins of the total end customer price. Thus it is important to get this per cent as low as possible to get an attractive price for the end customer. Also channel partners that receive better managing and support, achieve better results and sales. Investing in channel management does not have to be financially significant and usually these are long term investments which have huge returns on investment.

Implementation of information systems or performance measurement systems to typical healthcare technology distribution channel would not be difficult because the typical channel formation is manufacturer – distributor – customer as shown in Figure 11 in chapter 5.2. Simplicity of the channel should motivate manufacturers to focus on this relationship management especially when considering the crucial need of fluent communication in this industry.

8.3   Supporting tools for distribution management

Observations in the case company and in-depth analysis of the theoretical concepts regarding distribution channels revealed that proper channel management requires supporting tools. Especially information systems and performance measurement systems can be beneficial or even necessary when considering channel management. As it was mentioned by Kotler et al. (2009, p. 639) and Friedman & Furey (1999, p. 121) evaluation of channel is a necessity for manufacturer and the best way to evaluate channel partners would be by deploying proper performance measurement system. In the long run both of these, information and performance measurement systems, will decrease the need for human resources in channel management. The type of implemented and deployed IS and PMS has to be taken into account because not all of them are proper for channel management from a SME perspective.

Interviewed distributors mentioned that they would see better information flows beneficial especially of the products, solutions and services. One distributor commented that following system would be profitable: *"File sharing app or platform with all actual info on products (technical and sales (brochures, videos, etc))"*. All the distributors had positive attitude towards information system implementation between the case company and them because they had noticed that fluent communication is one of the key factors for success in this industry. In general, these distributors seemed to be technologically oriented and ready for IS and PMS deployments. When asked about performance measuring they were interested and seemed cooperative. There were slight differences in suggested

timeframes: some of the distributors said that quarterly reporting and measuring would be enough and some thought that monthly reporting and measuring would be optimal.

SMEs should carefully consider what kind of information systems they implement within their own organization and they have to be even more careful when these systems are implemented to external players, for example channel partners and distributors. Expensive and complicated enterprise systems like ERPs are not convenient for SMEs when considering channel management supporting tools. Thus SMEs should focus on more simple and less expensive information systems like extranets and relationship management systems: CRM & PRM. Nowadays open source options of ERPs and CRMs are available but in the long run, price of the software should not be the final decision making factor. It is crucial that the features of the system are useful for the organization and the system is deployed according their processes. When a system is deployed to the whole channel, it is important to understand how the implementation is done to channel partners and how does it affect their business processes.

Performance measuring can be seen as lack of trust from the distributor perspective so it is important that the communication during PMS deployment is fluent. On the other hand, integration of PMS to channel also should have positive effects to trust between manufacturer and distributor because this way manufacturer does not leave distributors to hang out to dry. PMS usually increases the communication from supplier to distributor (Kotler et al., 2009, 640), so it might actually be really helpful for the distributor too. The benefits of PMS implementation have to be discussed and as Pekkola's (2013) study revealed, it is possible that PMS implementation and distributors seeing other distributors' performance can increase friendly competition between distributors. Though it is important to notice that different cultures have different points of view for competition and some countries are not cooperating well with each other. So it is vital to take into account when deploying the system that which distributors can see statistics of each other's performance.

Implementation of information and performance measurement systems to abroad units or foreign channel partners may have other possible problems too. Foreign entities may have different level of technological orientation so it is important to take into account what kind of a system they are ready to deploy. Business processes, work cultures and information requirements may vary greatly in different countries and cultures (Laudon & Laudon, 2009, 394-398). Thus it is crucial that before starting the implementation these factors regarding the information or performance measurement systems are properly discussed with managers of these foreign entities. Employees of these foreign entities have to be aware of the changes what are happening and especially the management have to be involved in the implementation project. SMEs cannot afford a failed IS or PMS implementation project, so it might be better to take incremental steps and move forward from simple systems to more complex entities.

8.4 Case firm's situation and development suggestion

Case company has typical barriers for developing a successful distribution channel management. They have limited human resources, limited capital and they are suspicious about new information and performance measurement systems. Communication to distributors happen irregularly and distributors receive help and information only on ad hoc basis. On the other hand, case company is technology oriented because it is already using CRM internally and it is deploying ERP for production, project management and maintenance. Case company is active in over nine different countries and every SME that answered the questionnaires had distributors in over ten different countries. Thus for a SME it is vital to create a distribution channel management model which can be generalized to each and every channel partner of them. This will cut costs and save employee resources.

