

AFTERMARKET STRATEGY AND BUSINESS NETWORKS
Case Study of a Hydraulic Motor Firm

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ABSTRACT

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Title of thesis AFTERMARKET STRATEGY AND NETWORKS Case study of a hydraulic motor firm	
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<p>The aftermarket is a big potential for any business as it can be more profitable than sales of the primary product. Previous aftermarket studies are focused on a supply chain approach to the aftermarket using pricing and logistics strategies for different types of industrial markets and limited to case studies from the automotive industry. Small to medium sized enterprises such as hydraulic motor companies have gained international markets due to their technological superiority and have reached niche market segments all over the world. This research aimed to create a profitable aftermarket strategy for a hydraulic motor company with an international niche market. The unique challenges of the case company were based on firm size, being a component manufacturer, exporter and having an international niche market.</p> <p>The theoretical background of this thesis is a multidisciplinary framework including concepts from organizational strategy, market segmentation, international business and business network literature. The contribution to the research is to expand aftermarket strategy literature to include theories which had previously only been included in their specific research fields or in industrial marketing literature. Key theories include value chain and constellations, macrosegmentation and network theories. By conducting a single-case study and collecting data through semi-structured interviews of eight employees with aftermarket roles and six customers with different aftermarket capabilities, a network approach to business strategy was formulated.</p> <p>The findings resulted in an organizational strategy and network approach to the aftermarket. Organizational aftermarket strategy is the starting point for the firm to use when developing their internal structures and key activities. It also provides a way to determine aftermarket offerings to customers based on their characteristics. The network approach involves leveraging on customer knowledge, capabilities, location and reach to be able to provide aftermarket products and services to end users in key markets of the targeted aftermarket product.</p>	
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1 INTRODUCTION

Internationalization has allowed small and medium sized enterprises to export their products in foreign markets especially in niche market segments. Specialized products gain market share internationally for their technological value and firms take this opportunity as a step to internationalize. Exporting is a popular foreign operation mode and there are several ways to export products that reduces risks on a firm (Root F. , 1977). There are considerable benefits to an exporter distribution channel relationship (Hånkasson & Snehota, 2006) but unfortunately exporters do not share the same advantages as their distribution channels (Reid, 1984). When a firm seeks to diversify its product portfolio in this situation, this factor should be considered when formulating a strategy that will capitalize on products and services that will support both customers and end users during the complete life cycle of a product.

The aftermarket business is a promising income generating portion of a business (Agrawal, Agrawal, & Cohen, May 2006). These are the goods or services used with the main product or acquired after buying the primary product (Shapiro & Teece, 1995). More companies are becoming interested in the potential of the aftermarket business because it is a growth opportunity for companies since the demand for the primary product, also posits a demand for the aftermarket. It has been linked to improve firm performance and profitability (McKinsey & Company, 2015) and this means that a strategic approach must be conducted to be able to maximize the potential of the aftermarket business.

In Europe and North America for example, the aftermarket landscape is divided between the Independent Aftermarket (IAM) and Original Equipment Spare Parts (OES) (Günnel & Klostermann, March 2012; Chinnam, Huisinigh, & Subramoniam, 2009). Customers have the option to purchase through these two distribution channels without needing to directly contact manufacturers for any needs and the channels serve as their touchpoint to the products they need. The reliance of manufacturers to their distribution channels are high (Ellis, 2000) and they are trusted to provide them with information and knowledge of the market.

Having an aftermarket strategy provides a direction for the future of the business to grow with this segment as one of the key growth drivers of a firm. Firms need to explore strategies to capitalize on the potential business the aftermarket can provide because it can be more lucrative than the sales generated from the original product. Different efforts are used to drive the aftermarket business such as training, consultations and data-driven service offerings (McKinsey and Company, 2013) although much of aftermarket literature has concentrated on spare parts strategies (Vaziri, 2014) and mass markets such as the automotive industry (Childerhouse;Disney;Hammant;& Naim, 1999). The aftermarket also has very urgent and needs-based characteristics making it a challenging venture for companies. A more proactive aftermarket strategy needs to be formulated to be able to respond to the needs of the customer instead of being driven by the need.

The end users in industrial markets are involved in business activities and lose revenue from day to day operations when their product breaks down, therefore, aftermarket products and services is important for the end user. But due to the urgent needs in the aftermarket and its unpredictable nature (Agrawal;Agrawal;& Cohen, 2006) it has not been a focus area for manufacturers especially given a small and fragmented market. Despite this, manufacturers must be able to support the customer in their aftermarket needs. But manufacturers as exporters with niche markets do not find it profitable to establish greenfield operations in different locations due to their limited resources. Small to medium sized businesses such as the case for hydraulic motor firms do not have the same amount of resources as multinational enterprises.

At the same time, supporting end users in the duration of the product's complete lifecycle is necessary for gaining the business. Buying the primary product may not even be attractive to customers if they foresee that they will not get any kind of aftermarket support in the future. This is why firms with niche markets need a different type of strategy for the aftermarket that focuses on their organization as an active actor in the aftermarket. The current aftermarket literature will only be useful as a part of the strategy process given the different contexts of the previous literature.

Resource allocation is a major concern for firms and Cooper and Kaplan (1998) emphasize the need to not only focus on the primary good or service but to also designate resources to clients, end users, key players in supply and distribution chains for developing the aftermarket. It is then necessary to integrate organizational strategy with the network theory as the firm's internal efforts will be made possible by employing resources to business networks and enabling them to extend their resources to reach the end users of the product.

Previous studies understand that industry players are not self-sufficient and exist in an interdependent network focused on value maximization (Ramírez, 1999) and including partnerships is a strategy in itself (Anderson & Narus, 1991). The inclusion of network theory (Häkansson & Snehota, 1995) in this study aims to provide a broader perspective on the importance of networks and the different types of relationships organizations form overtime. Value-based strategy research has also moved from value chains (Porter, 1987) to value constellations (Ramírez, 1999) where other actors in the chain are important players for giving customers the products and services they need.

Dyadic relationships (Anderson, Häkansson, & Johanson, 1994) such as buyer-supplier relationships (Coviello, 2006) (Macbeth, Purchase, & Veludo, 2004) are types of relationships formed in the industrial context and can provide managerial implications for aftermarket strategy development. By defining aftermarket opportunities for manufacturers for example through cooperative partnerships (Altenberger, 2010) and an innovative distribution strategy, firms satisfy the expectations of customers which expands the market and increases sales and return on investments of the firm (Ratha & Singh, 2016).

As a single-case study for a hydraulic motor manufacturer based in Finland. The study has been conducted inductively with the theoretical concepts refined as more information is gathered along the process. Qualitative interviews were

conducted in a semi-structured manner with employees and channel partners of the hydraulic motor manufacturer. Through this process, we gain an understanding of the firm's key players, activities and resources in the aftermarket business. The data was then analyzed thematically to introduce recurring concepts which appear in the data.

This master's thesis aims to create a multidisciplinary approach to aftermarket strategy for a components manufacturer with a niche international market by applying organizational strategy, marketing and international business network theories to form a coherent strategy concept taking into consideration the challenges faced by this industry. The development path taken by hydraulic motor manufacturers in creating an aftermarket strategy is addressed and the result is a strategy that is feasible for a hydraulic motor company with an international niche market

1.1 Definition of Key Terms

Aftermarket: The aftermarket is defined by goods or services that is used with the main product or acquired after buying the main product (Shapiro & Teece, 1995). It is also interchangeably referred to as aftersales products or services (Agrawal, Agrawal, & Cohen, May 2006). For this research, aftermarket will be used as the main terminology. Both aftermarket goods and services will be discussed as integral compositions of aftermarket strategic planning. Interviewees though may refer to aftermarket as aftersales and both will be interpreted the same manner.

Strategy: According to Chandler (1962) strategy is "the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action." Key concepts in strategy will be used for developing the aftermarket strategy by identifying the process and methods of how strategy is formulated. For strategy objectives, Rockwater's strategic objectives concept is useful as it relates vision strategy and performance measures together (Kaplan & Norton, 1995). It is not only important to know the goals and objectives but to go deeper into strategy creation and plan specific courses of action to achieve the set goals. Michael Porter's (Porter, 2001) value chain which is used to analyze a firm's internal activities to distinguish their competitive advantage from competitors will be used as part of the main concepts of this research along with value constellations (Ramírez, 1999).

Internationalization & Foreign Exports: "An institutional arrangement that makes possible the entry of a company's products, technology, human skills, management or other resources into a foreign country (Root F. , 1977). " The type of foreign operation mode a firm chooses dictates the types of actions it will undertake when entering a foreign market (Benito, Petersen, & Welch, 2007). It will also dictate the types of relationships a firm will have and the extent of

exposure they will gain. The Basic Mechanism of Internationalization – State and Change Aspects model states products made domestically for a different market creates commitment to the market the product is made for and the greater the specialization of the resources to that market, the higher is the level of commitment (Johanson & Vahlne, 1977). Foreign exporting has been a popular foreign operation mode and although exporting has always been connected to increased information sharing and international experience, indirect exporters do not share the same benefits as direct exporters (Yasar, March 2015). Foreign intermediaries become in charge of promoting goods and services of the manufacturer (McCann, June 2013). This type of foreign operation mode increases the manufacturer's dependence on the distributor and OEM, influencing pricing and distribution methods.

Business Networks: The Network Model of Organization (Håkansson & Snehota, 2006) which was developed in the 1970s in Uppsala has observed that constant trade between business networks over time limits the number of actors to include only an identifiable few. Business networks according to Emerson (1981), “can be defined as a set of two or more connected business relationships, in which each exchange relation is between business firms that are conceptualized as collective actors. For components supplier, foreign intermediaries become in charge of promoting goods and services of the manufacturer in a specified country or region (McCann, June 2013). This type of foreign operation mode increases the manufacturer's dependence on the network, influencing access to the country, marketing, and distribution methods.

1.2 Research objectives, problems and questions

Aftermarket literature for industrial markets is limited and mostly focused on the automotive industry. Manufacturers conducting sales to distributors and OEMS in industries such as mining, forestry, and agriculture need a different aftermarket strategy because they serve different end users than their automotive counterparts. Existing aftermarket strategy literature focuses on supply chain strategies building on a firm-specific advantages in relation to competition. These strategies work for industrial markets with high volume sales and low product differentiation as price and availability are the only factors end users are concerned with for these kinds of industries.

The differences between industrial markets of also imply that the customers vary and have very different needs. In the hydraulic motor business, customers and end users lose revenue from day to day operations when their product breaks down. Automotive customers on the other hand have more options to choose from when their alternative modes of transportation available upon emergencies. The automotive consumer also has easy access to dealers and repair stores for spare parts and service needs whereas businesses served by hydraulic motors and rotators operate on distant places where farming, forestry and mining take place.

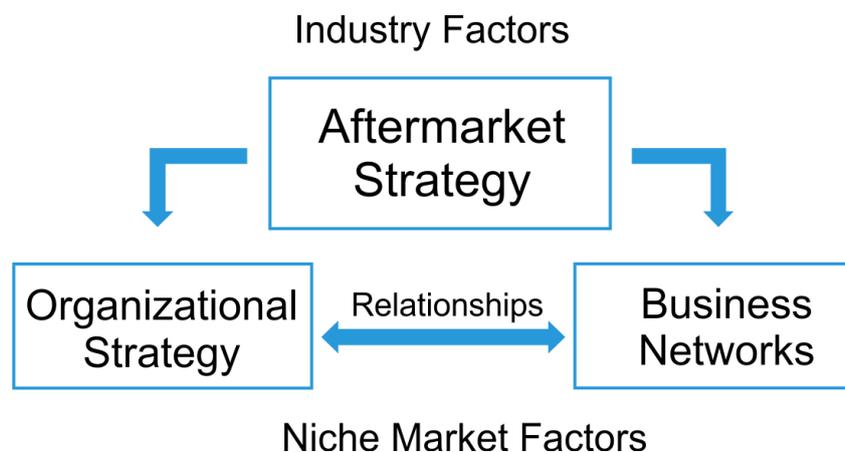


Figure 1 Research objective in the theoretical framework

As shown in Figure 1 This study aims to use organizational strategy and business network theories to achieve the primary research objective of creating an aftermarket strategy that will be feasible and profitable for a hydraulic motor company with an international niche market.

This study therefore asks the following research questions (Figure 2):

1. What are the challenges faced by hydraulic motor manufacturers with an international niche market?

2. What do customers and end users value in the aftermarket?

3. What types of relationships do hydraulic manufacturers have with their aftermarket networks?

Main Research Question: What aftermarket strategy will be feasible and profitable for a globally operating hydraulic motor and rotator manufacturer with a niche market?

Figure 2 Research questions of the study

The first question aims to define the aftermarket landscape of hydraulic motor manufacturers by asking their main difficulties given the context of being an

international player with a niche market. This question is relevant because it frames the context of the research. This question will provide a relevant answer to topics such as industry characteristics, which sets it apart from other aftermarket case studies. This question also dives deeper into the challenges of the hydraulic motor firm as a component manufacturer, exporter with domestic and foreign exporting as international operation mode, as a small to medium sized enterprise and as an international niche market player.

The second question aims to understand what customers and end users value in the aftermarket. With the aftermarket driven by need, the question of value is important to address since being able to provide products and services that meet what customers and end users perceive as important and being able to deliver it more cost-effectively than competitors results in increased margins and attained profitability goals.

The third research question addresses the type of ties a hydraulic motor manufacturer has in their aftermarket network. The aftermarket is primarily concerned with activities promoting customer relationships and satisfying end users and this question seeks to identify the types of relationships formed and what are the possible ways these relationships can evolve to promote the aftermarket. As an exporter, the case company depends on their networks to push their products and it is necessary that they are included in the strategy since they are important international players for aftermarket sales and services.

The main research question aims to provide an answer to what aftermarket strategy for a hydraulic motor manufacturer with an international niche market is most profitable and feasible. As the main research question, this is the focal objective of this master's thesis. The formulated strategy is the result of understanding the challenges faced by the hydraulic motor firm, knowing what their customers and end users value and utilizing the available channels to be able to push their aftermarket products and services cost-effectively and profitably.

2 FINNISH INDUSTRIAL MARKET & HYDRAULIC MOTOR INDUSTRY

This section provides a background of the Finnish industrial market and the hydraulic motor industry. The first section will introduce a short history of the Finnish industrial market and how exporting helped fuel the growth of the industry. An overview of hydraulic motors will then be discussed such as their advantages and disadvantages, practical applications and how technological superiority is maintained through patents. Finally, the aftermarket characteristics of the hydraulic motors industry will give an overview of the situation faced by this business in this segment.

2.1 Finnish industrial economic history

The Finnish industrial market has had a long history from the 1600s to present day through its products which were pioneered by firms such as Fiskars, Tamglass and Outukumpu. In the 1700s the chemical industry had marine applications for tar used by the British Empire. According to the Ministry of Foreign Affairs, electrical engineering, industrial automation, medical and meteorological technology began in Finland from the early 1900s through companies such as Wärtsilä, Stromberg Oy, Instru, Vaisala, Neles and Kone (Vesikansa, 2008). Exports have ever since been a key factor Finland's industrial growth citing trade with Russia during the 1840s and with the UK in the 1860s (Hjerppe, 2017). There was a Great Depression in Finland during the 1930s but by 1932, industrial output began to increase again (Statistics Finland, 2007).

During the 1940s after World War II, the paper machine industry through Metso, started to be one of the leading export products as part of the peace settlement with Soviet Union. Part of this settlement is to pay reparations of the Soviet Union through shipyards, which led to Aker Yard becoming famous for ice breakers and other vessels. The 1950s opened the Finnish market to the world through several international trade agreements. In 1948 Finland joined the World Bank, International Monetary Fund and the Bretton Woods agreement. This was followed by the membership in the General Agreement on Tariffs and Trade as well as the European Free Trade Area agreement. Through these measures, Finland had the chance to grow their local business and gain opportunities to expand both domestically and internationally.

Industrial production in Finland had grown faster than the OECD average after the war and focused on industrial goods and services. These differentiated products grew at a higher rate than labor intensive, scale intensive and research-intensive products (Hernesniemi, et. al, 1996) during that period. Hydropower started to be used by late 1950s and power generation as a business became lucrative as harnessed by Fortum through its acquisitions of different companies in different countries. But due to the 1970s oil crisis, companies needed to rethink

their strategy to include clean energy and renewable resources. The 1900s saw an easing of regulations from state-owned firms to increasing foreign ownership. Finland also joined the European Union in 1995 making their products more accessible for the European market.

To date the industrial market of Finland has been an important source of internationalization and exports with Finland being the 38th biggest export economy (The Observatory of Economic Complex, 2017). Over the years it has established itself to be the backbone of the Finnish economy and continue to do so through present date.

2.2 Background of hydraulic motors

Merritt (1967) defines hydraulics as “the science of liquid flow.” The use of hydraulics has grown in applications where high amounts of power and control are necessary such as in mobile, airborne and stationary applications. Some of the advantages of using hydraulics he stated are (1) lighter components can maintain high torque, (2) transfers heat to a part of the component that regulates it, (3) longer product lifetime as the oil also lubricates the component, (4) high responsiveness due to large torque to inertia percentages, (5) versatile power which can be operated in different conditions, (6) wide acceleration range due to its relief valve protection, (7) simple controls for the valves and pumps and (8) increased weight only demands a slight speed variation. Its disadvantages include (1) limited availability which makes it difficult for specific applications, (2) low tolerances making mechanism expensive, (3) possible risks attributed to high temperatures and oil leakages, (4) system breaks and leakages make them prone to oil contamination, (5) complicated studies required to create better machines and (6) components are expensive due to the technical machinery required to operate these components.

Hydraulic motors use different technological principles such as gear and vane, generated rotor, axial plunger and radial pistons and their applications diverge for a variety of industries. Examples of mobile applications are forest trailers, slurry tankers, earth moving, hook-lift and feed wagons. Hydraulic motors are can be used as on demand wheel drives for. In addition, one industry application for hydraulic motors are industrial which are shredders, mixers, augers and drills. They are also used as winches for pile driving rigs and cable wraps. The size of a motor ranges from and is composed of at least 54 parts comprising of 4 assemblies and 2 kits. Hydraulic rotators are often used for forestry applications such as harvesters and on demand drives. Their components comprise of external and internal parts. Internal parts for one product have at least 58 components including 2 assemblies and 2 seal kits. The external parts consist of links and brakes which have at least 10 components.

Patents for high pressure pumps started in 1952 and radial piston hydraulic motor patents have been filed as early as 1965. Innovation has been a driver of success and these companies have kept their competitive edge by thru patents which have been popularly filed in the US and Canada. Finnish companies have

started filing patents of this category starting 1970 with Stromberg Hydraulic Brake & Co. Automatic Control for Hydraulic Mechanism.

To date Finland comprises 1.3% of the world's exports for hydraulic motor products (The Observatory of Economic Complex, 2017), machinery and equipment as one of the top performing exports with 21% over other products exported in 2017 (Tulli, 2017). Apart from the multinational enterprises, small to medium enterprises have taken their share of the business due to technological superiority which has allowed them to internationalize and reach niche market segments. The demand for the primary product also provides a demand for the aftermarket and with the continuous performance of this sector, it is worth developing the aftermarket segment to increase firm performance and drive firm growth especially for SMEs.

2.3 Hydraulic motor aftermarket

To give a definition, the aftermarket is defined by goods or services that is used with the main product or acquired after buying the main product (Shapiro & Teece, 1995). It is also interchangeably referred to as aftermarket support or aftersales products and services which are activities related with primary products such as spare parts and services after initial sale of a product (Agrawal et al., 2006; Chinnam et al., 2009).

In the industrial setting, a perfect situation is for hydraulic motors to perform its full capacity during the complete product life. But in the field of use, there are elements which affect the motor such as leakages and damages caused by constant use (Merritt, 1967) and other uncontrollable factors.

In an industry that depends on its machinery to produce output, downtimes mean loss of income affecting the businesses such as delayed delivery of goods. Even though hydraulic components are generally more reliable, in these situations manufacturers encounter decreased reliability of the component especially when options for repair, servicing or spare parts are not easily available for the end user. The longer the downtime, the more money is lost from the end user perspective making the aftermarket an important segment of the business.

The aftermarket business has previously taken a back seat for industrial firms, but profitability figures show that there is more to it and that growth in this business segment also means growth in a firm's profitability. By calculating a product's installed base, a firm can gain an idea of the market size and opportunities they can exploit. The length of time a product is used also calculates to the length of service life for the aftermarket. Customer loyalty has also been positively associated with how much a firm's aftermarket services are rated and serving the aftermarket requires deployment of people, parts and equipment (Agrawal, Agrawal, & Cohen, 2006). Opportunity is abundant, but challenges are present especially for hydraulic motor manufacturers with niche markets. From the comparison of manufacturing and aftersales services supply chain, the major differences between the needs of the main product line and the

aftersales supply chain can be seen. Aftersales supply chain needs are less frequent but unpredictable and urgent. Often it is the firm which is regarded as a single network that address these various aftermarket needs so even though a hydraulic motor installed base is wide, it is fragmented in different locations all over the world (Table 1).

Table 1 Comparison of manufacturing and aftersales services supply chain (Agrawal, Agrawal, & Cohen, 2006)

Parameter	Manufacturing Supply Chain	Aftersales Services Supply Chain
Nature of demand	Predictable, can be forecast	Always unpredictable, sporadic
Required response	Standard, can be scheduled	ASAP (same day or next day)
Number of SKUs	Limited	15 to 20 times more
Product portfolio	Largely homogeneous	Always heterogeneous
Delivery Network	Depends on nature of product; multiple networks necessary	Single network, capable of delivering different service products
Inventory Management Aim	Maximize velocity of resources	Pre-position resources
Reverse Logistics	Doesn't handle	Handles return, repair and disposal of failed components
Performance metric	Fill rate	Product availability (uptime)
Inventory turns	Six to fifty a year	One to four a year

In a survey made by McKinsey and Company (2015) of Finnish Machinery, Metals and Electronics, the aftermarket was regarded as a relevant portion of the business for firms to include in their overall offerings. It is common that a huge portion of aftermarket sales can be derived from spare parts sales (Vaziri, 2017) but there are also other offerings for this part of the business. Among the Finnish firms who participated in the McKinsey survey, aftersales comprised on 13.4% of their revenues linking aftersales business to profitability over growth. Average profitability is seen between 3-56% percent depending on a firm's revenue percentage from aftersales of 10-30%. Common identified aftersales activities are trainings and consultations, using acquired customer data for the improvement of service offerings, and, in general, going beyond spare parts in the service business. With the demand of products outside of Europe, the third trend of increasing importance is the aftersales services followed by an increased demand for customer-specific system solutions and integrated services and increasing environmental aspirations. The study also showed that being a solutions provider is also correlated with higher share of higher sales revenue.