Because of these limitations the suggestion for the case company, and on overall level for SMEs operating in healthcare technology industry, is a four step model which is described in Figure 13. This model does not bind a lot of human resources or capital and it allows communication from managers to every employee or person

who is linked to its effects. This communication can happen before and after every phase. It is crucial to explain why this system or procedure is implemented, what are the benefits and how does it affect the processes regarding it. This lowers the skepticism against these new systems and procedures and it also allows the people linked to it prepare for new processes and methods.
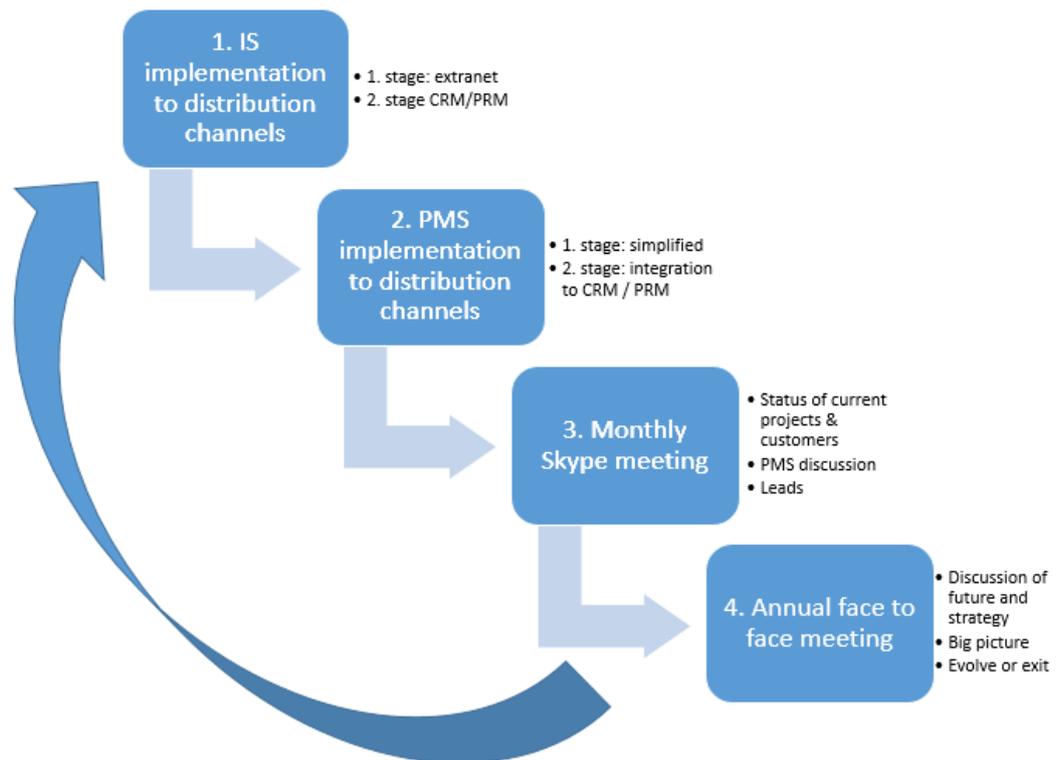
Figure 13. Four step model for SMEs distribution channel management.

First step of this model includes information system implementation to distribution channels and this first step is divided into two stages. First stage is easier and faster project to go through: implementation of extranet or file sharing platform which is available for distributors. Deploying extranet and gathering all the necessary data into it will take some resources. Though putting effort in it will save a lot of time in the long run and move the company's mentality from fighting the fires towards avoiding the fires. Also the distributors of the case company saw this kind of extranet or file sharing platform as a necessary system for successful communication and cooperation. Currently distributors were receiving information with delay and they could have some old information which was not accurate

anymore. Extranet should have all the necessary information required by distributors. This way distributors will always have the most up to date information and every distributor will receive the information at the same time. Implementation of this system will enable better two-way communication and distributors can also upload and share their information via this system. According to the case company and distributors, extranet or file sharing platform should include:

- Product information (Responsible of this information: *Case company*)
- Company information: presentations, strategy, finance (*Case company*)
- Marketing and sales material: brochures, pictures, videos (*Case company*)
- Customer information (*Distributor*)
- Projects, maintenance and services (*Distributor / Case company*)
- Leads (*Distributor / Case company*)
- Local market information (*Distributor*)

Second stage of first step is CRM or PRM deployment for external partners and distributors. This will take more time, resources and it should be thoroughly discussed with distributors. Distributors have to be ready for this implementation on technology and process level. Thus second stage of first step should be conducted on iterative basis after the fourth step. This way the entities in the distribution channel are getting used to channel management developments and the manufacturing company does not have to bind so much resources in development at once and they have time to plan the implementation properly.

Second step of this model is performance measurement system (PMS) implementation to distribution channels. Evaluation of channel entities is vital and it should be conducted on a detailed level. Lack of resources is usually reason behind not implementing PMS especially when considering SMEs. SMEs have limited capital and resources but this can be seen also as a reason for PMS implementation. SMEs cannot afford unbeneficial distributors and inefficient distribution channels. Thus distribution channels should be measured on a level which is necessary for the manufacturer to receive the needed information of their

performance and to be able to evaluate should they proceed with these intermediaries, how to develop the relations or should they even terminate the cooperation.

Performance measuring development is crucial especially for the case company. Currently case company's and interviewed companies' performance measuring is purely based on sales. Especially in medical automation industry sales happen too rarely and it does not give proper idea of what is happening in the target market and what the distributor is actually doing. In project oriented business sales process is slow, so at first the measuring could be done on monthly basis. Depending on situation and circumstances the measuring period can be adapted to more or less frequent time period. The measured factors for the case company's distributors could be:

- Contacts to potentials customers
- Leads generated
- Tenders participated
- Contacts to tenderers
- Sales to new customers
- Sales to existing customers
- Contacts to/from current customers
- Service requests and response times

Second step is also divided into two stages. First stage is simplified performance measurement system which would enable more specific measuring. This could be done on excel template which is in extranet or file sharing platform and distributors could fill it. Template should be user friendly and easy to fill. This will assure that it is filled properly and with exact information. Second stage should be performed simultaneously with CRM/PRM implementation. Implemented CRM/PRM has to have integrated PMS so performance measuring could be done based on the information what distributors put in CRM/PRM. Thus measured information will be automatically generated as long as the distributors are using the systems

correctly. This is huge advantage for a SME with limited human resources: employees do not have to gather the data and create analysis manually.

Third step consists of regular meetings. These can be held via internet connection and they are necessary for manufacturer to keep on track of distributor actions and keep distributors posted on developments within the manufacturer and different markets. One distributor of the case company stated the following "*Meeting is always important as both parties can update each other. Bi-monthly or monthly is great for such meetings. From my previous experience and discussions with employees visiting headquarters increase the bond and motivate the sales.*" In these monthly meetings distributors can give updates from current projects, customers and leads. Manufacturer in return can describe research and development statuses of current and new products, future predictions, financial analysis and market situations of different locations. These meetings are important for keeping both sides up to date but they are especially critical after the first two steps of the model. Thus third step is a regular meeting which is held monthly. It is important for manufacturer to get comments from distributors about the previous steps: was the information system deployment successful and what kind of adjustments should be done?

After the implementation of PMS, manufacturer and distributor should go through the performance meters and procedures. Both sides commenting and discussing of them will help analyzing the meters and procedures: how the meters are working and should there be some changes? Critical factors for successful PMS deployment were: someone has to lead and monitor the project, measure right things and receive comments from the measured side. These monthly meetings will enable following of all previously mentioned critical factors.