For firms with niche markets and limited resources, their capacity to service individual problems are limited, and they need to keep in mind that the actions must be profitable as well. Otherwise, there is no motivation to explore that market if it will only incur costs and low returns.

3 ORGANIZATIONAL STRATEGY

Chandler (1962) defines strategy as identifying the long-term goals and objectives of a firm, and coursing activities for implementation while Porter (1996) emphasizes that more than actions or operational effectiveness, strategy is about delivering a unique customer benefit by selecting unique activities and doing it better compared to other firms. The type of action a firm chooses gives them the competitive advantage to bring down costs and provide attractive prices to the customer.

Company goals set the platform for the strategy. The first definition of strategy provides a vision for the firm's long-term plans. It is a proactive initiative by the firm based on their set objectives and goals which follow courses of action or implementation. It is then a matter of identifying what kind of actions need to be done to pursue these goals. The second definition is more a reactive response as competitor activities are benchmarked with the intention to outperform the competition. A firm can be able to strategically position itself and its products and services to be competitive in the market but as the market matures the competition employs similar activities. Having an established strategy is a necessary consequence to remain competitive and perform activities better than the competitors cost-wise and efficiency-wise.

There are three approaches to strategy - an entrepreneurial focus which entails a firm to have a growth-mindset, adaptive which can easily react to new market conditions and systematic which focuses on achieving metrics that have been set for goal achievement (Mintzberg, 1973). Similarly, there are also three models of strategy as cited by Chaffe (1985) which are linear - providing a plan and checking available resources, adaptive - creating a plan based on the available resources and interpretative - method to follow when strategy planning. The changes in the market develop the need for strategy and the organizational structure has a strong effect on the corporate strategy for long-term strategic planning (Chandler Jr, 1962). The five forces that could influence company strategy are existing rivalry among competition, new entrants, substitute products and services, bargaining power of suppliers and bargaining power of buyers (Porter, 2008). These five forces can shape the way a firm conducts its strategy. Finding a strategic position for a firm can come from having a portfolio of products and services, customer needs and market needs (Porter, What is Strategy, 1996).

As much as strategy is a result of planning, there are also unrealized strategies which emerge from a deviation to the intended strategy and emergent strategies which arise from a conscious creation leading to a realized strategy (Mintzberg & Waters, 1985). Unrealized strategy can be observed in the way that firms make decisions and act. Consistent patterns can provide a picture of the unrealized strategy that perhaps the firms reveal over the course of the study. During data collection the sequence of actions, recurrences and timing, and a close analysis of the time frame provide possible ways of observing realized strategy with the use of when and why questions. It is then important to note that before making the

actual plan for strategy creation, the objectives of the firm must be set, an initial evaluation of the firm must be conducted to understand what type of strategy will support their current frameworks or if it is necessary to create internal structural changes to accommodate it. Having analysts would be one key point to help the firm lead the strategy planning mode and they can help analyze the costs and benefits of several proposals to formulate an integrated strategy that has been composed of incremental decisions made during the strategy creation process (Mintzberg, 1994).

Focusing on niche markets by itself, is an organizational strategy used by firms to secure their position in the market without competing in mass markets that require economies of scale. But proactive strategies are limited for this perspective (Dalgic & Leeuw, 1994; Toften & Hammervoll, 2013). Kindström & Ottosson's (2016) outlines five key activities for a niche strategy containing managerial implications for firms in terms of goal setting and actions which focus on widening the firm's offerings but also exploiting the business potential with members of the value chain.

Measuring company performance should also be part of strategic management to identify effective strategic actions and points of improvement if set targets were not met (Kaplan & Norton, 1995). Strategy is not an end to itself but a continuous process and gauging prior actions provide insight what direction a company should take based on their targeted goals.

3.1 Strategic objectives

The first part of a realized strategy making process is to identify the long-term goals that a firm wishes to achieve. The vision should consider the firm's reliable capabilities and resources for it to be feasible. Goals influence performance through increased emphasis, consideration, determination and effort towards motivating individuals to participate in planning developments (Latham, Locke, Shaw, & Saari, 1981). Even though objectives are important to operationalize firm actions and processes, there are not much available studies for this except as guidelines of do's and don'ts. Alogan and Yeti[dots] (2006) created a process to help define strategic objectives through a workshop involving the top and middle management team. The steps are as follows (1) open discussion (2) presentation of basic definition, theories and sample objectives (3) reflection and writing objectives with a three to five-year outlook (4) sharing the written ideas to the group (5) open discussion. It is also considered in the process to have room for free-thinking, product consideration and positioning throughout the whole process and the involvement of all people from different levels of the firm to see through different stages of execution.

Rockwater's strategic objectives (Kaplan & Norton, 1995) (Figure 3) show how the primary vision or objectives follow the realized strategy and performance measures which includes aspects of the business that is effected by the strategy.

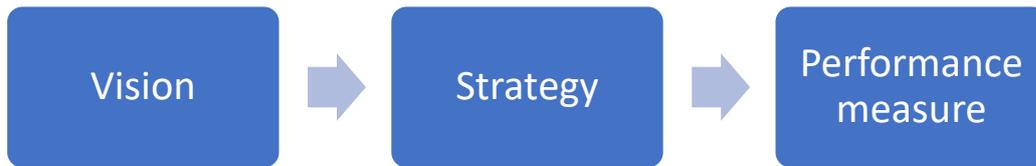


Figure 3 Rockwater's strategic objectives (Kaplan & Norton, 1995)

This case shows a corporate wide strategy but Porter (1987) also discussed a second level of strategy - the business unit strategy which is more concerned about attaining competitive advantage in a specific business segment.

A balanced score card approach in identifying key metrics in the organization can focus on identifying how effective their strategy implementation has been, giving an idea of a process perspective to internal operations and helping employees become inspired about the changes taken to implement it. Factors that influence objectives positively are feedback, rewards, support, and acceptance of given goals while high pressure, contradictory goals and anxiety negatively impact goal setting (Latham, Locke, Shaw, & Saari, 1981).

The weakness of Rockwater's method is that it had only been tried on four public companies as case study and would need more companies to attest to its effectivity.

3.2 Value chain and constellation model

The value chain (Porter, 2001) is an internal analytical tool to know the activities that bring competitive advantage to a firm. By mapping the activities of the firm, existing and potential differentiation can be identified along with the understanding of the related costs (Figure 4). To quote: "The arithmetic of superior profitability then follows: delivering greater value allows a company to charge higher average unit prices; greater efficiency results in lower average unit costs (Porter, 1996)."

Another firm from a similar industry may only have few differences in the activities in the value chain. A firm can be lucrative provided that the cost it generates to produce a product or service is lower than the value customers attribute to it. For this reason, that a firm needs to be able to optimize their processes to be able to produce offerings cost-effectively.

The first component of the value chain are actions which are distinct activities executed by a firm physically and technologically and divided between primary and support activities. Activities related to production, sales and aftersales are primary activities comprised of inbound logistics, operations, outbound logistics, marketing and sales and service. The primary activities are reinforced by the support activities through firm infrastructure, human resource management, technology development and procurement. The primary and support activities may overlap each other except for firm infrastructure which is a cornerstone for the whole value chain which means that both primary and support activities are

connected and affect each other. The second component is margin which is the amount you get from subtracting the total cost of activities from the value. To help a business strategy translate into reality, internal factors such as technological leadership, network competence, aligned communications system and a progressive human resources department all go hand in hand to make the necessary changes for strategy implementation (Gemunden & Ritter, 2004).

The value chain analysis allots total costs of all inputs not just the combination of raw materials and so it provides a more accurate presentation of competence building activities with generated costs. The value chain can be compared against another firms of the same industry which can provide insight to the firm how the changes in the activities translate to changes in cost, making the firm or the other company more activity and resource-efficient. Margin is also distributed in the value system composed of upstream value which are the suppliers and channel value which are the distribution channels and reflected to the customer through selling price. In cases where there are new innovations that need to be introduced to an existing value chain, the higher the effect of the modernization, the more consideration and resources should be allotted by the firm to develop it (Bozdog & Koc, 2017).

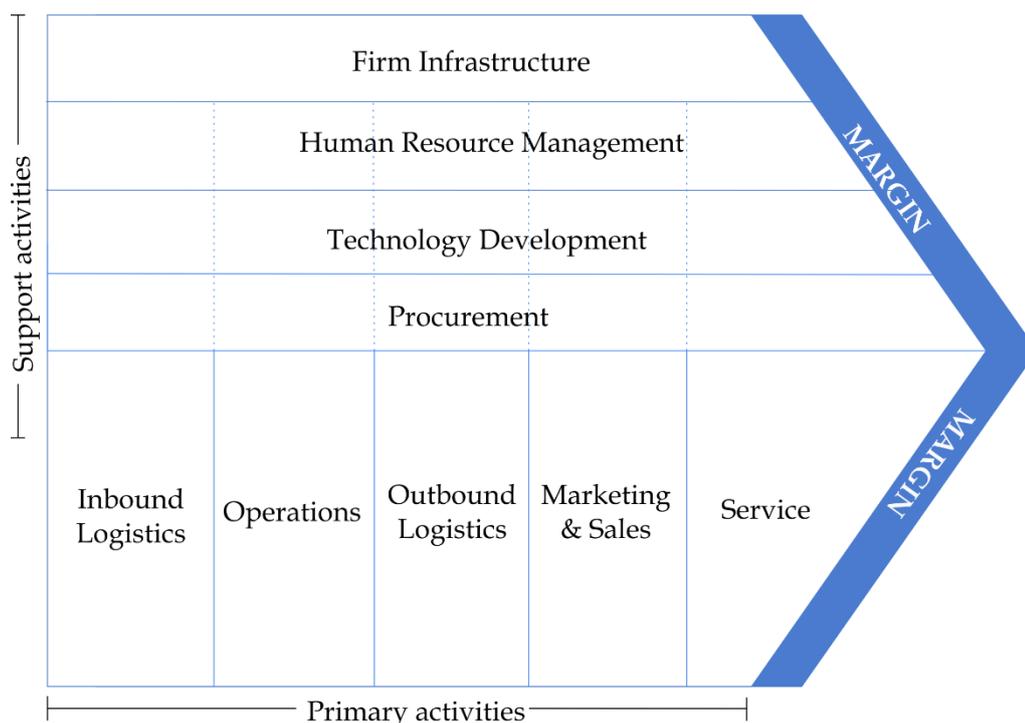


Figure 4 Value chain model (Porter, 2001)

This model can also help firms assess if internal resources are sufficient or if they need external help but this is also problematic due to the variety of people needed to identify the activities and the nature of the industry.

Due to the nature of the information revolution, competing in both physical and virtual value chains provide added value to customers and help firms become competitive. In virtual value chains, information is the source of value

through a process of gathering, organizing, selecting, synthesizing and distributing information parallel to that of the physical value chain (Rayport & Sviokla, 1995). Due to the nature of physical and virtual worlds having the capacity to provide value for the customer, firms can take advantage of this value chain to create and extract value to improve their business.

A growing literature for the concept of value constellations are also becoming more relevant in the context of organizational strategy. Value constellations results in value created by the different connections in the chain (Ramírez, 1999). Competitive advantage is then achieved at the constellation level (Gomes-Casseres, 1994; Möller & Svahn, 2006; Normann & Ramírez, 1994). In this approach, the possibility to exploit the other players in the networks becomes possible due to how interconnected each actor is with others (Araujo, Gadde, & Dubois, 2003).

Value constellations can help analyze the main value creating activities for the customer or end user by understanding the customer process and related activities and networks which are part of it. Some examples are in service experience blueprinting which can be seen in the study by Constantine, et. al. (2011) where they mapped how the customers made their decisions and made service design improvements based on their findings. The customer experience is related to different communications and exchanges in different levels of the process. A study regarding value constellation for service infusions in SMEs (Figure 5) showed that utilizing one or more value constellations help them reach and serve customers needing their specialized services which can be provided by network partners (Kowalkowski, Gustafsson, & Witell, 2013). From this study nine types of value constellations for services arose which are systems integration, c-to-c intermediary, competence co-location, specialist externality, shared service platform, dual customer contact partnership, horizontal collaboration, integration co-location and competence acquisition,

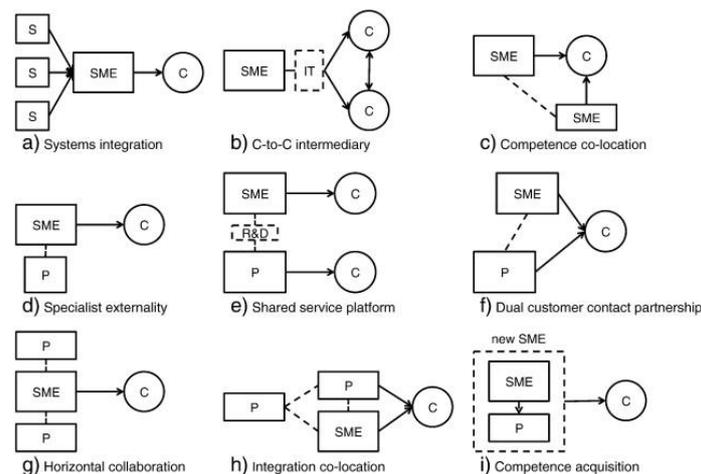


Figure 5 Value constellations for service provision (Kowalkowski;Gustafsson;& Witell, 2013)

shared service platform, dual customer contact partnership, horizontal collaboration, integration co-location and competence acquisition. A firm could be managing one or more value constellations simultaneously depending on their service requirements and if not, then these are possible ways to approach

networks to strengthen a firm's competitive advantage externally. In the case of a hydraulic motor and rotator company, the traditional value chain is not applicable as the areas where the firm provides value does not stop once margins are achieved.

3.3 Market segmentation approach

In an industrial international business setting where customers and end users are fragmented, market segmentation offers a way to identify customers and group them according to characteristics, behaviors and needs instead of location. The principle of a market segmentation marketing strategy is by identifying your market and creating specific plans for each in a cost effective and profitable way. Choosing between micro and macroenvironments, the latter approach is more useful for firms with niche markets to focus on considering their own limitations with cost efficiency, resources and networks. For this study, taking the macrosegment approach will provide a stronger starting point on how to address the different aftermarket needs typical of hydraulic motor and rotator customers. Market segmentation is not always the first thing in mind in industrial marketing yet knowing your market extent and diversity makes for any effective planning efforts (Cardozo and Wind, 1974). Technology has helped firms become closer to their customers to be able to anticipate their aftermarket needs and services easier. Original equipment manufacturers with a niche market will find existing aftermarket strategies usable only for selected profitable markets and therefore the strategy process requires market segmentation approach to be able to make sense of the existing aftermarket strategy literature available.

Seven steps to create an industrial marketing segmentation strategy was proposed by Cardozo and Wind (1974) as an approach to segmentation of industrial markets (Figure 6). They cite first step to creating a market segmentation strategy is to know the product and/or service you are targeting. Secondly is to identify the customers by macrosegments. The macrosegments are identified through different possibilities such as size, usage rate, product application, end market served, organization structure, location, and new versus repeat purchases. This model identifies and key variable which is used as the foundation for segmentation and different independent variables to help determine the market position of the customer. The dependent variable should be selected based on the main issue the firm wishes to resolve. Afterwards, macrosegments are identified based on organizational characteristics. If the macrosegment is sufficient by itself then there is no need to continue to the succeeding steps. If it does not suffice, then the next step in the industrial market segmentation strategy is to select microsegments from the chosen macrosegments based on the similarities between decision making units. The importance of this is to determine whether the existing decision -making unit

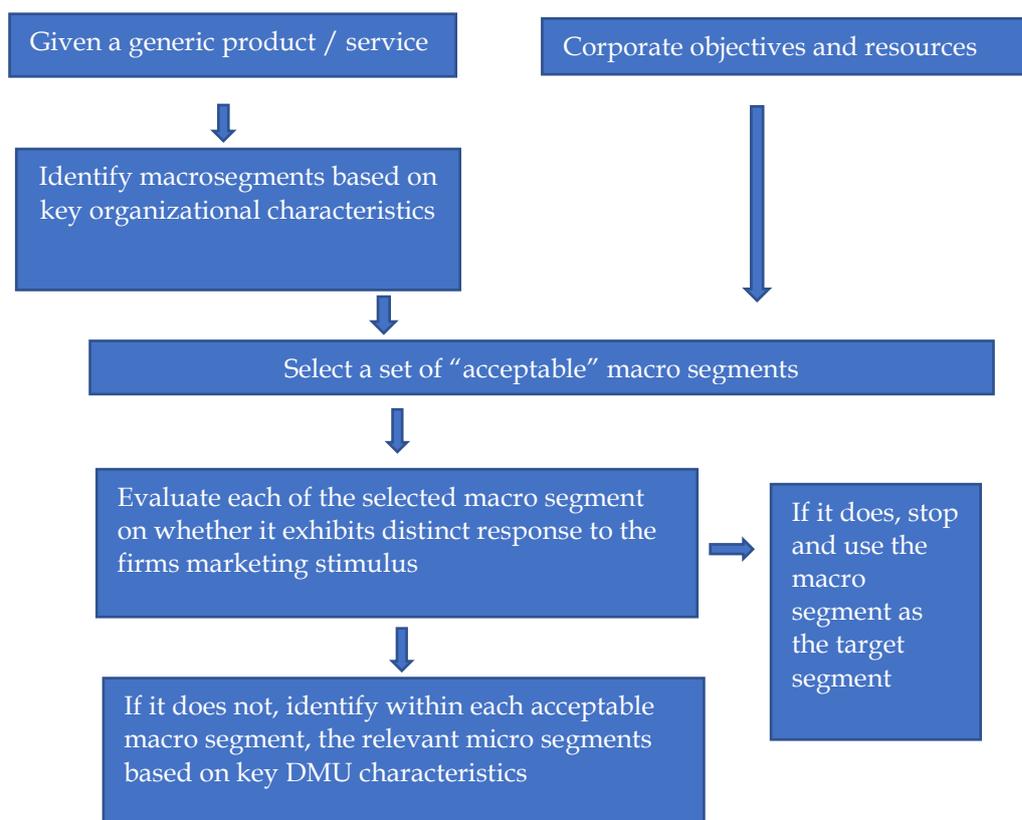


Figure 6 An approach to segmentation of organizational markets (Cardozo & Wind, 1974)

contact has any influence to introduce new products or processes into the organization. Familiarity as well in dealing with new or constant vendor effects the dynamics when the DMU makes their purchasing decisions. It has also been revealed that large firms rely on were strict in terms of compliance to quality and delivery time. Afterwards a cost analysis must be done to discern the necessary budget for reaching these microsegments. Firms must evaluate their resources to know which markets to target and how much resources are needed to be allocated to each. Finally, the output is a profile of the chosen segment based on the type of organization and attributes of the decision-making unit.

The weakness of this type of strategy is that it is more often used to explain previous events and not imposed to be the strategy driver of a firm. There are also variations in marketing strategy which arise from the combination of product and service, price, promotion and distribution. It is also noted that the primary product strategy is substituted or accompanied by its service efforts. Unfortunately, this may not always be applicable for firms with niche market segments that are fragmented in different locations, application and end market served due to the lack of resources and market size.

Another way to identify attractive macrosegments is through the Industrial Market Macrosegment model, which is another approach considering customer concentration and product customization as key factors in market segmentation (Laughlin & Taylor, 1991). Customer concentration refers to the depth of network

a customer has and product customization deals with how tailoring is needed to be done for the product to meet the customer's needs. This approach categorizes the customers in four segments namely Hawking, Teamwork, Hying and Adapting. Activities are then suggested based on product, price, placement and promotion in relation to these four customer segments. It is the prerogative of the management which marketing mix to use for each category based on their deep knowledge of the customer. Producing this model requires an analysis of customer concentration ratio and customization baseline computation for products to have accurate results for analysis.

Anderson and Naurus (1991) also proposed an integrated strategy using market segmentation to assess product offerings to customers and partners which help the organization develop more valuable collaborations. These strategies are identified as (1) segmenting the market by product application and customer capabilities, (2) asses the value of the product offerings to customers in each segments, (3) target segments, and customer firms within segments, for various kinds of relationships, (4) develop and implement relationship-specific product offerings (5) evaluate relationship outcomes and reassign accounts and (5) periodically update the value of the relationship offering (Anderson & Narus, 1991). Given the importance of the relationships in a network and the value it provides to a firm, leveraging on these can help a firm extend its resources to be able to perform complex activities it cannot perform by itself. It is necessary to identify which of the relationships the firm wants to nurture and tackle each situation differently based on its own characteristics.

3.4 Background of industrial aftermarket strategies

This section provides an overview of existing aftermarket strategies a firm can utilize once they have selected their target markets. Motor and rotator manufacturers need to explore different ways to capitalize on the potential business the aftermarket can provide because it can be more lucrative than the sales generated from the original product. A demand for the primary product also drives opportunities for the aftermarket.

A huge portion of aftermarket sales can be derived from spare parts sales (Vaziri, 2014) and services such as product assessment, repair and installation. It is a profitable business segment with the potential to make more margins than the primary product (Agrawal et al., 2006). Organizations must be able to maximize their resources to gain competitive advantage to be able to provide optimal value to customers in a manner that is cost-effective and profitable. But with several possibilities, selecting the most applicable one will help a firm utilize its resources better.

For this thesis, aftermarket literature from industrial business segments were selected (Table 2). In general, aftermarket literature is heavily reliant on spare parts and supply chain management which effects on availability and pricing of a specific part of a component. Although most of the existing literature focuses on the automotive industry which is high volume and of a different nature from

that of hydraulic motors and rotators. Supply chain management is defined as, "the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole (DeWitt, et al., 2002)." Efficiency in supply chain is necessary to keep up with the aftermarket needs of an industry (Childerhouse, Disney, Hammant, & Naim, 1999).

Vaziri's (2017) Decision Support System (DSS) creates a model for implementation of supply chain development relating to past, present and future market movements with the aim of being internationally competitive. The model looks at the areas affected by change such as business processes, IT systems and data standards, organization roles and responsibilities, and physical infrastructure. Important factors related to cost management are transportation, warehousing and logistics control through inventory and IT systems.

Pull replenishment strategies are company forecasts for the component inventory orders to be based on. But component assembly will be dependent on customer needs (Ratha & Singh, 2016). Customer contracts are attractive for risk neutral customers as a method to incentivize the supplier to lower costs and standardize inventory on key components (Cohen, Kim, & Netessine, 2007). Risk averse customers prefer fixed payments, cost-sharing and performance incentives but also dealing with additional contracting costs. Performance-based contracts increase product reliability by 20-25% more than time and material based contracts (Cohen, Guajardo, Kim, & Netessine, 2012). Other possible ways to improve supply chain is to utilize the internet by having global knowledge sharing within a firm's networks which can provide value when making just-in time decisions and sharing information with other networks within the chain (Hsu, Shih, Zhu, & Balasbrumainian, 2012).

An important part of the aftermarket business is related to aftersales services and firms must understand that they must be able to commit resources and attention to this segment to be able to capture the market. The firm must be able to manage their service networks and a systematic approach for the aftermarket was proposed utilizing six steps - identifying product offerings, creating a product portfolio, choosing the right business model, updating company structure, creating and directing the aftermarket supply chain and evaluating performance (Agrawal, Agrawal, & Cohen, 2006).

Capitalizing on the entire life cycle of products is important in the aftermarket so it is valuable to focus not just on being able to push for spare parts sales and service repairs but to explore other potential aftermarket businesses as well. It is also necessary to acknowledge the importance of knowing the product life cycle stages to be able to identify the right products to offer at the right product cycle and how to offer them to the customers. Aftersales support is dependent on what stage a product is in the product lifecycle. But there is also another perspective where the product can be differentiated as a manufactured or a retail product (Armistead & Clark, 1991). If the approach is to view the manufactured product as a capital good, in-house services must be controlled due to threat of substitutes

especially if the volume becomes higher than a firm's capacity or reach. The customers for this type of product demand personalized services in line with the product perception. If the product falls under retail, the firm must be able to balance retaining manufacturing inhouse but dealing with pricing due to affordability perceptions of a mass-produced product. The firm must need to leverage on economies of scale which puts intellectual property and competitive advantage at risk.

Remanufacturing is an industrial process whereby used products are restored to useful life and firms need to be able to decide if the context of their industry, location, product, etc. will be fit to have a reman strategy. The decision to include a reman strategy (Chinnam, Huisinigh, & Subramoniam, 2009) in a firm's overall aftermarket strategy can result from the following factors - global environmental regulations, protection of intellectual property, competition, products designed to consider product lifecycle and total cost of ownership, sustainability values, technology changes and increased disposal costs, value of a product, availability of main components through good distribution management, deliberately eco-designed products, local operations, unified physical and non-physical organizational structure and attractive incentives or leases for the old product. This approach also discussed ways that a firm will have a negative decision for having a reman program such as competition from cheap low-quality products, improper cost-benefit analysis procedures, low demand, no user-friendly application requirements from the customer and short remaining service life.

The evolution of marketing theory from - price, placement, promotion and product to - customer wants and needs, communication, cost and convenience has also changed market priorities that network relationships target to offer the most attractive solutions for the customer. The consumer transcends from being able to choose only what the market offers, to dictating their own preferences with the products they choose. Organizations therefore need to update their processes and strategy to be able to serve their customers in a more flexible way than before. The concept of customer lifetime value has upgraded business models to provide not just the main products for customers but also to follow their journey and provide other products or services will be needed as they use the main product.

Downstream marketing activities which allow customers to work with their channel partner or reach customers faster can help push the aftermarket business. Firms that are market-driven have the capability to meet the needs of the customers (Day, 1990) which have late on been associated with performance excellence (Deshpande, Farley, and Webster 1993; Jaworski and Kohli 1992; Narver and Slater 1990; Ruekert 1992). A firm's market-driven strategy can be accomplished through operational excellence, customer intimacy and product leadership (Treacy & Wiersema, 1993). Brian Altenberger (Altenberger, 2010) spoke of category management for managing the aftermarket by working with the customers to identify the needs of the end users. Digitalization is a current buzzword for most industries and the machineries have been one of the first implementers of this technology as early as 1970s.

Table 2 Aftermarket strategies

Aftermarket	Strategy	Description	Author
Supply Chain	Decision Support System in strategic supply chain initiative	Simulates the development of supply chain structures in the automotive aftermarket sector in relation to the historical, present and predicted future market trends	Childerhouse, Disney, Hammant, & Naim, 1999
	Performance-Based Logistics	The basis of supplier compensation is actual service outcome, such as uptime of the product	Sang-Hyun, 2008
	Knowledge sharing	Using chaos theory that uncertainty in supply chain can be managed by rules or principles guided by existing knowledge and experience in downstream supply chain	Hsu, Shih, Zhu, Balasbrumainian 2012
	Theory of Constraints	Pull replenishment strategies where component inventory is managed based on forecasts but that the final assembly is line in response to a specific customer request.	Ratha & Singh, 2016
Marketing	Downstream Marketing	Valuable economic activity that occurs throughout the entire product life cycle.	Baumgartner & Wise 1999
	Category Management	Work with channel partners to develop data driven analysis of their market, identify the needs of their customers, determine the optimal product offering and pricing as well as the recommended strategy and tactics to successfully go to market	Altenberger, 2010
	Market driven strategy	Having purposeful collaborations through integrated planning, linked coordination and constant communication to further improve their outputs by identifying important partners and providing them specialized services and incentives.	Frazier, Spekman, and O'Neal 1988; Spekman 1988 Day, 1994
Services	Six Steps for Managing Service Networks	Systematic approach to improve after-sales service quality levels, reduce investments in service assets, and cut operating costs.	Agrawal, Agrawal & Cohen 2006
	Framework for Formulating After-sales Support Strategy	Strategy model for customer satisfaction over the lifetime of a manufactured product.	Armistead & Clark, 1991
Remanufacturing	Strategic factors in automotive aftermarket reman	Seven major propositions for the strategic factors in decision making within reman	Subramoniam, Huisinigh & Chinnam 2009

Finland ranks in the Top 5 is what is considered a Stall Out category which “enjoys a high state of digital advancement while exhibiting slowing momentum (Bhalla et al, 2017).” This means that more innovation is necessary to maintain digital advancement position or risk being overshadowed by Stand Out countries such as Singapore, UAE and New Zealand or Break Out countries such as Latvia, China and Turkey, based on the Digital Evolution Index of 2017. This means that Finland is in a good location for being a driver for digitalization as the government policies are supportive for this type of growth and organizations should not only lead this revolution but they should also be able to maintain it.

Embedded technologies are gaining popularity which can help firms serve their customers better through Internet of Things, comprehensive solutions, integrated solutions, expanding definition of the value chain, customer allegiance focus, and rethinking vertical integration (Baumgartner & Wise, 1999). Six types of digital strategies can be utilized by firms namely platform play, new marginal supply, digitally-enabled products and services, rebundling and customizing, digital distribution channels and cost efficiency (Bughin & Zeebroeck, 2017).

Platform play changes the way that actors in the value chain interact. They can become more accessible to each other and to customers in such a way that communication and contact becomes open through a mediated platform. The second strategy is through new marginal supply where using digital technology to tap into previously inaccessible sources of supply at a marginal cost, often, but not always in combination with a platform play such as IKEA offering a reseller option for customers to sell used, branded products to one another. Digitally-enabled products and services “using digital technology to create new products or services with digital features, typically to serve new demand such as P&G Oral-B tooth brush with Bluetooth enabled digital guidance (Bughin & Zeebroeck, 2017).” The fourth strategy is rebundling and customizing where digital technologies are used to repackage products and services for the customers and end. The fifth strategy, digital distribution channels provides an accessible way for customers to reach products and services. Lastly, using digital methods such as having an automated platform or scaling costs improve cost efficiency.

More successful companies used one of the first three strategies with a new product or customer focus. The first three strategies are attributed to actions that strengthen one’s existing business leadership especially beneficial for incumbents who wish to reap stronger benefits from pushing a new digital strategy. The last three on the other hand were utilized as a counter attack to digitization which may have been seen in the growing trend of competition taking up a digital strategy or as a wave to improve the existing business model. The types of technologies that have emerged have paved the way for companies to get closer to their customers through the new types of products and services that can be offered through these technologies (Root F. , 1977)

3.5 Cost-benefit analysis

To achieve the goal of profitability, firms must be able to make the assessment from the given opportunities which for them will provide the most profitable outcomes and this can be done by conducting cost/benefit analysis. There are three main considerations in this step mainly product modification, sales and advertising costs (Anderson & Narus, 1991).

It is ideal for firms to design standard offering but each customer will more often have individual requirements. The firm then must maintain a certain level of flexibility with the offerings while ensuring the affordability of the products and services despite the customization needed by the customer. Secondly, sales costs must reflect the intensity required to promote the products and services in a specific market. In markets where the product is popular and widely used, selling efforts will be less over markets that are unfamiliar with the firm. It is also applicable in cases of new products where the production and delivery times fail to meet and so the firm will incur the costs associated with the delay. Lastly, advertising costs should cover content creation and media costs as new offerings will require new communications materials and channels to push them.

4 INTERNATIONALIZATION & NETWORKS

“Buckley’s (2016) theorization of internationalization literature discusses the history of its emergence in the 1970s (Buckley P. , 2016) with multinational enterprises (MNEs) as the primary subject of research due to their growing power and implications on western hegemony (Buckley & Casson, 1976) (Buckley P. , 2016). In the 1980s, the themes of world trade, entrepreneurship and small firm foreign investment became important to understand the complexities of MNEs (Rugman, 1981), how nations can gain competitive advantage through MNE ventures ((Porter, 1990) (Buckley & Casson, M., 1985) and possible substitutes to MNEs (Casson, 1979) such as entrepreneurship (Casson, 1982). Several decision drivers help a firm consider internationalizing such as the rules and restrictions of institutions (Donaldson, 1995), paradigm on ownership, location and structural advantages (Dunning, 1977) and foreign-all of which enable a firm to be successful venturing in different locations.

The Basic Mechanism of Internationalization - State and Change Aspects model states products made domestically for a different market creates commitment to the market the product is made for and the greater the specialization of the resources to that market, the higher is the level of commitment (Johanson & Vahlne, 1977). The following decade, MNE flexibility was the main theme of the 90s by optimizing overseas resources using different models of MNEs (Buckley & Casson, Models of the multinational enterprise, 1998) and organizing foreign know-how through knowledge-based theories (Buckley & Carter, 1999). Afterwards, foreign operations as competitive advantage gave rise to emerging markets (Buckley & Ghauri, 2004), (Buckley & Hashai, 2004) real options (Kogut & Kulatilaka, N., 2001) and co-foreign directed investments (Buckley, et al., 2007) (Buckley & Hashai, 2014). Since the past two years, more emphasis has been placed with market transactions (Buckley, Liesch, Knight, & Simonin, 2012), bundling of multinational enterprises and local assets (Hennart, 2009) and how the consolidation of marketing in internationalization theories shows the distinction between hollow and flagship firms (Buckley & Casson, 2011).

Three approaches for internationalization theories were identified by Buckley (2016) from the given theorization as location-based approach, global value chain approach and a global systems views which are useful for MNEs. In spite of the existing literature, much of it is still incomplete and do not solve other issues encountered in MNE internationalization such as governance costs, location theory, dynamics, networked multinationals, innovation, risk and uncertainty, entrepreneurship and firm / network/global system. Internationalization theories have evolved from the 1970s when there was much uncertainty about multinational companies and their future to current times where its wide acceptance has fueled further explorative studies of strategy, world markets, trade and competition (Buckley P. , 2016).

There are also theories that focus on management prerogative essential in decision making for internationalization entry for MNEs (Narula & Verbeke, 2015). If Buckley focused on the advantages of global operations as path to

internationalization, Rugman emphasized firm specific and country specific advantages for assessing organizational capabilities when exploring international ventures. As summarized by Grøgaard & Verbeke (2012), management should be able to choose whether it has the capacity to produce products and services for the market or purchase them, arrange the external structure of activities that are not done in-house and to focus on improving the efficiency of internal activities. The result of these activities better manages the innovative internal activities of the firm and understands the limit of activities a firm can undertake leading to profitability and reliability. In my perspective, Rugman's theories are more applicable for firms who do not have the means to achieve economies of scale such as MNEs often do and who wish to keep company information secured in their headquarters.

It is important to note that despite MNE focus, small-to medium sized businesses have earned their share of internationalization literature. Factors such as demand and technological-know how (Hitt, Ireland, & Zahra, 2000) have neutralized the market increasing incentives for SMEs to internationalize therefore more literature is emerging also for small to medium sized businesses with the knowledge-based economy utilizing digital tools through the internet has made market entry easier for organizations aiming to reach international markets.

Currently, internationalization is the optimal goal of most businesses especially due to decreasing capital-intensive investments required to start a firm. Demand drivers from technological superiority and specialization has allowed small and medium sized enterprises to export their products abroad and reach niche market segments. Firms who have intense technical leadership are able to gain market share dominance on an international platform through operational modes such as mergers and acquisitions, joint ventures, subsidiaries, distributors and licensing. The market environment also becomes a decision driver for internationalization provided that the firm conducts methodical studies prior to market entry (Douglas and Craig, 1983; Root, 1977; Young et. al, 1989). But these opportunities are initially discovered through the knowledge of social networks which was found using ad hoc search strategies which are participation to events or by replying to ads more than through formal search activities which use professional organization and government agencies (Ellis, 2000). Johanson and Vale (1990) provides the definition that "international markets are not anonymous and the process of internationalization can be legitimately described in terms of establishing relationships in foreign markets."

The type of foreign operation mode a firm chooses dictates the types of actions it will undertake when entering a foreign market (Benito, Petersen, & Welch, 2007) (Douglas & Craig, 1992). The chosen foreign operation mode dictates the types of relationships a firm will have and the extent of exposure they will gain. Foreign entry modes of contracts, exports and investments are the choices selected by firm (Hill, Hwang, & Kim, W. C. , 1990). Foreign exporting is "an institutional arrangement that makes possible the entry of a company's products, technology, human skills, management or other resources into a foreign country (Root F. , 1977)." Foreign exporting is one of the internationalization entry mode

by manufacturers due to the technical quality customers look for regardless of the premium price associated with the products. Foreign exporting has been a popular foreign operation mode and although exporting has always been connected to increased information sharing and international experience, indirect exporters do not share the same benefits as direct exporters (Yasar, March 2015). For components supplier, foreign intermediaries become in charge of promoting goods and services of the manufacturer in a specified country or region (McCann, June 2013). This type of foreign operation mode increases the manufacturer's dependence on the network, influencing access to the country, marketing, and distribution methods. It is for this reason that business networks play a huge role in the success of firms whose types of business rely on their customers to gain access to a market and distribute their products to end users.

The first mode of exports are domestic indirect exports which are trading organizations with headquarters in the same location as the firm. These firms have their own distribution channels and export the products in several locations around the world. Examples of such organizations are export management companies (EMCs) who are independent export actors and cooperatives who are a group of EMCs sharing some common resources but not all. This export mode allows the organization to handle several competing products at the same time which divides their commitment among several industry players and their extent of reach and foreign market knowledge are also limited.

Foreign indirect exports - the second mode, is a type of exporting where products are delivered to foreign distribution channels. These channels are in-charge of promoting the product in their respective local markets and it paves the way for a low-commitment entry mode of international market penetration making them attractive for firms with limited resources. Two players can assist in this mode - the agent who works for the organization and oversees marketing the product in the local area of the distributor who buys the products and sells them for a profit. Root (1977) also mentioned that this type of mode only lasts for a short period as entry mode interest increases on the supplier side to create direct investments on the profitable market by passing exporters. Interest of a firm also decreases due to exporter advantage of having stronger and direct relations with end users. His view may have also been narrow as industrial suppliers tend to create longer lasting relationships with suppliers preferring them over other entrants given the relationship provides value for both parties (Hånkasson & Snehota, 2006).

The third mode is direct exports and here the organizations has complete control by having their own subsidiary in a specific market but it requires a greater amount of investment and risk. The advantage is customers have a direct relationship with the organization and the firm has total control of the operations which helps affirm their position on the market and make decisions aligned with the overall company strategy.

Prior research in exports state that inadequate market knowledge are hindrances to business development (Reid, 1984) thus it is necessary for exporters to gain access to knowledge (Seringhaus, 1986; Walters, 1983). In this sense, networks play an important role in internationalization as SMEs can rely on their

network ties for market knowledge and key activities to reach new markets and serve end users such as in buyer-supplier relationships (Coviello, 2006). It is natural that risks associated with foreign market entry are preferably decreased and one way to do so is to depend on social networks either as a source or knowledge or as a customer (Ellis, 2000) This way is also a more economical option for ad hoc search strategies.

Maintaining business relationships help further a firm's business goals with continued cooperation with the networks but the available literature for internationalization and networks are focused on international venture creation. Internationalization literature is limited that it only sees the beginning of new international ventures, unless it creates further new ones, but business transactions are continuous and in the creation of international ventures, network relationships are continuously created or ended. For this reason, we used internationalization theories to introduce how relationships with networks begin but move forward to business network literature which has relevant theories for business development in the aftermarket context. In the aftermarket where customers are served continuously for the whole product lifecycle, it is worth understanding the role and importance of networks in maintaining a firm's international presence and business. Firms also must have the knowledge to optimize these relationships and manage them. From a previous perspective of seeing networks as production centers, the network-based view shows the dynamic capabilities of networks in value creation and exchange (Johanson & Vahlne, 2009).

4.1 Network theory

The Network Model of Organization (Hånkasson & Snehota, 2006) which was developed in the 1970s in Uppsala has observed that constant trade between business networks over time limits the number of actors to include only an identifiable few. A relationship can be considered a network if the firm is surrounded in associations with distinguishable partners. The constant exchanges later on establishes a connection between both parties where one can impact the other and knowledge-sharing, resource-sharing and activity-sharing becomes a consequence of the interactions. The environment of the firm becomes irrelevant as opposed to the context of the interactions especially when the industry is stable and there is less competition.

The Network Model proposes that (1) organizational behavior exists in an environment with limited actors having distinct characteristics and each having their own agenda, (2) regular contact with other organizations creates a process framework and provides the platform for other organizations to exploit resources and share activities (3) the unique competencies of an organization improve through the exchange relationships with other organizations thus forming the organization's identity (4) The firm's performance is interdependent on the interactions created through its own exchanges and the exchanges of its connected organizations with other parties (Hånkasson & Snehota, 2006).

Networks may be connected but there are also cases where they are not which results to a fragmented model allowing the study of the transformational value of network ties over time. There is also a revised view by Johanson and Vahlne (2009) where the process of internationalization depends on its networks and relationships rooting from a successful history of business relations, the request of the network for the firm to follow them in an international venture or looking for strong partners to help facilitate their market entry and eventually become independent as the psychic distance becomes less. This revised model from the liability of foreignness to the liability of outsidership states that knowledge and opportunities lead to the beginning of the internationalization process, followed by the decision to commit to a market through a relationship that overtime evolves through creation, learning and trust which secures the firm's network position in the market. Having established connections increases firm-specific advantages more than psychic distance which has been the basis of previous internationalization theories.

Previous studies of network theory have been categorized into two – state type ties and event-type ties (Borgatti & Halgin, 2011). State-type ties are long-term mostly involving kinship ties, role-based ties, maintains a degree of cognitive and affective links and are characterized to be open-ended and based on depth and length of ties. Examples of state-type ties are family, employee-boss and like-minded groups. Event-type ties involve interactions and transactions over a given time period such as business agreements.

Borgatti and Halgin (2011) theorized the network functions based on model and research tradition (Table 3). They used the two widely used theories of Strength of Weak Ties Theory and Structural Holes Theory as the basis for research traditions as related literature are either related to network ties or similar characteristics of groups. The SWT and its related theories are categorized under social capital due to its nature of state-type connections. SHT and its related theories are categorized under social homogeneity based on event-type connections. Afterwards, two models were used to identify the network functions of each research tradition. The network flow model forecasts different aspects of information flow such as the length of time, optimal position for receiving information and the way the path of information runs although it has

Table 3 Network functions (mechanisms) by model and research tradition (Borgatti & Halgin, 2011)

Network Functions (Mechanisms) by Model and Research Tradition		
Model	Research Tradition	
	Social capital	Social homogeneity
Network flow model (ties as pipes)	Capitalization	Contagion
Network coordination model (ties as bonds)	Cooperation	Convergence

not been able to explain other theories such as exchanges of power where dependence on a network increases its bargaining position (Cook & Emerson, 1978). The network flow model of social capital is capitalization and it theorizes that one's place in the network provides access to resources through weak ties social resources social, and information benefits. Under the network flow model of social homogeneity, the dissemination of information is explained to model similarly between alike groups causing an adoption of new ideas whether actively or passively and is classified to have a contagion function. The second model – network as bonds focuses on the way that networks collaborate and work together to achieve a goal which arises from solidarity, coordination and virtual amalgamation. The network coordination model of social homogeneity suggests the concept of convergence where firms from homogeneous environment (Lorrain and White 1971, Burt 1976, Borgatti and Halgin, 2011), will likely display similar characteristics (Erickson, 1988) as such in network-as-prisms saying the type of network one has is a reflection of the value and uniqueness of the organization (Podolny and Baron, 1997; Halgin, 2009). The cooperation model under the social capital research tradition exemplifies the strength of ties to accomplish a goal which is reflected on experimental exchange literature (Cook and Emerson 1978, Markovsky et al. 1988), as well as the control benefits theory of structural holes (Burt, 1976).

Although this is a good model to easily understand the previous theories related to network theory for both qualitative and quantitative studies, as mentioned previously it cannot put all previous network literature in one or the other category. Theories that do not relate to both are left out from the theorization. Also, not all the papers would have similar definitions and research boundaries which could make this categorization problematic. Borgatti and Halgin (2011) did discuss how the basic definition of networks that relate to g-transitivity or transitivity was sufficient for their study. In quantitative research of network theories, the uniqueness of each group should not be focused on but rather on their similarities or ties. They also cited in their study how the exclusion of theories of networks are unnecessary to the study as including it does not add to the intensity of information provided by the network theory alone as structural conditions of the theories of networks are assumed to be as they are.