Fourth step is annual face to face meeting which would locate in manufacturer's or distributor's headquarter. Second part of the survey revealed that annual face to face meeting would be beneficial and the observations and comments from the case company confirmed this. One of the distributors mentioned that "*It would be good*

to make annual face to face meetings twice a year at least. Once in your and once in our office." There should be enough time reserved for the meeting, at least a day but preferably two or three. Distributors described these annual face to face meetings as a necessity and some suggested that meeting other distributors during these meetings could be beneficial: *"Meeting other distributors widens scope and approach to new customers…".* Agenda for these annual meetings would consists of analyzing history, what happened past year at distributor's market and other markets, what was learnt and what could be done better. This could include going through whole year's performance and comparison to other distributors to raise competitive thinking between different distributors. If the meeting is held in manufacturers headquarter it is possible to have training sessions for distributors of products, maintenance programs and so on. On the other hand, if the meeting is in distributors headquarter there could be meetings arranged with manufacturer and current or potential end customers. This way SME can save money and kill two birds with one stone. Last and the most important part of these meetings would be the discussion of future. What is the vision and strategy of manufacturer, what are the goals for the future and how the relationship could be developed even further or is it necessary to terminate it?

Participating in a face to face meeting shows that both sides are actively involved and ready to cooperate in the future too. These annual meetings and strategy planning are crucial for common vision and strategy, training and setting goals. If manufacturer is planning to grow it would be vital that distributor is also ready to put effort and resources in growth and invest in the relationship. It would be important to discuss with distributor what possible other firms it is working with and how it is going to balance the distributing between different firms. If parties do not agree on vision, strategy or goals it is best for the manufacturer to terminate the relationship.

Iterative nature of the model is important part of it. Once the model reaches its last step and the annual face to face meeting is over, it should start from the first step again. During the last step both sides, the manufacturer and distributor, should

discuss how they are going to develop their current information systems and what possible new systems they could implement during the next time period. Same goes with performance measurement systems. Even though these are discussed in monthly meetings the bigger pattern should be discussed and determined in the annual meetings. Efficient channel management requires continuous development and discussion between different players in the channel. Iterative model is better for SMEs because it enables incremental steps and avoids taking too big risks.

8.5 Managerial recommendations of study results

Chosen foreign operation method is recommendation for SME which is operating in healthcare technology or medical automation industry. Recommendations for SMEs in general are from the left side of the Figure 6 from chapter 2.3.5: exporting modes or contractual modes. These are chosen because of lower risks and less bound resources. Exact foreign operation method may vary depending on the industry, type of products and the requirements from end customer. Supporting tool suggestions are generalizable for SMEs operating in different markets or with different kind of product portfolio.

Even though the foreign operation method may vary between SMEs and their market, the previously mentioned four step model is generalizable for different SMEs because these steps can be deployed for different foreign operation methods. Even if the SME decides to integrate vertically, create a joint venture or found a subsidiary, it is possible to follow these steps. Instead of the distributor the IS and PMS implementations are done to the company, subsidiary or branch operating in the foreign market and monthly and annual meetings are held with the management of this company even if it is internal.

The four step model is not so dependent on the foreign operation method but it is slightly dependent on the type of the business which is conducted by the SME. Case company is operating in medical automation market which is project oriented. Solutions are complex and often include maintenance and service agreements.

Public tenders are also a typical feature of medical automation industry. Thus some healthcare technology companies, and SMEs operating in totally different market, have to adjust this four step model slightly to get the best out of it. For example, second step, the performance measuring has to be adjusted according the market, product and relation type. Management of the SME have to discuss of these measured meters and indicators and on how specific levels they want to measure their channel partners.

9 CONCLUSIONS

Healthcare technology is a rapidly developing and growing industry where SMEs have significant effect on the market. Especially in Europe, over 80% of the companies in healthcare technology are SMEs (European Commission, 2015). Domestic markets of these SMEs represent just a fringe of the whole market, thus SMEs should be able to internationalize and maintain good positions in their markets to be able to achieve their full potential. That is why this study aimed at researching *how SME can efficiently manage its international distribution channel in particularly when operating in health technology industry*. Literature review and observations in the case company revealed that information systems and performance measurement are important supporting tools for channel management. Thus supporting research questions were formed: '*How can SME use information systems as supportive tools for managing their distribution channels?*' and '*Why and how to measure the performance of SMEs' distribution channels?*'

Distribution channel management may vary between different markets so this study was limited to focus on healthcare technology and specifically in case company's operating industry, medical automation. This chapter summarizes the answer to the main research question, supporting research questions and provides recommendations for SMEs operating in healthcare technology industry. During the research some interesting topics for possible future research emerged and these are also discussed.