4.2 Business networks

Business networks are the outcomes of the direct relationship of two dyadic firm actors or what you consider a dyadic relationship. An example of this would be an agreement between Firm A and B, where Firm B agrees to be the primary distributor of a Firm A's product in a specified region. It describes a buyer-supplier relationship where the business network plays a role in the supply chain, purchasing or firm operations (Macbeth, Purchase, & Veludo, 2004). This direct relationship protects the sales territory of Firm B and that all products of

Firm A to be distributed in that region are transacted only through them. Secondary functions describe the related actions affecting other actors from the transactions of the focal actors. The amount of sales a manufacturer gets is contingent on the customer's demand for the primary product. It has been acknowledged that much literature for dyadic business relationships have discussed the roles required of each actor in the supply chain but have not really focused on the network approach (Halinen-Kaila & Möller, 1999) nor on the possibilities of partnerships and collaborations in terms of nature, scope and appropriateness (Bello, Dant, & Lohtia, 1999). In the sense, this has also been why this study is a multidisciplinary approach connecting business segments and incorporating network partners to be extended in organizational strategy. In strategy literature, Wernerfelt (1984) proposed an exploit and develop matrix where the skills of the firm expand their resources. In a domestic market, project management and production skills may lead to domestic contacts and international contacts. In an international market, production skills or economies of scale lead to international contacts. Turn key market may provide international contacts and project management opportunities and in other cases, the development of domestic contacts. This concept was developed for products that are made together with resources. Exploitation and development must be managed accordingly so that both are actions are conducted together that will be fruitful for the organization.

Industrial Marketing and Purchasing (IMP) literature on the other hand aims to understand the network approach to dyadic buyer and supplier relationships. Their studies have emphasized the role "corresponding to activities, resources and actors are efficiency through interlinking of activities, creative leveraging of resource heterogeneity, and mutuality based on self-interest of actors (Anderson, Häkansson, & Johanson, 1994)." Baraldia et. al (2007) discussed the IMP approach using planning, positioning, resource-based view, learning and configurations strategy and strategy as social practice. Among the given perspectives, Mintzberg's idea of strategy fit with the IMP approach because it of its learning by doing principle which matches that of IMP's inductive approach to strategy as resulting from the interactions within networks.

Three essential components for business networks is the AAR model namely activities, actors and resources which experience directly both the positive and negative outcomes of their exchanges (Anderson, Häkansson, & Johanson, 1994). An implicit definition of actors also depends on the activities they do and in their controlled resources (Häkansson & Snehota, 1995), thus they are considered resource holders and resource users (Macbeth, Purchase, & Veludo, 2004). These relationships benefit both actors as leveraging on the combination of the three components between two firms improve business processes in terms of speed and productivity in alignment with their interests (Frazier et al 1988). Firm performance then mainly becomes reliant on its networks (Häkansson & Snehota, 2006). Gemunden and Ritter (2004) study states that both technological and network competence has an impact on a firm's innovation success. In an industrial setting where technological competence is a competitive advantage for being a strong player in niche markets, networks also provide benefits such as

idea exchange (network theory) and resource access to the firm. It can be then noted that networks as much as technological competence is crucial to a firm's innovation leadership.

4.3 Network relationships

Three new skills must be learned to be able to create good participation with business networks (Day, 1994). These skills are close communication and joint problem solving, communications and coordinating activities. These actions help maintain long term relationships and create deeper interactions with the network. The relationship conceptual framework (see Fig. 6) of Macbeth, et.al (2004) was based on a case study with GM Portugal division and its main direct suppliers in the automotive industry. It shows the different types of relationships based on its three major components – actors, activities and resources and what types of relationships and expectations are attached to them. Trust is a major factor in actor bonds and ensuring continuing relationship based on the need for support. In resource ties, information is vital and is related to trust in the first relationship. Sharing responsibility is also an important factor in resource ties as these types of partnerships operate within the value chain in uncertain environments and so flexibility is also considered an advantage. Under activity links, continues collaboration in different aspects of planning and problem-solving help strengthen partnership activities. This relationship conceptual framework is useful for managing relationships between networks and acting as a checklist for the organization to see if they have been able to meet the expectations of their partner.

Day (1994) cites being able to discuss needs, problems, and play a part in the customers processes with suppliers through team-based mechanisms changes the roles of sales persons to have a less power but higher involvement and focus on relationship building activities that promote reliability, trust, responsiveness and determining the needs to the customer beforehand. New ways to collaborate also entail updated processes for calculating production lead times, integrated computerized information platform where both parties can easily access relevant order information and tracking, and setting common responsibilities for producing high quality output based on the expected commitments. Market driven organizations aim to strengthen their networks overtime by having purposeful collaborations (Frazier, Spekman, and O'Neal 1988; Spekman 1988) through integrated planning, linked coordination and constant communication (Day, 1994) to further improve their outputs by identifying important partners and providing them specialized services and incentives.

Having a strong partner allows a firm to create mutual transactions that leverage on each other's strengths. The convergence of business knowledge and resources with new technologies will be the way to develop existing industries which are sought through cooperation with established partners or startups (Gnanasambandam & Uhl, 2017). New firms can bring new technologies, talent and innovation to an established business through "equity investments, licenses,

alliances and acquisitions (Gnanasambandam & Uhl, 2017).” If firms decide to form an alliance the implications are cost-sharing in business development activities, risk-sharing in the outcomes of the activities, stronger power to negotiate with suppliers and to achieve economies of scale together (Jolly, 1997).

Macbeth et.al network effects study (2004) showed that business networks operate based on their position as an actor which is favorably conditional based on whether they have a preferred status as perceived by the network partner. If this is true, partnerships and collaborations can easily happen otherwise, the supplier should then choose which of the other existing networks he can work with. As much as networks can help expand a firm’s business

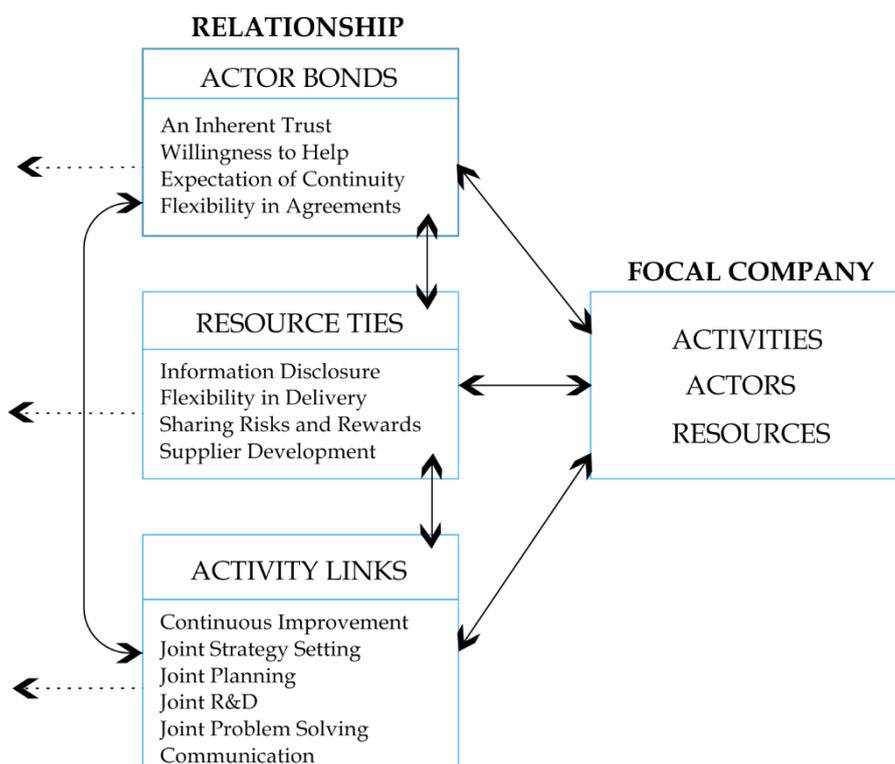


Figure 7 Relationship conceptual framework (Macbeth, Purchase, & Veludo, 2004)

activities, it is also true that it can be limited through it. There are firms where networks wish to keep a purely transactional relationship which then this strategy will not be effective. Alliances are also considered risky activities due to the opportunistic tendencies which may result for the cooperation which can be mitigated by ensuring both parties limit knowledge-sharing activities or by keeping both parties’ activities only related to their strengths (Jolly, 1997). There is also what is considered the ties that torture theory by Krackhardt (1999) which are specific ties that have can restrict or impact actions due to factors that tie them with other people in the group. Although business networks can provide the support needed to be able to extend a firm’s business goals, it can also restrict them or influence them to act in a certain manner conforming to the norms of the groups.

5 SUMMARIZING THEORIES AND CONTEXT

The aftermarket has the potential to grow a business and therefore it has been capitalized by several international companies and that it has been attractive for firms to start focusing on this business segment. For product that are high technology, it is easy for firms to enter international markets through exporting as the most viable means to do. This operation mode allows small to medium sized enterprises to have their products available in international markets with less commitment and resources to the markets entered. SMEs have been able to use their technology to capture niche markets which although small in size, can charge premium prices due to the special applications needed from the products. For industrial markets, different technological advantages have a use for various industrial applications.

The industrial market has long been a part of Finland's history and much of the companies who started these businesses still exist to date. Small to medium sized enterprises have taken their share of the market due to the technological superiority of their products. The market has opened for companies who can provide this advantage for different kinds of machines all over the world such as hydraulic motors which are used for forestry, on-demand, mining and agriculture machines. Finland exports 1.3% of the world's hydraulic motors (The Observatory of Economic Complex, 2017) and industrial exports comprise of 23% of Finland's total exports for 2017 (Tulli, 2017).

After many years of focus to developing the primary products, now industrial markets are ready to explore possibilities in the aftermarket business segment. The aftermarket which is the good and services sold along with the primary product (Agrawal;Agrawal;& Cohen, 2006) can increase a firm's profitability up to 56% (McKinsey & Company, 2015). The lifetime of a product will most likely be the service life and if a hydraulic motor can last for 6 to 8 years, then there is a big potential of service on this duration. But the problem faced by exporters is that they need to be able to reach the customers and end users economically to remain profitable as their niche market is small and fragmented in geographic location.

As with the case of international business research, the aftermarket strategy is a multidisciplinary approach taking concepts from organizational strategy, market segmentation, industrial aftermarket and network theories. Using only aftermarket strategy literature was limited because most studies were done for industries with different characteristics from the hydraulic motor industry. This is also one of the contributions of this research, to expand the aftermarket literature to include more industries with unique characteristics and challenges so that researchers can understand the diversity of industrial markets.

In organizational strategy literature, the definition of strategy can be chosen between having a long-term vision and actions for the firm or having unique activities that are done efficiently. This definition does not have to be separate from each other but could be supplementary to achieve the primary goals by the firm. The first step then in the process of creating an aftermarket strategy is to set

objectives (Kaplan & Norton, 1995) the company aims for and this can be executed through a collective decision made by top and middle managers (Alogan & Yet[ı]đ, 2006). To have a profitable aftermarket business is one of the major goals set for this research. The strategy enforced should then have activities that evaluate profitability. The objectives can be used to determine the balanced scorecard to assess how effective the plan has performed (Porter, 1987).

The competitive advantage of a firm lies in its unique activities. For assessing existing internal activities of the firm, Michael Porter's value chain (2001) is a good tool to determine the key activities of the firm that make it competitive and afterwards calculate the input costs related to these activities and determine if the value placed by the customers to these activities are high or low to estimate the margins derived from the activities. Profitability is achieved if the customers will perceive the activities of the firm to be of higher value than the costs needed to make these activities. But new concepts have already been introduced such as value constellations which takes a network approach to competitive advantage which is providing value for the customers not just as one firm but as a result of the interconnected networks in the chain (Gomes-Casseres, 1994; Möller & Svahn, 2006; Normann & Ramírez, 1993).

For exporters, it is worthwhile to understand value constellations to be able to maximize the aftermarket opportunities that may result from taking a strategic approach to network and relationships. Because the hydraulic motor firm has many layers before reaching the end user, then this approach may be used to increase their competitive advantage in spite of niche market limitations.

Because SMEs have limited resources, industrial marketing segmentation theories are helpful in selecting which customers to focus on and product or service offerings based on the chosen segments (Cardozo & Wind, 1974; Laughlin & Taylor, 1991; Anderson & Narus, 1991). A hydraulic motor firm which is categorized as a small to medium sized entrepreneur cannot compete with the economies of scale which multinational companies can achieve. The industrial aftermarket strategies can also be used as a guide when choosing to allot resources for the chosen offerings. If increasing service networks become part of the strategy, Agrawal et. al.'s (2006) steps for managing service networks can be used or should they decide to develop their remanufacturing business then Chinnam et. al's (2009) strategic factors will be useful. After selecting the target product and aftermarket offerings, conducting a cost-benefit analysis (Cardozo & Wind, 1974) will help a firm decide the most viable offerings based on their resources and profitability goals.

Internationalization theories began with studies of multinational enterprises (MNEs) (Buckley & Casson, 1976; Buckley P. , 2016) and the competitive advantage of nations (Buckley & Casson, M., 1985; Porter, 1990) to foreign operations as competitive advantage (Buckley & Ghauri, 2004). Management decision making when entering new markets were also a previous theme as similar to firm specific and country specific advantages (Rugman, 1981). But much has changed with firms easily being able to use foreign exporting as a foreign operation mode (Root F. , 1977) given their high technological advantages especially for SMEs (Hitt;Ireland;& Zahra, 2000). With the definition of entering

markets being synonymous to creating connections in new markets (Johanson & Vahlne, 1990). There are several modes of foreign exporting (Root F. , 1977) of which are classified based on their exposure to the foreign market and the level of commitments assumed. The risks can be decreased through the buyer-supplier relationships formed from this entry mode which can be a source of knowledge and activity coordination (Ellis, 2000).

Given the recurring themes in the literature from firms having firm specific advantages to network advantages, understanding the role that business networks play not only in value creation but also in internationalization has significant implications considering that a hydraulic motor SME will not be able to set up resources to create their own service center when customer needs are unpredictable and urgent, but they have an existing network in that location that can serve these customers more profitably than the main company can. Knowing how to manage a buyer-supplier relationship to make them more value-based relationships (Johanson & Vahlne, 2009) will be beneficial not just for market entry mode but for sustaining relationships that can benefit the aftermarket business for both parties.

In the context of industrial markets where high volume transactions are limited to a few, a network model based on the interactions in the network and affecting firm performance (Hånkasson & Snehota, 2006). Is it then worth asking if positive relationships can lead to positive firm performance? Using the network ties as bonds model (Borgatti & Halgin, 2011), similar groups or environments will have high likelihood for cooperation and convergence which are important coordinating activities that will help expand business opportunities to achieve set goals. In the aftermarket business where the hydraulic motor firm has already internationalized through the networks, the next step to be able to further expand their aftermarket offerings is through their existing network ties which have been established and whom they have created trustworthy and reliable transactions over a long period of time. Cooper and Kaplan (1998) emphasize the need to not only focus on the primary good or service but to also designate resources to clients, end users, key players in supply and distribution chains for developing the aftermarket.

Business networks affect each other as a direct or indirect result of all other actors in their relationships (Anderson;Håkansson;& Johanson, 1994). Taking a buyer-supplier approach makes the business volatile as one decision to switch to a different supplier can have a huge impact in a firm's business. At the same time, linking activities, resources and actors (Halinen-Kaila & Möller, 1999; Anderson;Håkansson;& Johanson, 1994; Bello;Dant;& Lohtia, 1999) together creates a stronger value chain that becomes the firm's competitive advantage.

Macbeth et. al's (2004) relationship concept shows the expectations attached to each of the major components in a relationship (AAR) and leveraging on these skills will help create deeper relationships that can strengthen a firm's position in the aftermarket. Collaboration, relationship building, and technology will set the new ways for improving output while decreasing risk (Day, 1994; (Gnanasambandam & Uhl, 2017; Jolly, 1997) which can help decrease risks associated with developign the aftermarket business while being able to

optimally meet end users where they are and provide them the aftermarket products and services they need increasing business opportunities for actors in established networks designated for the aftermarket.

6 METHODOLOGY

The nature of international business research is its combination of concepts from different research fields. It assumes that although the general concepts gathered from economics, social sciences and other fields are related, there is a possibility that concepts and theories which are irrelevant for the original field but relevant for international business are excluded. It is for this reason that a qualitative study suits international business research because the nature of qualitative research allows for open questioning and exploratory analysis of the research subject. Borrowing concepts from other fields has disabled the community from creating their own theories (Doz, 2011) but conducting qualitative research allows a study to define its environmental context and assert meaning from its data attuning to the accuracy of the study. For this reason, and more to be elaborated further is the rationale for conducting a qualitative approach to this study. The method used is a single case study research conducted for a hydraulic motor and rotator manufacturer aiming to develop an aftermarket strategy using concepts from organizational strategy and business networks. The research was made using an inductive approach where data and theory are examined simultaneously during data collection process and a thematic analysis was used to interpret the research data. Further details about the methodology are discussed in the following sections.

6.1 Qualitative research

Qualitative research is more concerned with logic and concepts over numbers. This is done through the rich descriptions gathered throughout qualitative data collection which is generally more open and unstructured than quantitative methods. There is no concrete definition for qualitative research and more often than not is it the distinction from quantitative research that provides its description. Goertz and Mahoney (2006) provides ten areas to differentiate qualitative and quantitative analysis by approaches to explanation, conceptions of causation, multivariate explanations, equifinality, scope and causal generalization, case selection practices, weighing observations, substantively important cases, lack of fit and concepts and measurements. The type of research questions will supplement the method to collect the data creating, supporting or negating existing theories. The objective of this research is to understand the aftermarket phenomena and the role of international networks to form a sound strategy which can be used by industrial manufacturers with niche markets. The exploratory aspect of the research complements qualitative research and it is why this method was chosen. Qualitative research interviews for example are more open to help identify the context the interviewee is perceiving the main topic and to understand the rationale behind their outlook (King, 2004). Although narratives rely on information personal experience and memory which are subjective and contextual, the focus is on the cause of the effect and not in the

effect of causes as such in quantitative analysis. Narration helps in identifying the causation of the phenomena or research focus and it can reveal causations or themes which may not have been included in the researcher's initial hypothesis. Respondents can freely discuss the subject with the major themes selected by the researcher, sharing their thoughts and experiences on the subject. In this manner, theories and new concepts can be formulated from the data (Eisenhardt, 1989). The open nature of qualitative semi-structured interviews shows the unique qualities of the case based on different factors such as the context of the study, the industry, type of firm and more. The idea that there is no strict path to the occurrence of the phenomenon is accepted. This is considered multiple causation or equifinality wherein there are several ways to arrive at the result (Katz & Kahn, 1966). This open setting and narrow focus paves the discovery for new theories whereas large quantities of data handled by quantitative research tests the validity of causation in existing hypothesis or theories.

The qualitative approach has several theoretical reference points such as symbolic interactionism, phenomenology, ethnomethodology and constructivism (Flick, E., & Steinke, 2004) which are supported by its main research designs such as case studies, comparative studies, retrospective studies, snapshots and longitudinal studies (Alasuutari, 1995). For this master's thesis, a constructivist approach is used because the theoretical concepts exist for successful applications to actual business practice which is fundamental to creating a strategic plan. In this sense, reality is created through a construction of concepts and knowledge which are interpreted in a meaning understood by an individual or as a group (Flick, 2004).

The information and experience one is exposed to daily are the foundations of knowledge for developing a more solid perspective of the world. This premise accepts the differences in perspective based on context and the interactions which construct the meaning in a specific context. In the strategic plan for niche markets, it is important not only to understand what other actors in the industry are constructing meaning, but this also provides an outlook of openness and possibility of creating an aftermarket strategy by gaining an understanding of the current situation and what is possible as narrated by people who have had a long experience in the industry, product and aftermarket business. Although there are methods to ensure the validity of qualitative methods, there are still also researchers who question it as shown in this quotation from Stenbacka (2001), "It is obvious that reliability has no relevance in qualitative research... If a qualitative study is discussed with reliability as a criterion, the consequence is rather that the study is no good.

According to Allen et al. (2011) quality of study can be achieved by documenting decisions and interpretations throughout the duration of the research process, having a wide comprehension of qualitative research principles and having an objective perspective of good research practices. In his book, Alasuutari (1995) tries to arrive at a definition such as the use of qualitative means to analyze data or data derived from not using statistical methods. He states that the way the data is collected does not presuppose the method used but it is

through the type of analysis made that determines the research method. Even then, the use of quantitative methods with qualitative research are possible. The theories guide the research and the research design provide insight into the phenomena by validating existing theories or creating a new theory. This section will discuss in detail the actions used to methodologically collect, analyze and interpret the data as fit to the overall research design.

6.2 Case study research

Case studies are best used for research questions that evaluate the situation and processes of a firm (Hartley, 2004). Different levels of analysis can also be done in case studies for different fields of study (Yin, 2003). This research focuses on two concepts - organizational strategy and business networks, therefore a multilevel analysis is required to be able to answer the main research question. Case study research based on theories comprises three stages - planning, execution and analysis stages (Bennet, 2005). During the planning stage, the research objective, design and structure are formulated. During the planning stage of this research, six different types of theory-building research objectives are evaluated as to which are most applicable for the study - atheoretical/configurative idiographic, disciplined configurative case, heuristic, theory testing, plausibility probes and building blocks (Bennet, 2005). The research objectives for this study is a cross between atheoretical/configurative idiographic and building blocks because the research questions demand comprehensive answers which will help in building the theories and analyzing the phenomenon if the theories are applicable or if there are other possibilities which the data can reveal. The blocks will be able to provide deeper information to define the problem, support the theory or be sufficient unto itself as the context of the case is narrow and this is both the strength and weakness of a single case study.

The research objectives are general in understanding the aftermarket situation of the industry and of the firm, identifying the challenges, understanding customer behavior and determining a profitable aftermarket strategy. The research strategy is formulated to determine the ways how the main objectives can be met. An initial premise is explored along with the possible variables which can be used for the study such as single or comparative cases. Case selection must be evaluated as positive or negative cases to show the differences and commonalities of the phenomenon and to arrive at a generalization suited to the research focus and setting (Goertz & Mahoney, 2006). It is also possible that the cases align with the existing theories or they are able to expand the theory (Eisenhardt, 1989). This master's thesis is a single-case study due to the fact that the main study of research focuses on aftermarket strategy creation. This was done from combining theory and in-depth interviews from employees and business networks of the case company firm. Focusing on one firm enables a deeper study having insights of internal operations and industry knowledge from key aftermarket players within and outside the firm. Firms provide

insightful information that can lead to more appropriate inferences through the rich data gathered during data collection process but there are also criticisms on case selection such as selecting cases which will confirm the results to the study. In contrast, quantitative case studies select companies randomly and although this is standard practice, the selected firms may not have similar attributes which makes the companies incomparable. The choice of a case research approach follows the view of Easton et al. (1997), who argued that case research methodology is particularly appropriate in industrial networks research where complexity and dynamism of relationships limit the applicability of positivist research based on inferential methods. (Macbeth, Purchase, & Veludo, 2004). Describing the differences in the variables is an important part of the planning stage due to possible causations which may arise from forming rich descriptions which is also one reason why qualitative research should avoid oversimplifying results. Lastly, the research questions should display the structure of the theories. Labeled the nominalist position by Laumann et al. (1983)—holds that every network question (such as “Who are you friends with?” or “Who do you seek advice from?”) generates its own network, and which to use is determined by the research question.