9.1 Findings

Main research question of the thesis was: *How SME can efficiently manage its international distribution channel in particularly when operating in health technology industry?* Healthcare technology requires fluent communication between manufacturer and the channel partners. High restrictions and limitations in the industry require that end customer receives exact and up to date information. This highlights the importance of proper management of the distribution channel.

Especially medical automation industry requires continuous and clear communication between the entities in the distribution channel. This is due to project oriented nature of products and solutions, possibility of public tenders and importance of service and maintenance. In medical automation industry the specific level performance measuring has significant importance because sales happen seldom and measuring which is based purely on sales and revenue do not reveal the whole truth how well the distributor is functioning.

SMEs lack of resources thus they should follow a simple four step distribution channel management model. This model does not require great amounts of employee or financial resources and it takes into account SME perspectives.

1) Implementation of supporting information system to channel.
2) Implementation of proper performance measurement system to channel.
3) Monthly meetings via Skype.
4) Annual face to face meetings in manufacturer of distributors headquarters.

This model should be done in iterative nature to achieve annual incremental steps. It is not necessary to implement all of the supportive information systems to every distributor at once. In the beginning performance measurement system can be simple excel template which can be shared via file sharing platform which is implemented in the first step. Regular monthly meetings enable proper information of current statutes of different customers, leads and projects. It also allows manufacturer and distributor to give and get feedback from the implemented systems and how these systems are functioning in the channel. Annual face to face meetings should consist of discussions of the relationship in big picture, cooperative strategy and future plans. Annual meeting will be the last step but because of the iterative nature it is important to discuss of the next implementations and developments of supporting IS and PMS.

How can SME use information systems as supportive tools for managing their distribution channels?

Nowadays information systems are made easy to use and many systems are open source which means that the actual software does not cost anything to the company. Thus information systems provide interesting possibility especially for channel management purposes. It has to be taken into account that when implementing an information system, it should be done according the current business processes of the company, not the other way around. SMEs should choose information systems which are easily implemented according their business processes and these implementations should be done in incremental steps to avoid failures. For distribution channel management great choices would be extranets or file sharing platforms and after implementing these they could move towards customer or partner relationship management systems which are heavier and more difficult to deploy. With extranet or file sharing platform deployment the manufacturing SME can test how technology oriented and adaptable the channel partners are.

Why and how to measure the performance of SMEs' distribution channels?

According to the theoretical concepts, it was clear that distribution channels and their performance has to be measured. This was confirmed with the collected empirical data. It is important that these channels and channel partners are measured on specific levels and not just based on sales or revenues. Performance measuring system implementation should also follow incremental steps and in the beginning it can be done with excel templates which the channel partners fill out and return in regular timeframe. After this is done successfully, the performance measuring can be more automated and based on different information systems. Specific performance measuring allows the comparison between distributors and eases the decision of developing some relations and possibly terminating some of them.

9.2   Recommendations

According the observations and discussions with case company management, they were clearly not satisfied with their current distribution channel management.

Distributors were mainly receiving ad hoc support, every distributor had to be contacted separately and only reason for this poor channel management was due to lack of resources. Interviewed distributors were missing some vital information and some of them suggested supporting information system tools. These distributors are technology oriented and they seemed to be positively minded of performance measurement.

Thus the management of the case company should discuss of implementing the four step channel management model to their business processes. Discussion should include should or should they not start implementing it, is it possible within their resources, who should take the lead of the implementation project and should they make some changes to this model. The four step model does not bind a lot of resources and it can be done with incremental steps. Also the model can be tested for one year, receive feedback, discuss with distributors in the annual meeting and decide should they continue it with iteration or maybe make some radical changes to it or just terminate the implementation.

Case company has many distributors in various countries but this model can be easily implemented to all of them at once. Additional effort for more than one distributor is just the communication towards the distributors and receiving feedback from several distributors and acting upon the received feedback. Case company should consider that the distributors are from different cultures and have different business methods. This may occur in some additional work but the simplicity of the model tries to decrease the amount of needed adjustments. Although the case company has to take into account that some of the distributors do not necessary cooperate well with each other so they have to be careful with the information they share of other distributors to all the distributors. Even though Pekkola (2013) study suggested that showing information of distributors performance to each other can boost the quality of operations and motivate them as a competitive factor, this does not work well if the cultures are even slightly hostile towards each other. Case company should take this into serious consideration while implementing the performance measurement system because they are cooperating

with many countries in Gulf region which are not in such good terms with each other.

9.3   Evaluation of results

This research was conducted in close cooperation with the case company and the researcher was involved in daily activities of it. It has to be taken into account that researcher was deeply involved to the case company and this may have affected the results. Researcher had to be open-minded and understand that company's way of operating and traditions should not be included in the academic research, thus it highlights the importance of inductive analysis and sensitizing of the theoretical concepts. This and the lack of previous research of healthcare technology, and especially medical automation, and their distribution channels has to be considered when evaluating the results of this study. Researcher should not make any assumptions or generalize conclusions and this was avoided by making a clear research plan and following it strictly and analyzing the collected data inductively.

The applicability of the results has been enhanced with different perspectives in empirical data collection. Three other healthcare technology SMEs were interviewed and this made the analysis more holistic. Second part of the survey consisted of questionnaires which were sent to five distributors and four of them responded. This gave the study a perspective from the managed side, confirmed some issues and made the recommendations more reliable.

9.4   Suggestions for future research

During the research some interesting topics came up which were closely related to this study. Thesis is a very limited study so they could not be included in it but these should be risen up for future research possibilities. During the analysis of theoretical concepts and SME perspective to foreign operation methods, it was clear that during the market penetration SME should focus on exporting modes or in some cases it is possible to use contractual modes. This is due to lower risks and requirements for

resources. But when should SME consider switching the foreign operation method from less controlled and risky one to more determined? What are the key factors that the SME should have achieved to pursue a branch or subsidiary in a foreign destination? Another interesting question which arise during the research was regarding the information and performance measurement systems and the information flows. How the shared information and knowledge can be restricted and made sure that it does not end up in wrong hands? This knowledge management and management of information systems perspective would be interesting topic for future research because SMEs may have some vital information which leverages them over bigger corporations and these corporations might be thirsty for it.

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ATTACHMENTS

ATTACHMENT 1. Questionnaire to international SMEs in health technology.

Survey about international distribution channels

This survey is for academic purposes and it is going to be used in master thesis project which is done according the norms of Industrial Management major in Lappeenranta university of technology.

Guideline: Answer to bolded questions with full sentences. Fill your answers with red font. Notes under the questions are just examples and you can answer as freely as possible. Any additional ideas are appreciated.

Name:
Company name:
Company size (employees):
Location:
Distribution to following countries at the moment:

Can you briefly describe your history and progress with foreign distribution?
- How and when did it start?
- How has your international distribution channel developed from the beginning?
- Would you have done something differently?

Current situation: Do you have distributors, how many and in how many countries?
- Are these independent, cooperative or alliances?

Have you established any subsidiaries / branches in foreign countries?

How did you choose your current type of distribution in different locations?
- Why, experience: pros and cons about export vs. contractual vs. investment modes

What information systems your company is using?

- How has your company deployed these information systems when considering distribution channels?

- Have you had any problems when integrating and deploying these systems to your international business?

How does your company measure the performance of distribution channels?

- Do you have specific measuring system or key performance indicators for international distribution channel?
- Does the measuring differ when comparing domestic sales, distributors and subsidiaries / branches?

- How do you collect the data for these measures?

- What have you learned of this data collecting / measuring?

ATTACHMENT 2. Questionnaire to distributors of the case firm.

Survey to distributors

Name:
Company name:
Company size (employees):
Location:
Co-operation since:

Are you missing some sort of vital information to get better sales? What kind of?
- Technical and product?
- Research and development?
- Financial and cost information?
- General information, updates etc.

How would you like to report?
- Once a week, month, quarter?
- Fill out a form or write an open report?