The initial research question for this study aims to provide an overview of the aftermarket industry of hydraulic motor and rotator manufacturers. It is necessary to understand the industry to be able to have a wide understanding of the research setting. The second research question aims to know the challenges faced by manufacturers with niche international markets in their aftermarket business. The third research question aims to understand the behavior of end users to be able to develop a strategy that would serve their needs and patterns. Leading to the main question of what aftermarket strategy will be profitable for a globally operating hydraulic motor and rotator manufacturer with a niche market. The actions during the planning stage are interdependent but also imperfect. The research design is constantly refined and in extreme cases, some of the studies may have to be done all over again to have a better research design. The second stage is carrying out the research process as planned in the first stage which will be discussed in data collection and lastly, the data analysis section will discuss the interpretation process done to answer the research objectives and arrive at the conclusion.

6.3 Data collection

Data collection in qualitative research is obtained through in-depth interviews, focus groups, direct observation, document review, and audio recording reviews (Betancourt, et al., 2016) which can provide deeper understanding of the study that quantitative research is limited to (Patton, 2002). The inductive approach was selected for this study due to its concurrent process of refining the theory during data collection, reduction, description and finally, concluding the study (Miles & Huberman, 1994). The inductive approach utilizes data from different

sources in a method called triangulation increasing the reliability of the data (Eisenhardt, 1989).

The case company is a hydraulic motor and rotator manufacturer based in Finland with over one hundred employees. Their intense technical knowledge has allowed them to gain market share for their products worldwide. Research and development is a strong part of their firm and it is imminent with fourteen hydraulic motor patents issued from 1995 to 2016. Being in the business for over fifty years, they have gained long time customers with foreign exporting as their main foreign entry mode and has a distribution network covers twenty-five countries. The industries their products are utilized are for agriculture, construction, mining, road building and forestry applications. Their primary source of revenue is through component sales. Currently their aftermarket activities are based on need which consists mostly of services and spare parts sales. It is for this reason that this falls under the category of an extreme case which deviates from common observations (Gerring & Seawright, 2008). The purpose of extreme cases is to increase the diversity in the available research literature. This method provides a more open exploration of the topic and an initial overview of the subject which follows different sets of approaches as the hypothesis becomes clearer.

For this thesis, the primary source of data are interviews conducted with the employees and customers of the case company (Table 4) through face-to-face, skype or phone interviews. Later in the research process, there was an opportunity to be a participant observer but due to the lack of training for this type of research method and the sensitive information during the exchanges, the outcome of this process are reflections which were formulated while the final aftermarket strategy was being conceptualized. The interviewees who were physically near were interviewed face-to-face, while the rest of the interviewees were interviewed over skype or phone and given the freedom to choose the time and channel to conduct the interview. All the interviews were recorded through an audio recorder.

Semi-structured interviews provide an initial direction of the interview, but it also gave the right amount of flexibility to acknowledge different perspectives and ask deeper questions in relation to topic that come up in the process. The main questions were followed up by probing to ask for further information or to clarify specific concepts and terminologies which are unclear. Selected employees who had aftermarket functions in their job tasks were the first group to be interviewed. They were open and provided very rich data based on their experiences.

From these interviews, we see how the internal operations and business relationships play a huge role in the aftermarket. Initially several generic questions were drafted which in my perspective felt applicable to ask all employees dealing with aftermarket activities in the company. Later during the interview process, the questions were refined based on the employee's aftermarket job tasks, since they were not all suitable for the selected employees. The questions had to be selected based on the job description of the employee. In cases of uncertainty, the questions will still be asked. For interviews with

customers of the case company, the questions were chosen based on the type of relationship they have with the case company which is either as a distributor or as an OEM. The case company were the ones to contact the customers and the selection of respondents were based on the suggestion both case companies and the customer themselves. An email was sent prior to interview to inform the participants of the research topic, objectives and questions. Any questions and clarifications were also advised to be articulated prior to interview. The rationale is for the sample size to represent the general characteristics of the firm's

Table 4 Interview respondents

Organization	Interview Date	Duration	Job Title	Location
Firm A	31.03.2017	01:07:59	Sales Coordinator	Finland
Firm A	31.03.2017	01:07:59	Application Engineer	Finland
Firm A	31.03.2017	25:56	Sales & Export Coordinator	Finland
Firm A	31.03.2017	42:08	Key Account Manager	Finland
Firm A	31.03.2017	56:14	Key Account Manager	Finland
Firm A	31.03.2017	01:23:20	Area Sales Manager	Finland
Firm A	31.03.2017	17:19	Product Manager	Finland
Firm A	31.03.2017	23:25	Product Manager	Finland
Customer A	21.06.2017	22:26	Parts Logistics Manager	Finland
Customer B	21.06.2017	38:51	No designation	South Africa
Customer C	23.06.2017	53:57	Owner	North America
Customer C	23.06.2017	53:57	Operations Manager	North America
Customer D	07.07.2017	01:40:00	Managing Director	Finland
Customer E	23.08.2017	21:07	Service Director	Finland

customers for the study to be relevant for all other customers (Yin, 2003). Bias could be present in the selected firms which would be agreeable to create cooperation for the aftermarket with the case company. The customers may also select representatives whose expertise are limited to one aspect of the aftermarket business due to work functions. Both the distributors and OEMs operate in different geographic locations such as North America, Africa and Finland and due to their intensive global reach extend their operations all over the globe and may share markets with other OEMs and distributors. The interviews ranged from 22 minutes to 1 hour and 40 minutes depending on the answers of the respondents. This is affected by the information provided and the extent they can share information based on company disclosure rules. Respondents of the firm company were not shy to articulate and answer the questions without hesitation and this makes the data thorough and rich.

For the customers' case, there were some that exhibited low trust due to the possibility that their existing business might be affected by the strategy being developed in the research. Some concerns as well were that the aftermarket

strategy is part of their company strategy and therefore cannot be spoken of in detail thus affecting the length of the interviews. After the interview, a transcription was sent to the respondent to double check his/her information provided. The cooperation with the case company helped in gaining access to industry players for hydraulic motors and rotators but there have also been other customers and firms who have been contacted for the interview but were unsuccessful and elicited no response from the parties after initial or several correspondences. Secondary information was also collected through case company product materials, industry studies, journal articles and internet sources. Most of this data was used for the research setting and providing an industry background for the research topic. There were also several meetings which provided the opportunity to be a participant observer which reflects in the outcomes of the strategy but without prior relevant research knowledge on this type of method, it was not possible to add this as part of the main research method.

6.4 Data analysis

The inductive method of data analysis is an evaluative process of reviewing, analyzing, and coding the data with the key concepts and studies relating gathered information (Figure 8). Theories were gathered based on the main topics of aftermarket and internationalization using mostly commonly cited research and books. If the theories were not commonly cited, they were selected based on how applicable they are to the key concepts of this research. After collecting the raw data, they were transcribed and organized for reading which is identifying the different attitudes, concepts and meaning in the data. The interview data of the case company was initially divided into internal aftermarket structure, market and customer differentiation, aftermarket products and aftermarket services as main subjects. Customers data was divided into aftermarket strategy, aftermarket needs, customer service returns, business opportunities, company and aftermarket best practices. Qualitative analysis relies on the researcher's ability to discern which information are relevant, what should be considered with selecting the information (Goertz & Mahoney, 2006) in creating a coherent, comprehensible analysis. In the coding phase, thematic analysis was done manually by identifying recurring themes or answers from the data.

Coding the data requires selecting categories which the researcher would like to explore further. "Thematic analyses seek to unearth the themes salient in a text at different levels, and thematic networks aim to facilitate the structuring and depiction of these themes" (Attride-Sterling, 2001). Semi-structured interviews were coded and done through reading the collected data and creating new or adding information in categories and subcategories from important concepts encountered in the texts (Schreier, 2013). This process is repeated until there are no new concepts that appear. The qualitative research method is also beneficial for data to be explored thus forming a hypothesis. Interviews in this research

were thematically analyzed to so that the data can be reduced into a structurally ordered themes. The themes were connected to evaluate the value of the data in comparison to the existing studies. Later in the process, organization strategy

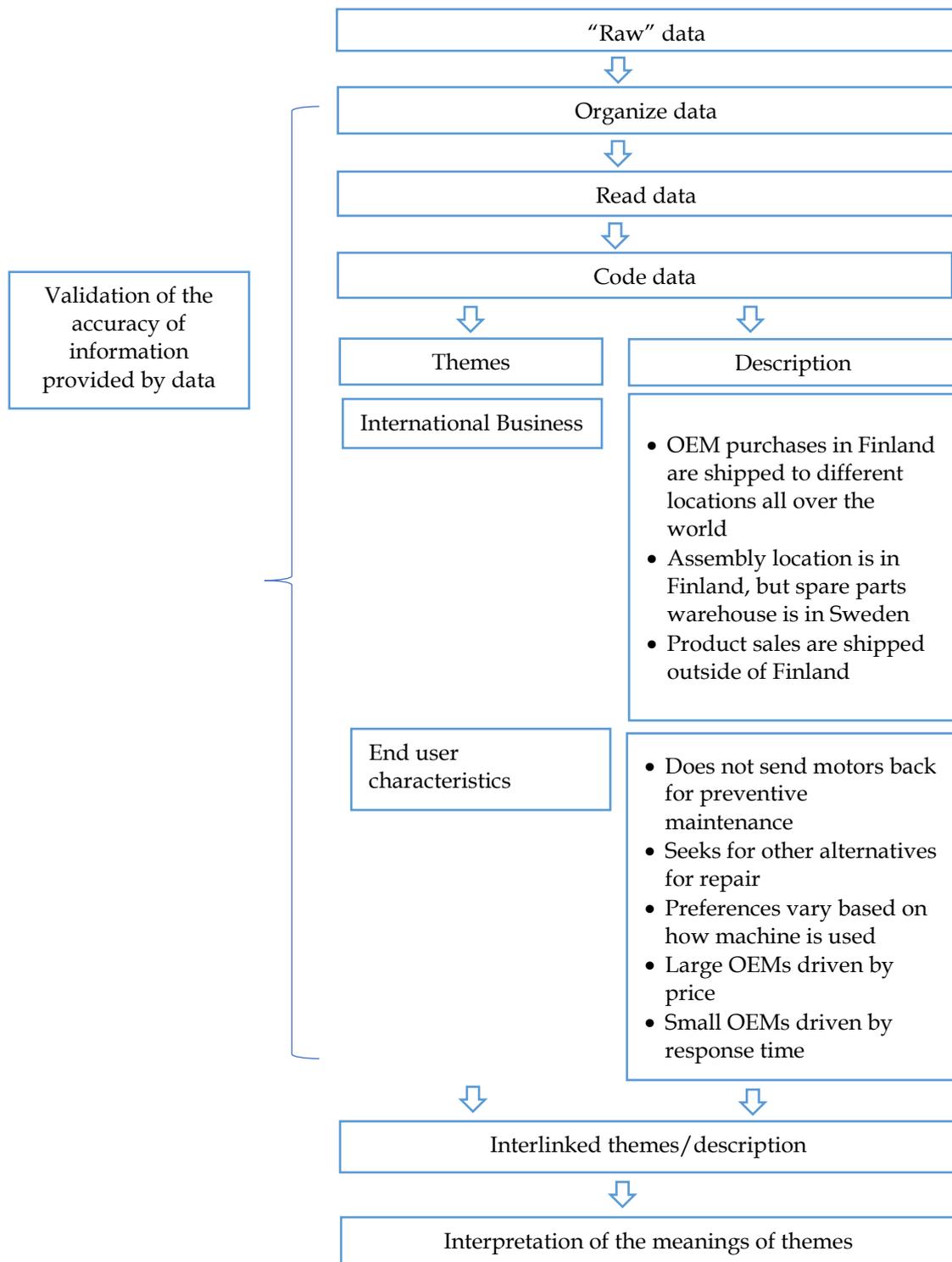


Figure 8 Inductive research process (Adapted from Creswell, Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 2009)

theories were added to the study to supplement the lack of holistic strategy needed by industrial niche markets which aftermarket strategy nor internationalization theories can provide.

Data interpretation was structured the same way the theories were presented in this study. The advantage of an inductive process is that the data can be used to create new knowledge as other methods can only use the data by testing existing theories. There is of course a challenge if the concepts and the empirical data don't communicate with each other, but the inductive process is continuous, and the data can be reviewed further to check the relevance of the concepts. For within-case analysis, the most difficult part of the analysis process is the amount of available data for analysis due to its large volume (Eisenhardt, 1989). Researchers may represent their case study data in different ways such as chronological, thematic, phenomenological, sequential, tabular, and graphical (Creswell, 2009; Eisenhardt, 1989). It is up to the researcher to choose the best ways to communicate the data and make it understandable for the readers to find the value in the research. The conclusions of the study are also evaluated through their implications and suitability on a general context and how the research can be utilized by the participants for practical purposes. Consistently going back and forth between the data and the theories help reduce the data to its most important themes and strengthen it through supporting information found from the collected data. Interpretation should also include learnings that were derived from the study (Creswell, 2009).

7 RESULTS AND FINDINGS

This chapter will discuss the findings related to aftermarket concepts resulting from the data gathered from qualitative interviews and as a participant observer. The results will be discussed and based on organizational strategy, market segmentation and business network relationships theories.

As an extreme case (Gerring & Seawright, 2008), the case company is a deviant from common observations because what is being studied is a topic they wish to develop in their organization. The approach of this study therefore is explorative to arrive at a clear hypothesis and answers for the main topic.

7.1 Findings on aftermarket organizational strategy

From interviews with the case company employees, they have approached the aftermarket on a per-need or per-order basis. This is a reactive approach due to the unpredictable needs of the aftermarket (Agrawal;Agrawal;& Cohen, 2006). Based on Mintzberg and Water's (1985) since the firm has not set a formal strategy, its set of activities and processes become the unrealized strategy based on their response to aftermarket orders (Figure 9).

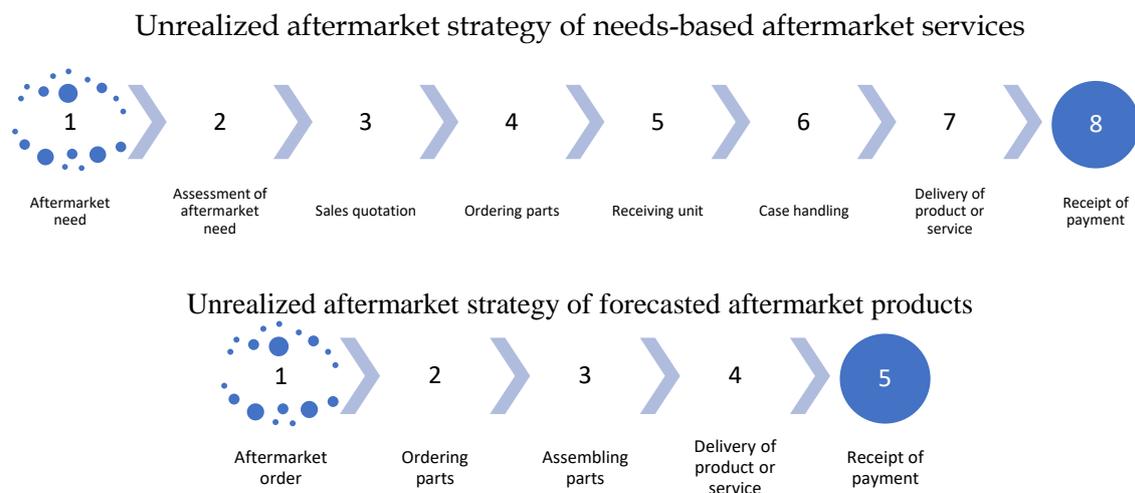


Figure 9 Unrealized aftermarket strategies by the case company

Once an aftermarket order is received, an assessment is made based on the provided information by the customer. The case company has identified the problem, recommendations will be provided to the customer along with the pricing estimates of the work to be done. After the quotation has been approved, parts that will be needed that are not on stock are ordered as the unit to be repaired is being shipped to the main factory. Once the needed parts and the unit to be serviced has arrived, the quoted work is handled by the main factory which delivers the product back to the customer. Receipt of payment is based on previously agreed terms.

For customers who are familiar with the product, know what to order and can forecast their aftermarket need, a purchase order request is sent to the sales coordinators. Parts that are not in stock in the main factory are ordered and sent to the customers. Payment is received afterwards also based on previously agreed terms.

7.1.1 Strategic objectives

Profitability has been the goal of any firm when undertaking business endeavors. Somehow this is a common answer for the customers. It is after all not worth any effort if there are no financial incentives to exploring a new business activity. As shown in the answers below by customers' responses:

"The repairing of old unit that's a good way to increase the business (aftermarket) if its profitable for both. It might be hard to achieve that but otherwise that's the best opportunity I would say." (Spare Parts Specialist)

Another customer says that:

"That's something that is important, how to build the profitability - a profitable aftersales business in a certain business area and get the motivation and the motivation is coming from having a profitable business you see the opportunity." (Managing Director)

The case company should also understand that their customers are willing to serve the market as long as their business continues to keep their turnover and margins without the prospect of decreasing the business they already have.

"At the moment, situation is what it is and maybe it is changing in the future but before acting, the component manufacturer itself is for maintenance activities to the end user, the less interesting it is for us because actually we are losing turnover and also margin in that way (Service Director)."

From the perspective of management and business owners, profitability is important. It is also good to consider economical options for end users and to ensure the strategy is beneficial for the component supplier and the customer since the customers are the ones who directly serve the end users.

Looking from the side of the employees, operational efficiency are more important such as creating aftermarket programs for products and services. Rockwater's study cited that open discussions are one of the first steps to be initiated in strategy formulation. The qualitative interviews therefore became these open discussions as being a researcher, they know that I am neutral and just recording their answers making it easier for them to discuss the situation. Forecasting aftermarket needs are also necessary to be able to cope with delivery time, but this also means that inventory pieces must be updated to its current price to be able to assess the actual value and costs associated with the aftermarket activities. Given the existing nature of their work, assigning a dedicated team focused on this aftermarket business segment will help the firm further expand the company. Policies must also be updated to standardize

actions taken by sales persons from servicing to pricing to prevent confusion. Increasing service centers will also help reach end users easier. Developing the role of distributors will also help strengthen their capacity to provide other aftermarket services and parts to end users. Suggested long term goals are comprehensive internal planning to be able to know how the aftermarket will change the current way they do business, gain more customers and reach key targets.

From this we see two layers for the strategic objectives – management focuses on profitability as they need to consider the long-term business life of the firm. Employees on the other hand focus on operational goals which help internal processes align with overall strategic goals. Both are then supplementary to each other and are both necessary in strategic goal setting. Since, profitability is positively related to value (Porter, 1996) and value can be determined by the competitive activities of the firm (Porter, 1987), a firm’s value creating activities can determine how profitability they are.

7.1.2 Aftermarket value chain and value constellations

Adapting Michael Porter’s value chain is essential in assessing the current activities of the firm related to the aftermarket and identify how they are making value for the customers and end users. High value and low activity costs helps the firm stay competitive and gain high profit margins.

The aftermarket value chain is a result of the interviews coming from the employees upon narrating their roles and responsibilities related to the aftermarket (Figure 10). The value chain is composed of the primary activities and support activities of the firm which provide value to the end users. The long product lifetime of the motor makes the need for aftermarket services low and therefore there is no continuous flow of aftermarket services:

“The motors generally they last a long period of time so the requirement for service comes relatively rarely. The lifetime of the motor is basically good in the application area it is going (R&D).”

In selling primary products, the demand can be forecasted as we have seen that Michael Porter’s value chain model begins with Entry Logistics but from the interviews, aftermarket activities begin when an order is received, starting the flow of aftermarket activities within the organization.

“Usually the customer will only order for their needs. Mainly they are quite urgent when they place the order, but only few companies will send some big order so the delivery time can also be a few weeks (Sales Coordinator).”

Due to the urgent and unpredictable needs in the aftermarket, planning has been a challenge for the company. In general Marketing and Sales activities include aftermarket product offerings which are currently spare parts, repair needs and warranty cases. When the component supplier and customers collaborate for specific applications, there are cases which have not been encountered previously

and require the recommendations or advice from the component supplier to solve the problems. Ideally, hydraulic motor products have a long life but problems which fall under the warranty period becomes a trigger for the aftersales activities claiming the right for replacement which demands a description of the problem for consultation of coverage:

“The only time we need to ask for assistance is whenever we have a warranty claim. Typically, between the staff here, the technicians as well, myself, engineering, depending on how deep we need to get to the failure analysis we can usually figure it out on our own because we know the customer, we know the circuit, we know what that machine is doing (Operations Manager).”

Even if customers are independent and have deep knowledge of the product, warranty cases are subject to approval by the component supplier and needs deeper assessment. Products that are over the warranty coverage need assistance for repair, reconstructed unit or new product replacement. After marketing and sales, entry logistics are activities related to the production process such as ordering necessary parts for producing spare parts, handling stock inventory, conducting the repairs and product assemblies. This is followed by outbound logistics, activities that deal with the product leaving the factory. Finally, the customer support necessary for any concerns after shipping is part of service. These processes form the primary aftermarket activities of the firm.

The second part of the aftermarket value chain are the support activities that are executed with the primary activities. The supporting activities drive the performance of the key activities in the value chain and how they are conducted can be analyzed to make improvements to improve the processes internally to be able to perform better in the primary activities.

The firm’s infrastructure is composed of both the organization and internal control systems. Currently no specific structure for the aftermarket has been organized within the firm but the need for it has been suggested:

“To have a dedicated person on the aftermarket side of business, its currently part of someone’s job. We have not really taken a full resource to improve that area (R&D)”

Internal structures will help support the organization’s aftermarket efforts and so the company should decide how to allocate resources for aftermarket activities. Common concerns that will require internal controls include spare parts inventory forecasting and stock, pricing and discount policies, quality control and lead time for deliveries. These are areas which require more management from the component supplier as they affect spare parts production, aftermarket products and services delivery time and pricing which are aspects of the aftermarket that are valued.

Secondly, Human Resources should identify which tasks are specific for aftermarket. It can provide direction for the employee by having it included in the main job description. This ensures the aftermarket tasks are not neglected due and this may also be helpful for determining the point persons for aftermarket sales, administrative works and customer support. Streamlining work processes

will reduce confusion and if done properly, can increase the productivity of employees knowing their primary tasks and goals.