Do you think our relationship would benefit from regular meetings?
- Weekly or monthly Skype meeting?
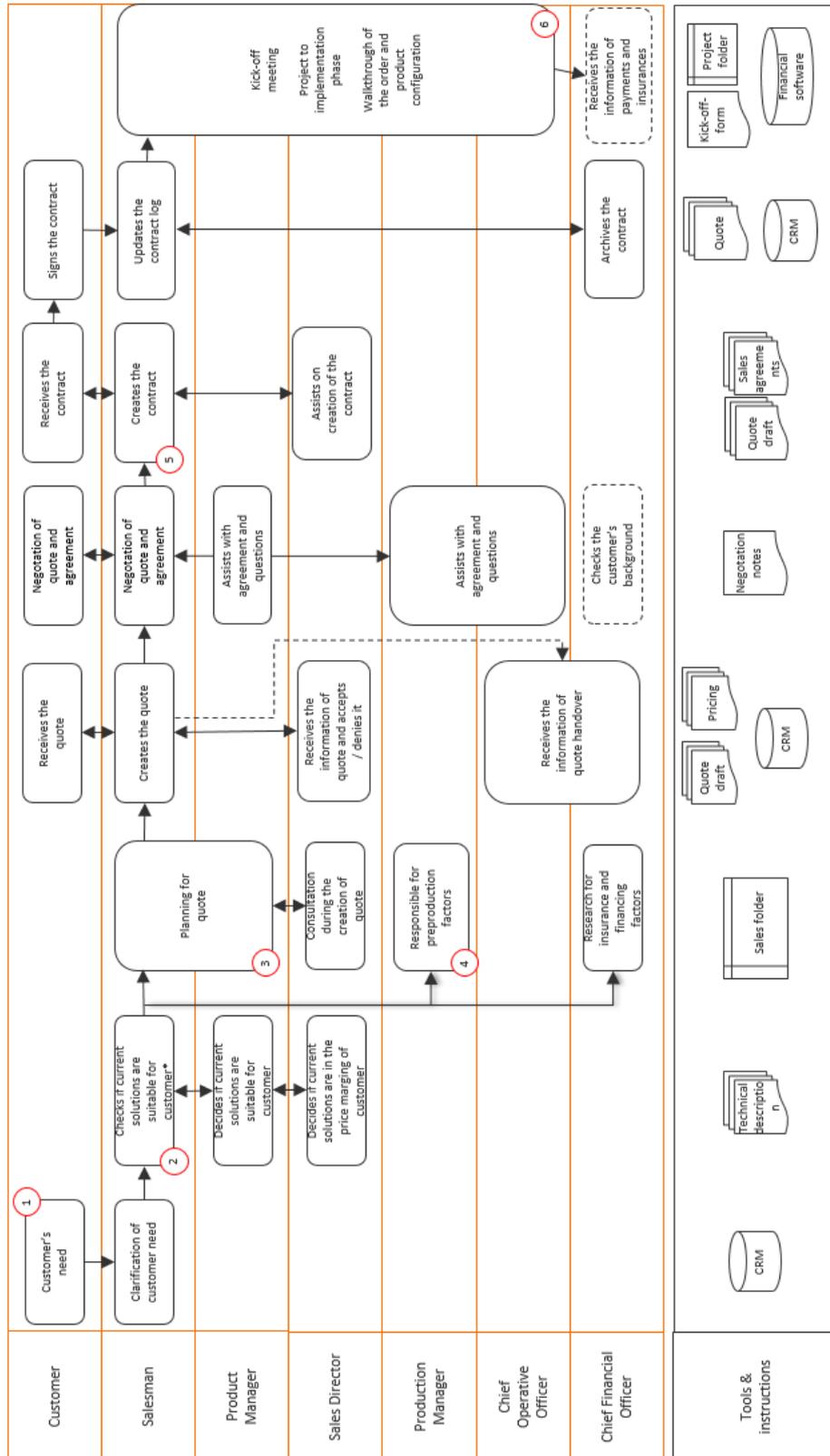- Meeting once, twice, three times a year in NewIcon's or your headquarters?

What kind of information systems could be utilized to gain better cooperation?
- e.g. CRM, file sharing platforms, reporting tools?

How would you like to be measured?
- Do you think measuring would benefit your business and help you to be more successful?
- How specific level of measuring:
  - Revenue, closed deals, leads, meetings, phone calls / emails to customers, customer service

ATTACHMENT 3. Domestic sales process of the case company.

ATTACHMENT 4. International sales process of the case company.