Technology development is one of the key strengths of industrial manufacturers. As a supporting activity, research and development oversees several aspects of spare parts design and price, as well as aftermarket offerings such as repair combinations and kits. Initially, it seemed that R&D are only involved in the primary product activities, but their tasks include:

“Sales support for special technical concerns, developing new products, product options and improving the current products, price of product, purchase and production and repair set combinations for service packages (R&D Engineer).”

R&D engineers given their knowledge of the product, are key players in the aftermarket. Much of aftermarket support activities rely on them for advice and technical support. The engineering department is the main source of product information which spills over to aftermarket parts and service design. They have the knowledge when and how the product should be serviced and designing product parts which will later on become individual spare parts or repair combination kits. They also dictate the pricing of the spare parts. Apart from R&D there are other support engineering departments which directly communicate with customers for aftermarket spare parts advice and warranty cases. These fall under technology development as the nature of the concerns are

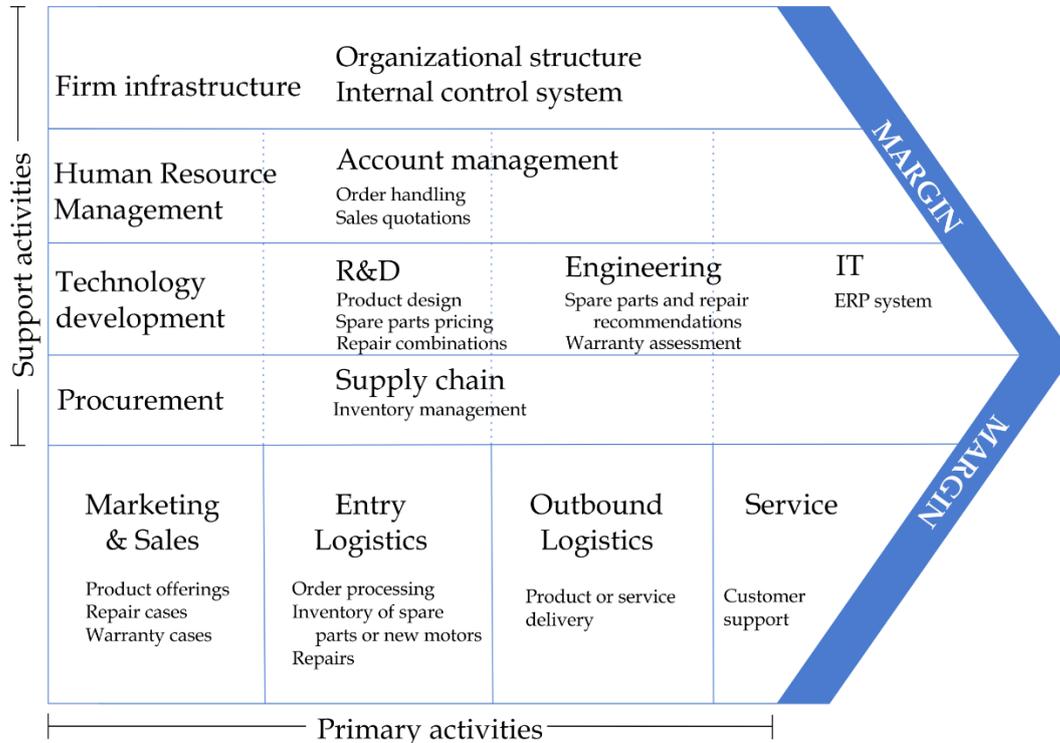


Figure 10 Aftermarket value chain for motor manufacturers (adapted from Porter, 2001)

technological by nature and require expertise of the product and its applications. Information technology systems used for enterprise resource planning coordinates information between departments through a common database.

“A separate program for spare parts is necessary (Application Engineer).”

Coordination between this system is made easy and efficient but needs to be updated to accommodate the aftermarket business. Information must also be updated and complete to make it easier for the users to find what they need without having to verify information directly to the person in-charge.

For procurement activities, the most important is spare parts inventory management. Spare parts are used by itself or for repair services and this is the most commonly used aftersales product along with repair kits. The unpredictable nature of the aftermarket demands a different kind of management from the primary product (Agrawal, Agrawal, & Cohen, 2006). Customer attitudes regarding spare parts stocks are similar that:

“Few distributors stock the products (Sales Coordinator).”

“OEMs do not want to stock motors (Account Manager).”

It is also a question of who should be responsible for stocking parts:

“Who will keep the necessary stock? Us or another company doing the services (R&D)?”

As niche players in the international hydraulic industry, they would require more resources and competencies to be able to cater to their fragmented market should they choose to focus on scale. Since adopting a strategy based on scale is not feasible, then employing market segmentation strategies will help them select which markets they can provide the most value and will offer the most profitable results.

The value that manufacturers provide extends to serving the needs of both the customer and the end user. Important internal departments involved in support activities of the value chain process are R&D, Account Management, Applications Engineering, and Supply Chain. Primary activities adding value in the aftermarket are Marketing and Sales, Entry Logistics, Outbound Logistics and Service. Important external actors in the value chain supplying spare parts and services are OEMs, distributors and service centers. With their combined activities, the shared objective for the end user is to provide a smooth ordering process, fast spare parts delivery, accessible service centers and complete product documentation.

Figure 11 shows the value constellation for arriving at a resolution for aftermarket needs. The four layers are the value constellation experience for managing aftermarket needs, aftermarket service experience, service selection experience and aftermarket offerings selection experience. In the first layer, when a customer faces an aftermarket need, assessing the problem requires active search for information which involves professional advice before arriving at a decision to purchase the aftermarket product or service. The customer decision

is also based on the type of available network within their knowledge, the advice provided in response to the problem which depends on the knowledge of the network and their capability to address it, response time which depends on the customer's circumstances, costs which are affected by operations and component manufacturer costs, location and whether or not the product still covers warranty periods. The amount of stock, knowledge and capabilities the service network has affects the customer decision as well as delivery times.

The arrows connected to the other layers indicate the connected experiences related to managing aftermarket needs. The assessment of aftermarket need is related to the aftermarket service experience. The customer decision depends on the service selection experience and the capacity of the network depends on the aftermarket offering selection experience provided by the component manufacturer. While The arrows going to the activities denote the relationship between the activities to other service experiences. The service selection experiences are deeply connected to the aftermarket offerings selection experience in terms of recommendations, sales quotes, capabilities, knowledge, inventory and delivery.

Value constellation experience for managing aftermarket needs

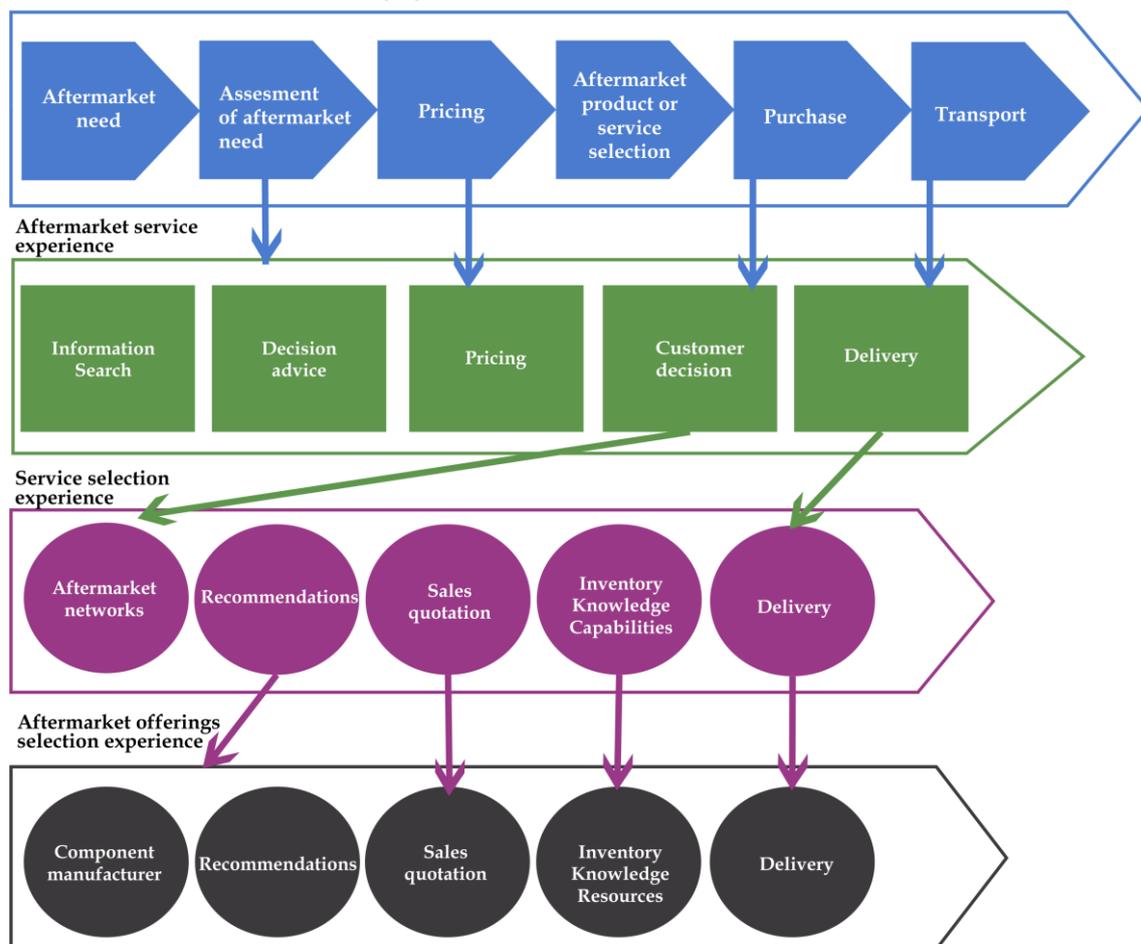


Figure 11 Decomposition of customer activities for the different levels of the customer experience for managing aftermarket needs (adapted from Kowalkowski et. al 2013)

The process is interconnected in different experiences and levels involving both the hydraulic motor manufacturer and the customers. It is shown here that there are similar activities undertaken by both parties, although not all customers go through this process. If they have spare parts stock, then they do not need to coordinate with the component manufacturer and can independently provide for the end user thus being able to use their resources more efficiently.

7.1.3 Industrial market segmentation in the aftermarket

Firms with niche markets need to employ market segmentation strategies to be able to choose the markets they wish to serve and plan a way to create a profitable aftermarket business from the selected markets.

The international business network of a motor and rotator company are created as formal relationships that have developed over time (Table 5). The demand of the product introduces business partners through industry exhibits or gains interest from parties willing to take the product to different international markets. The aftermarket networks of the hydraulic motor firm play an important role in the internationalization of the firm which prove to be both an opportunity and a challenge:

“ Nowadays, in most cases here in Finland when the hydraulic motor is sold to some application its shipped out to China or somewhere else. It is more difficult to reach them then when they are abroad. That has been the problem from the main service part that most of the application is running is outside EMEA. So more or less nothing can be done. But we are here (Managing Director).”

In the original equipment manufacturing business, components supplier (CS) such as a hydraulic motor manufacturer makes products that can be assembled with other components by an original equipment manufacturer (OEM) or sold as an independent product through distributors. Component suppliers are also original equipment manufacturers as they also make their own product, but this product is part of an assembled product along with other components. These products are purchased both in domestic or international markets. The component supplier maintains a low-profile because the OEM brands the final product as their own. Distributors also sell the CS product to OEMs for assembly

Table 5 Type of aftermarket network and location

Organization	Type of Network	Location
Customer A	OEM	Finland
Customer B	Distributor	South Africa
Customer C	Distributor	North America
Customer D	Distributor	Finland
Customer E	OEM	Finland

or to end users in need of replacements and repairs. Both the OEM customers and the distributors have their own established networks and CS do not have control how and where the product will reach the end user.

The CS is able to enter new markets through domestic or foreign exporting as the product is more often assembled or sold in different locations from the main delivery address. The CS does not gain the data where the unit was sold. This is one challenge for them. There is a long chain between the CS and the end user where international networks mediate. The channels help the CS products entry into different markets. This relationship between CS and distribution channel is strengthened through frequency and volume of transactions. The deep industry knowledge and relationship between industry players create long term relationships allowing manufacturers to gain business through primary product sales and expand product offerings for aftermarket products and services.

These customers are classified in categories being distributors & integrators, original equipment manufacturers (OEMs) and service networks. The distributors sell different original equipment manufacturer parts of the component supplier to its customers.

Overtime, the increased knowledge of the distributors have developed their roles from consumers into integrators where they are able to combine different capabilities in services and the aftermarket. The original equipment manufacturers assemble different components to create a complete product such as cars, trucks and computers. End users may choose any of the two channels for aftersales service and spare parts. Several decisions are considered when the end user experiences a product failure due to a specific component such as delivery time of spare parts, accessibility of supplier and capacity to handle the failure. The first set of customers- the distributors, are whom the products are exported to both domestic and international. The distributors sell the products to small original equipment manufacturers, dealers and end users. The Small OEMs and dealers then sell the product to end users.

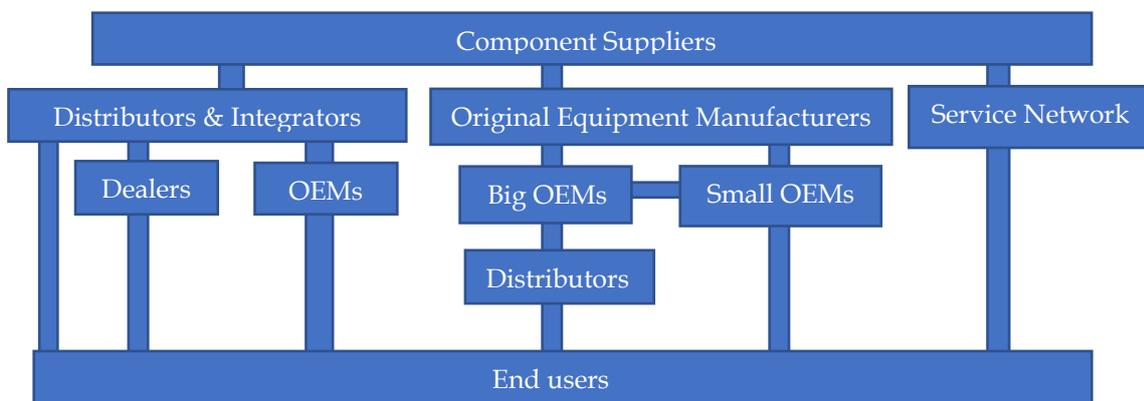


Figure 12 Aftermarket network for hydraulic motor manufacturers

The second set of customers are Original Equipment Manufacturers and hydraulic motor and rotator manufacturers provide products to these customers

based on the applications of their component. In supply chain definitions, component manufacturers are the suppliers of the rotators which makes them Tier 2 products meaning that it is only a component of the Tier 1 product. The Tier 1 OEMs assemble the final product and sell it as their own branded product. These OEMs are located at both domestic and international markets but the locations where the products are exported and assembled are not necessarily the market where it will be used. Big OEMs then sell the products to distributors who sell it to end users.

Small OEMs on the other hand sell the product directly to the end user. Products that are assembled by OEMs in Finland for example may end up in U.S, South America or Africa. OEMs aftersales activities is an essential part of their business which are maintained through spare parts, warranty, maintenance, training, service agreements and information downloads such as manuals and technical drawings of assemblies and parts. The distribution networks are responsible for taking care of the end users aftermarket concerns such as spare parts orders, assessment of damage, repairs and replacements. Unfortunately, each network has its own weaknesses and strengths.

Big distributors and OEMs have a wide distribution network, organized system for forecasting and ordering spare parts, high technological product know-how and capability to service the products. Because of this their bargaining power is high and at times it has been studied (Bello, Dant, & Lohtia, 1999) that OEMs will collaborate with vendors provided that transaction and production costs can be lowered. Small OEMs and Dealers on the other hand only serve to supply market demand. Spare parts orders come at the event of end user product failures and therefore there is a high urgency for the product. These networks fail to forecast demand due to low volumes and incur high costs both for the manufacturer and for the network. There is no forecasting of aftermarket requirements and they have low product knowledge thus they also have low capacity to make damage assessments and repairs.

Macrosegmentation

Based on Cardozo and Wind's (1974) industrial market segmentation strategy, firms must select the product or service they are targeting. This step is rationale focusing on profitable opportunities instead of trying to capture the total market which may not be cost-efficient for the firm. In the case of the hydraulic motor firm, the higher the installed base, the higher the opportunities for aftermarket products and services. Another aspect is to select premium products to focus on as customers are willing to pay more for the upkeep of an expensive component. The targeted product was a major macrosegment as a large installed base following profitability goals. For this we used the macrosegmentation approach because the customers of the case company are highly concentrated so analysis on a macrolevel is sufficient.

But due to the nature of the industry where there are several channels to pass through to be able to reach the end user, the most cost-efficient way to be able to

serve them is by partnering and collaborating with their customers who have direct contact with the end users. The goal of the case company is to foster these networks to be able to support them so that they are able to respond to the needs of the end users no matter where they are located. The customers themselves try to serve end users in the manner that they can but there are limitations in terms of knowledge, tooling and other factors:

“We try to serve our customers so that they wouldn’t have to use any other places for the maintenance. When replacing the components, we can do it anywhere. When providing the spare parts, we can do it anywhere. Remanufacturing the components, we have not been very active ourselves within some components because it requires the testing procedure and good skills to evaluate which components are in good condition and which are no in good condition (Service Director).”

Geographic location is also an important macrosegment as the end users are segmented all over the world. This is one major consideration when developing the aftermarket strategy providing deeper customization of aftermarket products and service offerings depending on the installed base and the capacity of the aftermarket networks in that area. It also identifies the markets products are located to be able to determine the path of reaching customers.

Integrated market segmentation

Following Anderson and Naurus’ integrated strategy of market segmentation - customer’s capabilities were assessed to help identify the possible aftermarket offerings to be conceptualized by the case company for customers with certain capabilities.

"Maybe the difference comes from the level of qualifications from the people. How well they are educated and because in Nordic countries the customers they usually know the techniques very well and have a very good understanding of the market. They also want to know the product. In Sweden and Norway, they are quite good in sales and marketing. Then in Central Europe, the German speaking area they are technically oriented. They follow certain roles and makes things almost the same way. In South Africa, the market is not so developed but our distributor is very capable. The owners of the company they are interested of what they are doing. They want to know the technology and the applications and offer the best they are able to do. In Southern Europe, they are people-oriented. When people trust to each other they can make business with each other (Key Account Manager)."

The case company can create more collaborative relationships through their aftermarket offerings and serve end user needs by focusing on the customer (Table 6). For example, customers with high capabilities can be identified as having high spare parts inventory, can independently handle repair and remanufacturing cases, have deep motor knowledge given their experience, has built strong networks either by themselves or in the industry and have sold a large amount of the targeted product.

The customers have identified several aftermarket capabilities they are currently doing namely - spare parts, repairs, warranties, remanufacturing,

rebuilds, repair kits, hydraulic testing, preventive maintenance, consumable sales, service contracts, field services, customer support and new motors for aftersales purposes. Strategically, the case company can explore several offerings based on these capabilities as a means of developing the network, having mutually beneficial and profitable collaborations.

Also cited are aftermarket opportunities which can be exploited in the future are new applications, premium pricing based on need, activation of deeper networks and channels to communicate aftermarket products and services, services based on product lifecycle, remanufacturing, field services, automation, motor database for tracking history, online testing and controls, guidelines for servicing and the component triggering the need for service. The case company can also turn to the aftermarket strategies in Table 2 to guide them when considering the feasibility of each offering as previous studies in a different context have been made in different industries. Based on the industrial market segmentation (Anderson & Narus, 1991), the value of the product must be assessed based on the customer segment in terms of economical, technical, service and social benefit.

Hydraulic motor firms need to be more selective when choosing the offering they wish to extend their resources to. By doing this step, they can select which are attractive to them based on their targeted product and feasible based on their

Table 6 Sample assessment of customer capabilities based on segmentation and corresponding aftermarket offerings

Customer capabilities	Customer characteristics	Hydraulic motor firm offerings
High capabilities	High spare parts inventory	Pricing discounts
	Repairs	Technical support
		Preventive maintenance
		Service agreement
		Warranties
	Remanufacturing	Spare parts
	Deep motor knowledge	Collaboration with customers
	Strong network	Collaboration
Low capabilities	Large installed base	Complete solutions offering
	Need based spare parts	Incentives for stocking spare parts
	Repairs	Preventive maintenance
		Warranties
	Weak network	Intensive collaboration
	General motor knowledge	Consultations
		Training
		Remanufacturing
	Low installed base	New motors to replace old motors

capacity. By benchmarking different industrial firms' aftermarket offerings, some possible offerings are technical support, literature and reference material, servicing, onsite services, training, advice or R&D, remanufacturing, warranty, spare parts & kits, product demos and tutorials, access to CAD drawings, customer online account, appraisals, downloadable materials and software.

These offerings can also match the different kinds of problems encountered with the motor which are typically critical bearing failures, oil contamination, crushed shaft, clogged filters, loss of power, major wear, and failure on the hydraulic circuit, pump or a systematic failure.

7.1.4 Financial analysis

Calculating potential costs and market share are the key to finding which aftermarket offerings are viable to execute thus conducting a gap analysis is more useful for the hydraulic firm than a cost-benefit analysis as a proactive approach as part of their organizational strategy. A cost-benefit analysis focused the costs of executing programs which are important for a firm with limited resources, but what will provide a firm funding is when they are able to calculate the possible revenues they can gain from venturing in these activities to offset the costs needed to be spent. Before these projects can be approved, the board of directors and shareholders must approve the project and the stakeholders value the long-term growth of a firm. A project's likelihood for approval will be based on factors that increase both revenue and business longevity.

The customers of the hydraulic firm also have insights regarding profitability for the aftermarket. Conducting financial analysis will determine profitable ventures but another important factor which can help calculate profitability is having in-depth product knowledge:

“If you have the knowledge you can do it in a profitable way. You can charge if you can...You have to have the high technical level in the things you are doing. You also have to know the customer's application otherwise you are a little bit afraid to go there (Managing Director).”

In current practice, another method used to assess the profitability of handling an aftermarket case is:

“The strategy basically is to make it economical for the customer to be able to return it. And we usually have a threshold that we stop and that's gonna be when there's up to two major components inside the motor that's damaged. Two or under we go like we can repair it economical still for the customer. If there becomes more than two then we consider it uneconomical repair and then the customer has to buy new at that point (CEO).”

Due to the nature of needs-based characteristics of the customers, these approaches have been mainly responsive. But the if deeper knowledge will help customers serve the aftermarket better, it is worth nothing that the case company's aftermarket offerings to the customers should provide deep knowledge to the networks for them to handle cases confidently and independently. But as the requirement for service is "*relatively rare*" as the case company states, taking a more proactive approach to the aftermarket by setting

service and repair guidelines will help realize more potential in the business segment. But this may also require further investments especially if hydraulic motor repairs are not the main line of business of the customer:

“Of course we try to do what we can on our own workshops but there are some things that just can't be done without proper tooling and without proper facilities so the customers can't repair those that much themselves so it is restricted what you can do yourself so we don't get much spare parts sales because of that (Parts Logistic Manager).”

Having proper tooling and workshops require a significant investment for "*workshop, training, inventory, special tooling.*" For the customers, the support of the manufacturer is important as competition decreases market making it unattractive for the aftermarket networks to pursue the aftermarket business. lack of information is also a barrier for the customers:

“We haven't been calculating the potential or the market share of these kinds of things. The machines are in so different conditions in different markets and so it's really difficult to get a viable information of this kind of things (Service Director).”

In markets with several players, the aftermarket business is broken down to these companies. In the same way that the varied locations can be a hindrance, it can also be an advantage to markets with little competition from big players:

“If somebody wants repair – are they gonna bring it to us or are they gonna take it to another little company. That company may not bring it to us and repair it themselves but they buy the spares from us...you tend to find it (aftermarket business) comes back to you (No designation).”

In as much as the aftermarket potential is attractive, there are several factors that make markets more attractive than others and limitations when servicing end users.

7.2 Findings on business networks

For motor and rotator manufacturers whose aftermarket efforts depend closely on their customers to reach end users, business networks are vital actors in the aftermarket value chain. Because motor and rotators are only one component of an end-product perceived as one unit by the end user, the value that they provide extend towards their main customer and end user. The importance of the networks role in the aftermarket is evident as the case company has included them to be part of the study having their perspectives and knowledge of the market as valuable insights. Most of them have worked with the case company for long period of time of 30 years which is common for industrial networks which tend to have longer relationships (Hånkasson & Snehota, 2006).

All the interviewed customers were serving both domestic and international markets based on their headquarters location which can be seen from Table 8 but from the perspective of the case company we can identify that

Table 7 Types of indirect exporting by hydraulic motor firm customers

Customer	Market	
	Domestic Indirect Export	Foreign Indirect Export
A		✓
B	✓	
C		✓
D	✓	
E	✓	

companies B, D and E are domestic indirect exporters while Customers A and C are foreign indirect exporters based on the headquarters of the customers. Although this does not mean that even though the Customer shares the same headquarters as the case company that the point of delivery for aftermarket products are in the same country. There are several layers to the international business perspective of this industry. The headquarters is often not the point of aftermarket products delivery and where they are delivered does not always mean it is where they are assembled, sold and used. Where the final machine ends up is a completely different location from the production locations.

7.2.1 Network theory

Following Håkansson and Snehota's Network Model of Organization (Håkansson & Snehota, 2006), continue to be relevant for the case company. The key customers are limited to a few firms who take a big percentage of the aftermarket business whose primary agenda is to have profitable business but differ in the type of business and the activities they conduct. The distributors hold a strong market position being sole distributors of the case company's products in specific markets.

Within the case company and the networks there is a constant exchange of knowledge, activities and resources taking place in the aftermarket. The AAR model (Anderson;Häkansson;& Johanson, 1994) which is that actors, activities and resources are directly connected to each other and affect firm performance both positively and negatively.

Knowledge-sharing, resource sharing and activity sharing are evident in research and development projects and problem solving:

"You run across maybe where the application isn't working well for the motor but the engineering people at the case company and I we typically get together and work out a solution to try to come up with a way to improve the motor or a feature of the motor to make it live a little longer (Operations Manager)."

The case company's aftermarket identity is overall positive based on their customer's assessment. They are able to answer their customers' needs for aftermarket, although there are certain parts of the aftermarket business can still be improved according to the customers. In terms of the case company's performance being interdependent on actions of its connected organizations and connections with other parties, one customer narrates how they have utilized their connections further to expand the aftermarket business:

"I think another opportunity for us is we've kind of started the ball rolling on this letting our sister company and their branches, making them aware of the spare parts inventory (of the hydraulic motor company) that we have. Because we can reach a broader spectrum of customers utilizing some of their sales guys as well (Operations Manager)."

The competitive nature of the original equipment manufacturing business makes the position of the actors in the network uncertain.

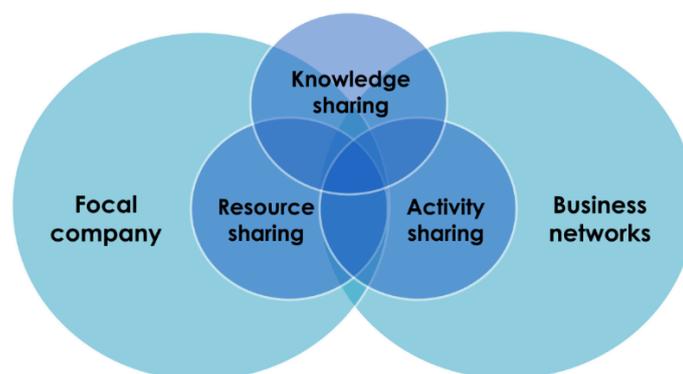


Figure 13 Network model of organization between focal firm and customers (adapted from Håkansson & Snehota, 2006)

The increasing trend of suppliers reaching end users have also moderated business relationships to be more careful which is changing the identity of the case company:

"Looking at it from a machine manufacturer point of view, I would say we as a machine manufacturer appreciate most when the component manufacturer is not competing with us on the component maintenance activities so all the part sales and all the maintenance is done by the machine manufacturer, that is appreciated by us (Service Director)."

The more players in the aftermarket, the less likely it is attractive for the networks to develop their technical capabilities, knowledge and invest in this business segment especially if they are also handling several components at the same time. For other networks where relationships are stronger, and markets are more stable, knowledge sharing is a positive consequence. In business areas where markets are competitive, knowledge and activity sharing are limited as to protect their market position.

This action for them has positive results with one location reaching other contacts that needs the aftermarket parts. The networks-as-bonds concept

focuses on collaboration of networks to achieve common goals. The main thing for this aspect of the business is to be able to work with the channels that can reach the end customers to meet their needs. It also states that the homogeneity of the group can be a driver for coordination and convergence between network ties to achieve the set goals. In this aspect, the hydraulic motor industry serves as a homogeneous tie for the case company and its networks due to the nature of the business they are involved in and the need for the product.

As the networks of hydraulic motor manufacturers are relationships that have grown from continuous transactions and business agreements, they are categorized as event-type ties (Borgatti & Halgin, 2011). In Figure 14 we can see the network model taking place in the aftermarket. When a customer posts an aftermarket need to the network, the way the network responds will affect the response of the case company. In a needs-based environment such as the aftermarket, the urgency of need from the customer is passed to the network and to the main company. This is one example of the contagion effect among networks. That they can influence one another in different means. Another effect happening in a homogeneous network is convergence. From the findings, the case company and the network join together to solve a common problem for a customer which reflects in joint research and development efforts for certain applications and improvements in the motor.

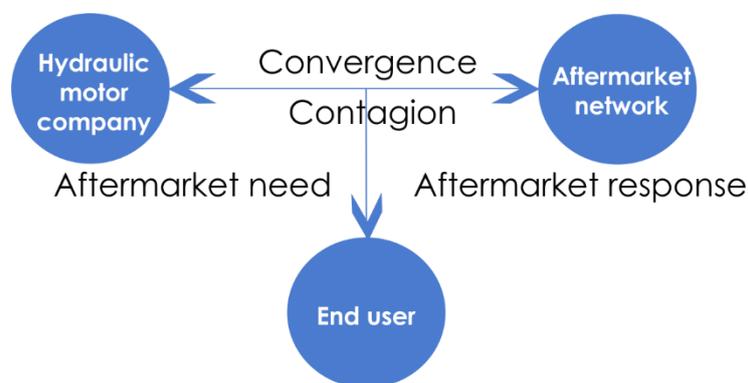


Figure 14 Network functions based on social homogeneity (adapted from Borgatti & Halgin, 2011)

Adapting the network-as-prisms concept (Podolny & Baron, 1997; Halgin, 2009) where the type of network a firm has reflects to the value of the company:

"I know the rotators their whole functionality is a little bit different than the main competitor that we have on the rotator. Some customers like the other and somebody likes the (case company). Or comes down how you like to use your machine and how it behaves (Parts Logistics Manager)."

It can be stated that the case company is valued for heavy duty, mobile and various industrial applications using hydraulic motors and rotators, as their primary networks are strong players in these industrial segments in each of their own focus areas.

7.2.2 Business networks

Dyadic business relationships (Anderson;Häkansson;& Johanson, 1994) are prominent in the buyer-supplier relations with the case company being the hydraulic motor supplier and the aftermarket networks as the buyers. They are considered to be the focal actors in a dyadic business relationship. The networks play a significant role in the supply chain as they control how far the product is distributed all over the world to reach the end user. This directly affects the internationalization of the firm. Another aspect is aftermarket sales being contingent on the network's aftermarket needs. If there is a high demand for repair, there will be high spare parts sales the same way that is there are no demand for services, then aftermarket sales will decline as a direct consequence. Dyadic relationships focus on the effect of these relationships to firm performance.

Managing the relationships of the hydraulic motor company is the key to growing their aftermarket business. The Relationship Conceptual Framework (Macbeth;Purchase;& Veludo, 2004) provides a layout of how relationships should be managed among networks (Figure 15).

In terms of actor bonds, the case company exhibits four out of five of these attributes which are inherent trust:

"But I guess that we have quite a good reputation in the service area so for sure customers are sending the motors for us for repair. The case company trusts in us. They trust on us so they also say, "Please contact Customer D (Managing Director)."

And the case company exhibits a strong willingness to help their networks:

"Compared to some of the other companies, we get stuff but we get great response from them. I guess out of the manufacturers I deal with, they are the best from the supplier point of view (No designation)."

For the expectation of continuity aspect:

"You know if we were to grade them on their aftermarket and their sales support and the service support they've given us, we would give them an A. They do a really good job at that. We wish all of our suppliers were like that... They've been consistent. They've been very good to work with. They've been very straightforward (Operations Manager)."

But there are some aspects to be improved regarding flexibility in agreements:

"I think the warranty policy and the responsibility of the product itself should be improved from their side (Service Director)."

From the resource ties point of view, much can still be improved as some customers request to have more information disclosure:

"So as an improvement I hope that there would be more open information to us that what is going to be Black Bruin's strategy towards the machine manufacturers (Service Director)."

For risk and rewards sharing, the support of the supplier is important:

"They have to be motivated to keep the business profitably. It's not that easy to invest and make the whole thing running. It's quite difficult. So, they should support and do everything they can to make it happen (Managing Director)."

These two aspects from resource ties can be developed further to maximize both parties' resources for aftermarket ventures. Flexibility in delivery was not mentioned by the customers as an area of improvement but for the case company this was an issue due to the coordination needed to be executed internally to meet the set times. The supplier development was excluded from the findings because the case company's suppliers were not part of the data collection.

For activity links, the case company is active in continuous improvement of the product, joint R&D:

"We did make suggestions on what to redesign their motor. We've sent a few suggestions which I think have hopefully been appreciated (No designation)."

and joint problem-solving activities:

"You run across maybe where the application isn't working well for the motor but the engineering people at the case company, we typically get together and work out a solution and try to come up with a way to improve the motor or a feature of the motor to make it live a little longer (CEO)."

There are still some areas of improvement especially in communications and joint planning and strategy setting:

"Well I think we don't do that much cooperation on the aftermarket side at the moment. They are mainly our factory supplier and we are dealing a little bit in Finland. But on Europe level we could do much more cooperation. And I think it's just something we haven't been focusing on so that could be improved in both sides of the future (Parts Logistic Manager)."

and another customer stated:

"Just some feedback, I guess we could, we may like more assistance from the case company. I guess we don't see them very often maybe we don't need them very often, we don't talk to them enough...That would be an area where I would say it would be nice to have more feedback, more information, more sort of assistance from them but I can't really complain (No designation)."

More than the needed communications for aftermarket needs, customers also seek more proactive means of communication and assistance which are executed by the case company. Their answers show that should they have any concerns that the case company is willing to help but the lack of communication from their side leaves out the customers as to what are the future plans of the firm regarding aftermarket activities.

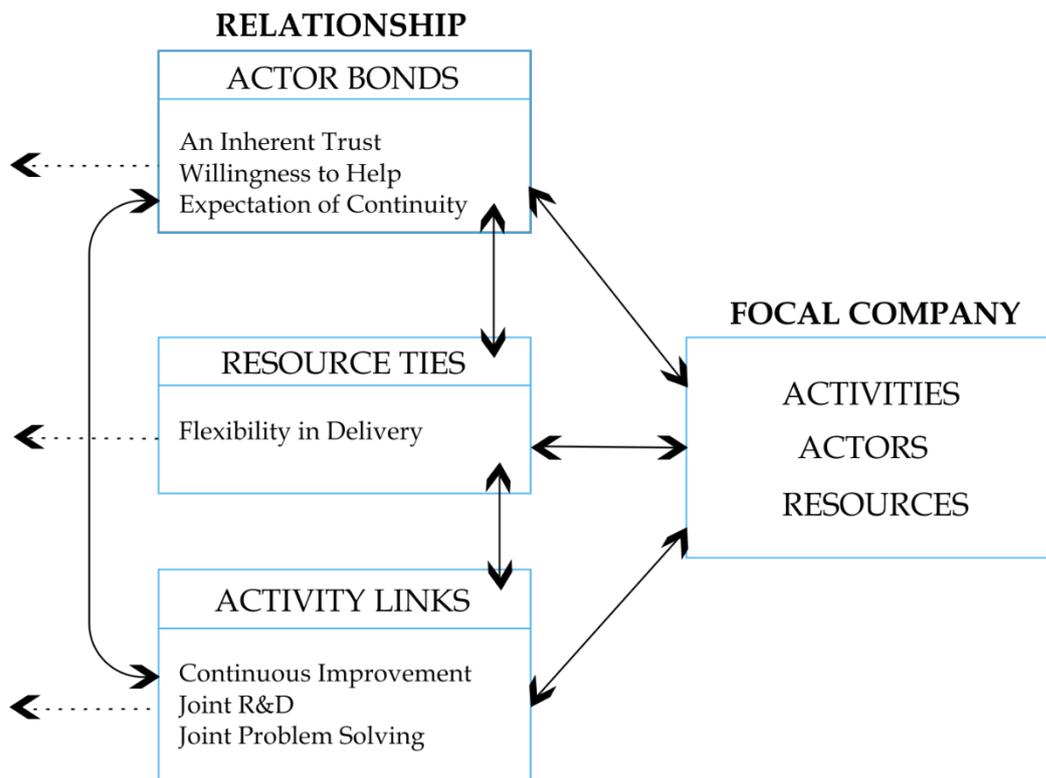


Figure 15 Relationship conceptual framework of the case company (adapted from Macbeth, Purchase & Veludo, 2004)

The case company has developed strong bonds with their aftermarket networks by being involved in activities of building trust, being able to offer support in times of need and addressing that future needs will be met equal assistance as well. Resource ties relationships are currently limited due to foreign operation mode choice as exports require less resources and commitment from the exporter. Activity linking relationships such as improving products through joint R&D efforts and joint problem solving of various cases are actively coordinated with the networks.

8 DISCUSSION & LIMITATIONS

This section will talk about the relevance of the study based on the theoretical concepts available from previous literature and through the collected data and to answer the research questions mentioned in the beginning of this thesis. Assessing the validity of the study is necessary through the different ways in which rigor is observed while conducting the research. The ways in how rigor was observed for this thesis is discussed especially for data analysis and interpretation phases. The limitations of this study will finally be discussed at the last section.

8.1 Answers to research questions

1. What are the challenges faced by hydraulic motor manufacturers with an international niche market?

The hydraulic motor manufacturer experiences different challenges in the aftermarket as a firm setting their aftermarket strategy, component manufacturer, exporter, and an SME with an international niche market. These different contexts combine for this unique case.

As firm who wishes to be a proactive player in the hydraulic motor aftermarket, there are several organizational improvements that needs to be done in goal setting, company structure, offerings and processes. Since this business segment was not a prior focus area, the changes needed to be made to address this segment will require internal restructuring and resource allocation. Being a component manufacturer, the firm provides their main product to distributors or integrators, original equipment manufacturers and service networks. Being only one part of a completely assembled machine, customers and end users touch point is the machine manufacturer and they may not even recognize the component manufacturer. This layer makes it a challenge for hydraulic manufacturers to reach the end user.

When the motors are exported either as a domestic indirect or as a foreign indirect export, they go through the distribution channels and the manufacturer does not get the final information where the motors are used. Even with domestic indirect exports the motors are shipped out of the domestic market and used in different locations. The geographic location is not identified to the manufacturer making it hard to know where aftermarket products and services are needed most.

Reid (1984) stresses that not having enough knowledge of the market is a barrier to developing the business. In the aftermarket, being able to reach end users provides a business opportunity when the customer trusts the manufacturer to provide them aftermarket services and products. In theory, the less channels a firm utilizes, the less cost there is, and the product becomes more affordable as a result. But another challenge is having an international niche market which means that the customers and end users are segmented with different and unpredictable needs (Agrawal;Agrawal;& Cohen, 2006). The ideal

situation is to have a service network in all the markets so that customers do not need to find them in another country nor ship products back to Finland. But costs increase when resources are not deployed efficiently, and exporters opt for this foreign operation mode due to less investment and risk exposure (Root F. , 1977).

Capital investments needed to create service networks are expensive especially for a product with low demand. Small to medium sized companies are limited by their resources which means that they should be selective in their ventures and allot time and resources only to the most feasible activities.

The variety in customer characteristics also are a factor for this situation as there are customers who are willing to pay for premium prices depending on the urgency of their need, while there are some who cannot afford the costs associated with aftermarket services given the price it would take to service their location. There are some customers who can independently serve the aftermarket and some who need to be able to provide aftermarket products easily thus needing different solutions. All these factors comprise of the day to day challenges of a hydraulic motor company in the aftermarket.

2. What do customers and end users value in the aftermarket?

Customers and end users have different characteristics for managing their aftermarket needs yet they share similar key issues for what they consider was important for the aftermarket.

Large customers such as original equipment manufacturers have preferential deals for aftermarket products, services and warranties. The channel that sells them the primary product also gets their aftermarket business if they themselves cannot make their own services. At minimum, the channel that gives them the product gets the spare parts business. But due to the nature of their business, handling several components in a machine has made them have limited knowledge for hydraulic motors and would prefer deals that allow them flexibility in warranties or will allow them to easily exchange motors (rebuild or reman) as an aftermarket offering than to try to make the service themselves. They are also driven by price. Small original equipment manufacturers are driven by response time but the costs will let them decide to have the aftermarket offering or to just buy a new product.

The primary distributors have people with 30 or 40 years of experience with hydraulic motors, so they have played a stronger role in the aftermarket than just being consumers of the hydraulic motor company's products. They are independent and may only need to contact the hydraulic motor company if they need help for warranty cases. Otherwise, they will solve their problems independently and would only require spare parts. They usually have a forecast of their aftermarket needs so the urgency is less when they are ordering products to the main factory.

End users on the other hand send their motors to the hydraulic motor networks for aftermarket services when there is only a need to do so. They tend to use the motors to its maximum capacity and only bring them in for aftermarket services when they need repair or when it stops working due to various reasons.

Urgent needs require quick response times but due to the growing alternatives and the use of the internet to seek different options, end users do not always turn to their sellers for aftermarket needs. When orders are of low volume, costs are higher which means they may choose other available alternatives from smaller shops. They may opt to choose small hydraulic repair shops that are near their areas and who can provide additional services such as picking up their motor from the site. These local hydraulic shops have lower prices which makes end users decide to purchase spare parts that are not from the original manufacturer, but is attractive due to price, accessibility and availability. There are also experiences that customers try to get information how to make their own repairs and do it by themselves.

Reasons attributed for not purchasing aftermarket products and services is when the product is working well therefore, they do not foresee a future need. Another reason is connected to the economic situation of the end user thus there is no motivation for any aftermarket service especially when the product is working well. Generally, both customers and end users value response time, price, technical support and accessibility of aftermarket products and services.

3. What types of relationships do hydraulic manufacturers have with their aftermarket networks?

As the networks of hydraulic motor manufacturers are relationships that have grown from continuous transactions and business agreements, they are categorized as event-type ties (Borgatti & Halgin, 2011). This is identified by the long transactional relationship between the firms.

In the Network Model of Organization (Håkansson & Snehota, 2006), constant trade decreases the number of actors to an identified few and this was evident with the employees knowing who the major players in the aftermarket business are in relation to their job tasks. Having interfaced with these companies for long periods of time as most of the employees have been with the case company for more than 10 years, they are familiar with the characteristics and needs of the customers and the customers also know their point of contacts from the hydraulic motor company for their needs. The long period and constant trade has developed trust but at the same time the uncertainty of the future and the changing market makes them question it.

Day (1994) only cites three skills to know if a company has good participation with its networks - joint problem solving, communications and coordinating activities. But if we use the relationship concept (Macbeth;Purchase;& Veludo, 2004), which is similar but more comprehensive, we can see areas of strength in the aftermarket for the case company. Under the network flow model of social homogeneity (Borgatti & Halgin, 2011), the dissemination of information is similar between alike groups causing an adoption of new ideas whether actively or passively. It is then classified to have a contagion function. An industry can act as a homogeneous entity and the actors inside it share information and adopt new ideas commonly.

From the knowledge-sharing perspective, joint research and development projects, joint problem solving, and continuous improvements are reinforced in the daily interactions. The customers know that they will get help from the hydraulic motor company whenever they ask, and they will get good prompt responses even when their location provides room for time differences. Research and development projects are undertaken when new applications require further improvements and customers can submit their own recommendations and modifications to the case company and it will be acknowledged. These actions all require problem solving one way or another and in addition, warranty cases are also a point of joint knowledge sharing when providing description about warranty cases.

From the activity-sharing point of view, joint activities are also similarly knowledge-sharing activities as the activities are the platforms for knowledge – sharing. Some events such as exhibits are undertaken with the customer covering activity-sharing between networks but also resource sharing, so activity-sharing is a platform for resource-sharing. Knowledge is a human resource which is shared between these different interactions. Interactions between the focal company and the customers are a constant opportunity for knowledge, activity and resource sharing. The second model – network as bonds focuses on the way that networks collaborate and work together to achieve a goal which arises from solidarity, coordination and virtual amalgamation (Lorrain and White 1971, Burt 1976, Borgatti and Halgin, 2011).

Since the unique competencies of an organization improve through these relationships with other organizations, the responsiveness of the case company has been one of their unique competencies. Customer feedback has been positive in terms of assistance, feedback and support but there are areas of improvement for joint activities, collaboration, open communications and flexibility of aftermarket offerings.

4. Primary Research Question: What aftermarket strategy will be feasible and profitable for a globally operating hydraulic motor and rotator manufacturer with a niche market?

The aftermarket strategy has two main parts – organizational strategy and aftermarket networks strategy. These two main themes address the unique challenges of the case company and allows them to build a foundation to cultivate the aftermarket business. This approach also provides more flexibility to the case company given that each of the steps are exploratory actions to arrive at the suitable means that is to be finalized by the firm themselves.

Based on the findings, the case company responds in the aftermarket through their existing unrealized strategy – a response-based set of actions taken when an order is received. From this starting point, a process approach was recommended for the case company's organizational strategy through series of steps a firm can execute when considering creating their own organizational strategy for the aftermarket.

From a needs-based orientation, the developed organizational strategy is a proactive measure that initially evaluates the case company objectives and internal structure, segmenting the customers and providing corresponding offerings based on the customer's needs and determining the potential projections from the offerings through a financial analysis (Figure 16).

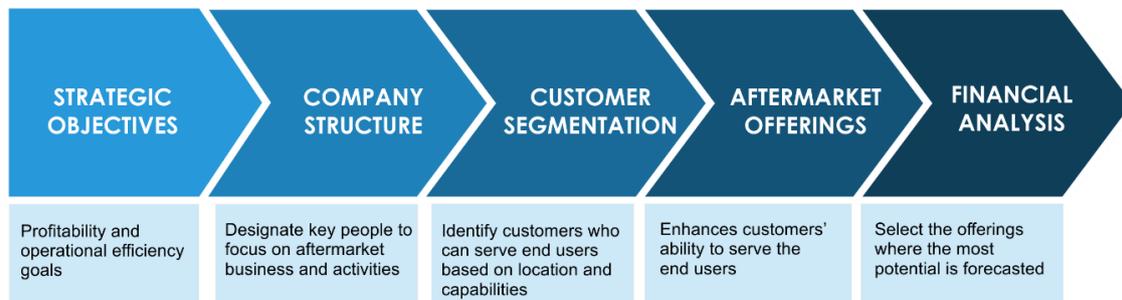


Figure 16 Aftermarket organizational strategy process of hydraulic motor firm

In the first step of the organizational aftermarket strategy process, strategic objectives are important to know what the company is aiming at and what do they envision in the long-term for the aftermarket. Using Chandler's (1962) definition of strategy where the long-term goals are created along with the necessary actions to achieve them, we can say that the long-term goal of the firm is to be profitable and the aftermarket is one area where they can see the opportunity to drive this goal. For the top management and stakeholders, profitability is the main vision but from the perspective of the case company employees, they emphasize operational efficiency when managing this new business segment. The aftermarket objectives of the case company should therefore include both profitability and operational efficiency goals which can be used also as key metrics for evaluating their progress in the aftermarket after certain period once that business segment has been established.

The second step is to evaluate the company structure regarding the aftermarket. The current situation was that there was no key people designated to focus on aftermarket business development. For the employees of the case company, the aftermarket was part of their daily tasks. During the interviews, it was communicated how there should be people who will focus on this business area and how different aspects of the firm should be improved to better serve aftermarket concerns more efficiently. Establishing a company structure for the aftermarket business segment means that there are people who will focus on developing this key area as well as its business activities.

As competitive advantage is achieved by having unique activities or by doing the activities more competitively than the competition (Porter, 2001), Michael Porter's value chain analysis identified the primary and supporting aftermarket activities of the case company (Figure 10). The value chain analysis can help evaluate which activities are incurring the most costs and providing the most value in the chain by computing the costs attached to these activities versus the

price attached to providing them and see what kind of margins are generated through these activities (Gemunden & Ritter, 2004). To achieve organizational efficiency needed in the aftermarket, the firm needs to review its current structure and activities to evaluate the improvements they need to make to be able to reach their goals.

The third step in the organizational aftermarket process is to conduct industrial segmentation at the macro level (Cardozo & Wind, 1974) by selecting first a main product to be the primary target for aftermarket and service development. Because opportunities for the primary product open opportunities for the aftermarket, a product with high installed base can be the initial aftermarket product target. The case company being an SME has very limited resources and with a fragmented market, they cannot allot resources to all but must select a few where they see the most potential for growth. Sales of a product has been correlated to aftermarket opportunities and so the firm can either select the product with the highest installed base or premium priced.

After selecting the primary product, historical sales figures can identify the customers which have sold the product at high volumes and estimate the where the products are used. Often, the point of delivery is not where the products are used so this information may be difficult to acquire and at most estimates can be made. From knowing where the products are, the key customers are identified from these locations because they are the ones most likely to be able to at closest reach of the end user for any aftermarket needs.

End users value response time, accessibility, price and technical support. The closer the network is to markets where they are needed, the easier it is to respond to customer needs at the best price offering. Since networks already have their focused geographic location and capabilities, the case company must determine the capabilities of the customer and offer corresponding aftermarket products (Anderson & Narus, 1991) and services to strengthen their capabilities and be able to serve the end users. The aftermarket networks of the hydraulic motor company such as distributors and integrators, original equipment manufacturers and service networks are also their customers and can benefit from the aftermarket offering that is tailored to their capabilities.

The more able the aftermarket network can serve the aftermarket needs of the end user, the higher the possibility of gaining traction in the aftermarket business. From this the case company will be able to provide aftermarket offerings based on market needs and the customer's capabilities. For example, if the network cannot handle repair cases, then the case company can offer a reman program to the network where they do not need to have deep knowledge of the product but still be easily able to address repair issues through replacement products.

Aftermarket offerings can range from technical support, repairs, spare parts and repair kits, remanufacturing and rebuilds, consultations, training and R&D, service contracts and preventive maintenance programs are just a few options they can choose from. The aftermarket offerings must be reviewed by the company based on their own assessment of what is feasible and cost-efficient. The case company must finally conduct a gap analysis – to forecast the potential of the offering to the market and pursue it as an aftermarket offering for

customers and end users. The aftermarket strategies as listed in Table 2 could be used as a basis when considering the different offerings such as inventory management, aftersales support and remanufacturing factors. Although they may not be fully applicable for the hydraulic motor industry, there might be few applicable points in the studies.

Value is not only limited to the internal organization but extends to the other actors working with the firm to deliver value to end users. It has been stated that competitive advantage can be achieved at the value constellation level (Gomes-Casseres, 1994). Recognizing the specializations of other actors in the value constellation depends on the hydraulic motor company point of view. Aftermarket networks such as channel partners and service networks can be optimized to gain competitive advantage in the industry and help provide customers the service they need.

Because the reach of the hydraulic motor firm is limited due to its niche and fragmented market all over the world. The hydraulic motor firm and their aftermarket networks will need to form stronger collaborations with shared goals, activities and resources (Day, 1994) to be able to meet end user needs and be present where the bulk of the aftermarket service is needed. This reinforces mutually beneficial agreements between the hydraulic motor company and its networks who share the same end goals as them – serving the end user and being profitable.

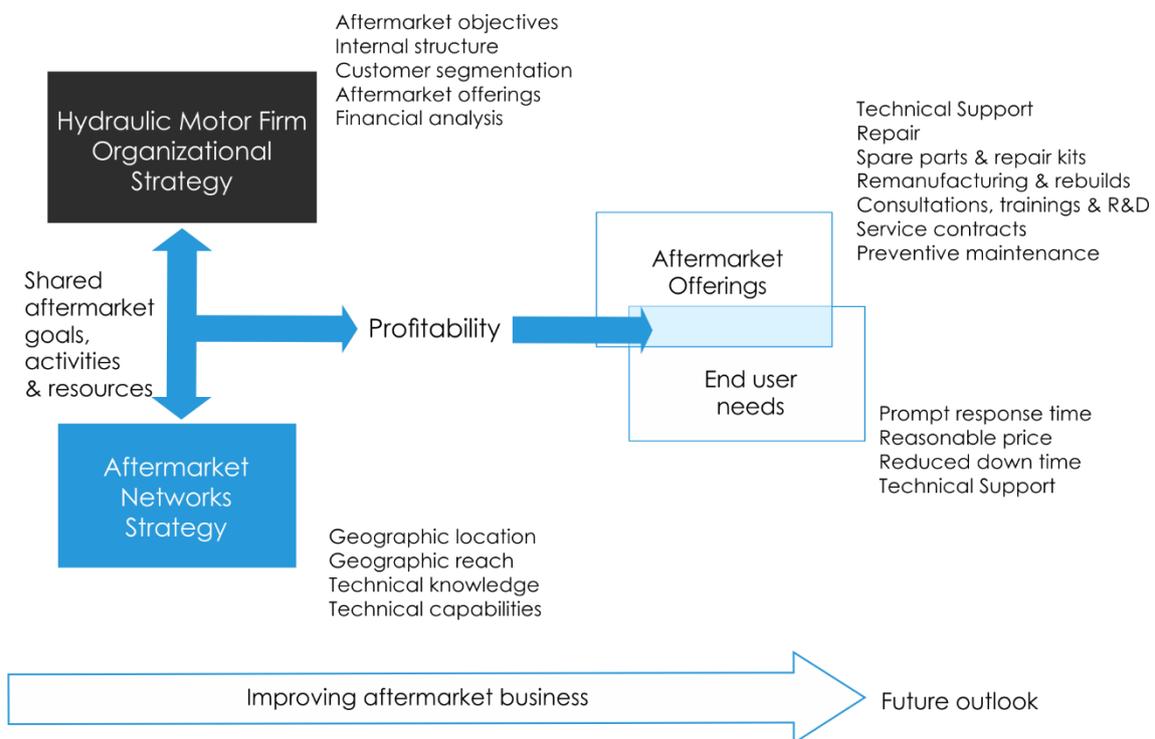


Figure 17 Developed aftermarket strategy for a hydraulic motor company

Homogeneous groups have the tendency to cooperate and converge to achieve goals as shown in the network function by model and research tradition (Borgatti

& Halgin, 2011). The case company and the aftermarket networks share the same profitability goals and they are already involved in cooperation and convergence activities. It is only a developmental step to move into this kind of strategy as competition increases and the market changes. Having established connections increases firm-specific advantages (Johanson & Vahlne, 2009).

From the findings, the case company already has strong actor bonds and activity links with their networks. More support will be necessary for the aftermarket business which would require then to strengthen their resource ties (Figure 7).

Support is needed by the networks already present in key areas. It may also be necessary to find more aftermarket networks that will be able to provide equally profitable partnerships. Creating these partnerships require investments and so resource sharing is important – so both parties assume the risks and rewards of the ventures (Macbeth;Purchase;& Veludo, 2004). Business networks also need the support of the hydraulic motor company otherwise they will not be motivated to be successful in the endeavor. Profitability can be reached by merging firm-specific capabilities with aftermarket network advantages to be able to provide aftermarket offerings to the end user in a cost-effective, responsive, accessible and reliable manner (Figure 17). From forming these kinds of relationships, both parties can strive for further collaboration to improve the aftermarket business and achieve the jointly set aftermarket goals.

For the future, the case company should think about factors such as digitization which is changing the future of industrial markets (Baumgartner & Wise, 1999). It might be worthwhile to explore having innovation partners (Gnanasambandam & Uhl, 2017) in the future to find new means of providing new aftermarket products and services. Should there also be a market with high need but no network available, a greenfield operation in this key market area may be something to consider further.

8.2 Rigor in qualitative research

Qualitative research has been criticized due to the questionable reliability of its method of narratives as a means towards explaining phenomenon which is not free of bias and subjective reasoning. Reliance on memories are also not dependable as details can easily be forgotten. Qualitative research relies heavily on data interpretation and the mediator between the research participants answers and theories is the researcher. The researcher has a big role in ensuring the integrity of the study especially data analysis and interpretation.

Miles and Huberman (1994) has five evaluative criteria for data analysis namely objectivity, reliability, internal validity, external validity and utilization. The researcher must acknowledge any bias whether explicit or implicit, which may affect the research. Being transparent of influences affecting data analysis and interpretation help the readers gain an accurate perspective of the study. It is also important to discuss the reasons for choosing the selected themes and which types of data were neglected in the study (Goertz & Mahoney, 2006). The

objective of this research is to create an aftermarket strategy and is written with the objective of practical use for the case company in the development of their aftermarket business. Although much of the background information is discussed in the theoretical framework, those that were found to be not applicable to for the case company were not included in the study. This is not due to bias but to focus the research on important studies which are useful for the given research context. The research used reliable and credible data and part of the ways to show this is to ensure the method follows existing research standards and the participants provide accounts of truthful value.

Theories used in this research were evaluated based on applicability to the context of the case. The two types of interview respondents help in framing organizational and aftermarket strategy which was used to develop the aftermarket strategy. The themes selected were based on the theories presented in the thesis as well as recurring themes which were brought up frequently by the respondents. The respondents holding key aftermarket positions inside the case company expressed their experiences towards the existing phenomenon. The other respondents which were the networks of the case company were part of the top customers and therefore they are familiar with the way the firm conducts the existing aftermarket business as participants. The number of customer interviews might seem few in number, but in industrial markets, customers are concentrated on a selected few whose transactions are frequent and consistent. The study should also be replicated for future research of similar or related topics and this is possible only if all the actions undertaken in the methodology are communicated thoroughly. This research is a single case study using qualitative inductive method for data collection, analysis and interpretation. More thorough research process was articulated the previous sections of the methodology.

Mantere and Ketokivi (2013) recognizes that humans are flawed in terms of cognition and reasoning which affects the process of knowledge seeking. These biases reflect on our interpretation of evidence which may oppose intellectual rigor and it may be unknown to us how personal cognitive biases affect our reasoning. Using a normative methodological approach for scholarly reasoning aids researchers in justifying knowledge through epistemological rigor, descriptive criterion to transparency and prescriptive criterion to methodological rigor. Epistemological rigor recognizes that the philosophy of science is not universal and is not required to have practical applications in real life. Human knowledge is limited so intellectual claims are incomplete. Descriptive criterion to transparency understands how the researcher reasons from premises to conclusion to aid the reader to evaluate the arguments in the study clearly. The validity is based on the process undertaken throughout the study which is described in rich and consistent detail. Prescriptive criterion to methodological rigor is assessing the credibility knowledge claims. Scientific methods have taught us that deductive and inductive reasoning is logical and therefore valid, yet it is misguided. The responsibility falls to the research community to uphold standards and correct reasoning. Peer reviews for example, ensures checks and balances between the reasoning process and practicalities. These concepts help a

researcher evaluate oneself to achieve a rational and sound reasoning. Intellectual rigor is a process and researchers must be self-evident of the cognitive limitations of our reasoning to be able to achieve sound claims.

8.3 Limitations of the study

This study is limited to the creation of an aftermarket strategy for a hydraulic motor and rotator company with an international niche market. The specificity of the case means that its application may not be generalized for all types of firms with niche markets nor for all hydraulic motor firms.

In the context of international business research, having a multidisciplinary approach by combining organizational strategy and networks provide a more holistic view of the strategy in relation to the case being studied. Focusing on networks alone which is common for international business research will neglect the potential of the firm to develop their own internal strategy and focusing only in organizational strategy will disregard the potential of their networks to expand their aftermarket business segment.

Existing aftermarket strategies were only used as basis for considering the offerings the case company can provide due to the different nature of the industries the studies were conducted for, the difference in end user characteristics, and the type of industrial company the case company was. Strategy execution was not included in this research and the ways to execute this developed strategy was also not included as part of this research.

More customers of the case company were contacted for this research but only the ones who gave a response were interviewed. It is possible that there are more variances in answers but this was from the data collected which are the people who agreed to participate in the study. Because no end users were reached for this thesis, the answer to the questions were based on end user needs are from the collective answers of the employees and customers and their perception of what end users value in the aftermarket. It was also worth noting that other hydraulic motor companies were also contacted for this study but choose not to participate or elicited no response.

This research was also conducted by a single person with a business background. Prior aftermarket strategy literature was created by engineers and having no engineering background may affect the results of the study. It is possible that a highly technical approach can be derived from this study given that the nature of the business and the respondents are mostly engineers or highly technical people. This master's thesis was also limited based on time and resources.

9 CONCLUSIONS

The aftermarket provides a lot of opportunities for business profitability but there are barriers to expanding this business segment depending on the position of the firm in a market. Hydraulic motor rotator companies experience many challenges due to their business size, as exporters, as component manufacturers and as niche market players. But they have also created strong relationships with their aftermarket partners over the years of conducting business with them and maintaining good relations.

As international business and market segmentation literature has moved towards firm-specific advantages to value constellations, other actors in the value chain have become important players when discussing the competitive advantage of a firm. Networks therefore add value not just in the supply chain process but by having their own strengths in terms of location and technical capabilities which can be leveraged as these qualities are valued in the aftermarket where customers are fragmented and have very different needs.

To reach the primary goal of formulating a profitable and feasible aftermarket strategy for a hydraulic motor company with an international niche market, the following research questions were answered:

1. What are the challenges faced by hydraulic motor manufacturers with an international niche market?
2. What do customers and end users value in the aftermarket?
3. What types of relationships do hydraulic manufacturers have with their aftermarket networks?

Primary Research Question: What aftermarket strategy will be feasible and profitable for a globally operating hydraulic motor and rotator manufacturer with a niche market?

This research contributes to previous aftermarket strategy literature by including a case for a hydraulic motor company to expand the industry set of studies related to the theme. Previous industrial aftermarket literature is focused on the automotive industry which had very different market characteristics than the case in this research. By expanding aftermarket literature to include different industrial markets, studies can understand the broader aspect of industrial marketing challenges faced by different types of companies. This study also aimed to include organizational strategy, market segmentation and internationalization theories into the current set of aftermarket research to be able to answer the primary research question and involve a unique case which other industrial companies may encounter.

The findings resulted in a combined organizational strategy and network approach to the aftermarket where the company internally follows a process to assess their existing competencies and plan their product offerings by selecting

which products and customer segments will provide the most potential for aftermarket profitability. The aftermarket needs of the customer segments will be provided as aftermarket offerings by the hydraulic motor company. The offerings increase their capacity to attend to end users' aftermarket needs while strategically leveraging on their location and existing capabilities.

The findings of this research will be best suitable for similar companies with the same challenges as the case company of this study. Small to medium sized enterprises with industrial markets and have an international niche market will most likely find this useful for developing their aftermarket business. It has also been noted that the findings for this research may not be applicable for geographic locations where customer characteristics are highly different and would require deep knowledge for several applications, thus from export as international operation mode it is possible to pursue greenfield operations for these cases but then the question of profitability is something that needs to be addressed.

9.1 Managerial implications

For firms that are pursuing to establish new business segments due to the changing nature of the market and its competitive landscape, it is worthwhile to examine the current state of the firm in line with the business segment, understand how value is created for the customer and to know that it is not created alone but as a collective interaction between other actors.

In developing a strategy, it is important to keep in mind not just the long-term goals and actions needed to be taken, but to go deeper into analyzing the competitive edge of the firm which are the points that create value for the customers and identify ways to conduct these value-creating activities in a cost-efficient manner.

Internally, employees should be involved in the strategy process to make sure they are aware of the direction of the company and to know their roles in the changes being made. When setting goals for the employees, it must be set to aim for operational efficiency to improve aftermarket processes and optimally use the resources of the firm. On the management level, goals should focus on profitability due to the long-term business outlook and to satisfy the other stakeholders involved in the business.

Operating on niche market segments as an exporter make it difficult to reach the end user but the aftermarket networks are regarded as one of their primary touch points. Any aftermarket activity should therefore work to improve the capabilities of the network to be able to serve the aftermarket through the offerings the hydraulic motor company will provide to the networks. Knowing the characteristics of the customers and their needs will help form the offerings that can fill these gaps in developing the aftermarket business.

Gap analysis was not tackled in detail as this is a task to be evaluated by the case company and it is highly dependent on the firm's resources, budget and capabilities. What is important is to address the installed base, where the motors are used and the potential aftermarket business in those areas.

Managing business relationships is also a challenging task and the phenomena of business networks was studied in detail for this research to be able to enhance relationship building activities of the firm which will help strengthen their aftermarket business. In the hydraulic motor industry, there may be little competitive advantage between different companies and so it is good to consider how networks can provide a competitive edge to as they have already been working together for a long time and reaching towards similar business goals.

From seeing customers as consumers of products and services, they should be viewed to have a more developmental role in the value creation process. This requires changes in the way the hydraulic motor company handles their aftermarket relationships to engaging their networks in their organizational strategy.

9.2 Suggestions for future research

The challenge I had experienced when conducting this research was that existing aftermarket strategies were not applicable for this master's thesis case given the unique qualities of the case company and its industry. My initial suggestion is then to grow aftermarket literature for different industrial markets because it provides a broader view of the phenomena which is useful for future researches of similar topics. Incorporating concepts from different fields help expand the research to understand the differences between markets and customers.

This study only focused on the aftermarket channels as the main business networks but it is worth including for the future to add other business networks involved in the value chain such as in parts, production and logistics. This is to investigate how to improve network relationships with these actors and how they affect the aftermarket value chain from the perspective of entry logistics activities with a needs-based demand. As end users were not interviewed for this study, it will be worthwhile to include them for future studies as qualitative interviews will allow them to describe their aftermarket needs more thoroughly.

Studying a different kind of hydraulic motor company will also be valuable as a future research to compare the differences between firms of the same industry. This might provide best practices for the aftermarket although knowledge is a competitive advantage and for this reason that firms with aftermarket strategies are less likely to discuss them outside the context of their work environment. Conducting a follow up for this research in a few years as a longitudinal study, to see the applications of this research and what changed between a firm that is creating their strategy to one that already has established their own to see how different aspects of the firm changed over time as firm and aftermarket networks competencies improve.

Given that digitization is changing the game of industrial markets, studying different digital tools and its capability to improve aftermarket products and services to customers and end users may provide an innovation approach to the aftermarket. Research and development teams have always sought to improve the primary product offering and if there is a case that a hydraulic motor

company is focusing on both primary product and aftermarket product development using digital tools, it will be an important case to study for the industry.

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