

The role of performance management systems in managing tensions in a servitisation setting

The case of a multinational manufacturing company

Carl Hampus Ekeröth[♠] Indra Andersson Santiago[♦]

ABSTRACT

As a result of increased global competition and falling industry profitability, Western multinational manufacturing companies are increasingly adding value to their market offer by adding after-sales services to their product portfolio, a phenomenon commonly referred to as 'servitisation'. This thesis explores the organisational tensions in integrating multinational companies in a servitisation setting, by conducting an in-depth case study at a Swedish multinational manufacturing company. Specifically, we look at the role of performance management systems (PMS) in managing the tensions in a servitisation setting. The thesis builds mainly on the work by Busco et al. (2008) on the role of PMS in managing three main organisational tensions: centralisation vs. decentralisation of decision-making, vertical vs. lateral relations, and convergence vs. differentiation of practices. The study found that only the tension related to centralisation vs. decentralisation could be seen in relation to the servitisation setting. This tension was caused by the creation of service divisions that centralised the aftermarket business while simultaneously decentralising decision making authority over the product value chain. The formal PMS were found to be insufficient in managing this tension and informal control mechanisms were found to be insufficient in complementing the role of formal PMS. Similar to Busco et al. (2008), we found that informal control mechanisms have the potential to both reinforce and damage the role of PMS in managing tensions. Different from Busco et al. (2008), the formal PMS were found to have the potential to aggravate organisational tensions.

Tutor: Kalle Kraus, Assistant Professor Department of Accounting
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[♠]40335@student.hhs.se | [♦]21239@student.hhs.se

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Carl Hampus Ekeröth

Indra Andersson Santiago

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1. Introduction

Higher competitiveness and more comprehensive customer needs have forced traditional multinational manufacturing companies to develop or put an increasing focus on their service business (Gebauer, 2008). In an effort to increase profitability, improve customer satisfaction and to ensure competitiveness (Mathieu, 2001) Western multinational companies (MNCs) in particular, are moving from selling products to providing ‘solutions’ (Gebauer et al., 2012). This transition constitutes a strategic shift that requires companies to re-shape their business models, create a service-oriented culture and develop necessary service capabilities (Kallenberg & Oliva, 2003). By becoming more service oriented, companies avoid competing only on the basis of cost as a means to tackle tougher competition in the global marketplace (Neely 2008). This phenomenon was first defined 25 years ago by Vandermerwe and Rada (1988) as the ‘servitisation’ of manufacturing firms. Servitisation represents a fundamental change in the manufacturing industry, which Baines & Lightfoot (2013) refers to as a paradigm shift comparable to the significance that the ‘lean thinking concept’ came to represent.

Studies have shown that the integration of global service activities in dedicated service organisations with global market strategies is a key characteristic among manufacturing MNCs that undergo servitisation (Kallenberg & Oliva, 2003; Gebauer et al, 2005; Visnjic & Van Looy, 2013). This separation of service and product operations sparked our interest to investigate what potential challenges that could follow as a result of such a change, as it involves separating two closely interdependent functions in two separate organisations. There has been some previous research on challenges caused by servitisation. For instance, Kallenberg & Oliva (2003) conducted a study on the challenges that manufacturing companies face when implementing a more service-oriented approach, highlighting the challenges in developing the necessary service capabilities, and one stream of research addresses the so-called ‘service paradox’, which refers to a company’s inability to realise the expected increase in revenues from an extension of the service offerings (see e.g. Martinez et al, 2010; Visnjic & Van Looy, 2013; and Gebauer, 2005).

As servitisation fundamentally constitutes the integration of global service practices and aligning global strategies, we chose to structure our research based on the framework developed by Busco et al. (2008) that identifies three main organisational tensions that characterise integration processes in multinational companies. Busco et al. (2008) investigated the role that performance management systems (PMS) play in managing these tensions. The three tensions are: centralisation vs. decentralisation of decision making, vertical vs. lateral relations, and convergence vs. differentiation of practices. PMS can be defined as “a set of practices that support processes of strategic decision making, planning and control” (Busco et al., 2008: p.104). Similar to their study, this thesis aims to explore the role of PMS in managing organisational tensions. However, our focus is on the role of PMS in a *servitisation setting*.

Our research was conducted using a qualitative single-case study at ManuCo, where 24 high-level managers were interviewed. ManuCo is multinational manufacturing company based in Sweden that has recently re-structured its organisation as a step to support its servitisation transition. This organisational restructuring involved the creation of four separate service divisions, one for each business area within the company, which had a great impact on internal collaboration.

Based on a theoretical framework that we develop upon previous academic literature on servitisation and PMS, we have gathered empirical data from ManuCo *to explore the role of PMS in managing tensions in a servitisation setting*.

In this thesis the contribution to literature is a deeper insight on the role of PMS in managing organisational tensions in a highly contemporary and low researched setting – the servitisation of multinational manufacturing companies. Furthermore, the study has a group perspective and offers insights not only from a service point of view, but also from a product point of view. This provides a more holistic view for a better understanding of the tensions and the management complexity related to a manufacturing company's transition from a product orientation towards a service orientation.

1.1. Outline

The chapter that follows (chapter 2) covers previous research on servitisation, organisational tensions and PMS, and illustrates the theoretical framework that is applied in the thesis. Chapter 3 describes the chosen methodology and gives a motivation of the choice and design of performing an in-depth qualitative single case study as research method. Chapter 4 presents the empirical case findings. Chapter 5 analyses the empirical case findings, addressing the tensions that can be associated with servitisation and the role of PMS in managing them. Finally, chapter 6 summarises the key findings and also addresses the limitations of the thesis as well as our suggestions for future research. Managerial implications are presented in Chapter 7.

2. Literature review

This section presents previous research relevant for answering our research question. We first explain the concept of servitisation in manufacturing companies in more detail, in order to provide an understanding of the context in which the research takes place. The focus are the market drivers behind servitisation and the challenges facing multinational companies (MNCs) that engage in it. Second, we broaden the scope and give an overview of the tensions that are inherent when MNCs integrate global operations, drawing upon the work by Busco et al. (2008). Third, an overview of the literature on performance management systems (PMS) in multinational companies is given to clarify this thesis's interpretation of PMS, as the terminology is inconsistently used in literature. Fourth, the role of performance management systems in managing the aforementioned tensions will be described, as contributed by Busco et al. (2008). Next, we provide an overview of the scarce research that has been conducted on how companies have shaped their PMS in a servitisation setting. The thesis's theoretical standpoint is then summarised, which will guide the analysis to answer the research question as to what role a PMS plays in managing the tensions inherent in a multinational manufacturing company's servitisation setting. Finally, the thesis's contribution to academic research is stated.

2.1. Servitisation

This section addresses the concept of servitisation in more detail. The section is divided into three parts; the first part demonstrates how servitisation constitutes a strategic shift among manufacturing companies and how it has been adopted by Western multinational companies to combat increased global competition. The second part illustrates the benefits and challenges of servitisation for manufacturing companies. Finally, we give an overview of the empirical insights on how companies typically have proceeded in their servitisation efforts, focusing on organisational restructuring and developing the necessary service capabilities.

2.1.1. Global competition causing Western companies to extend their service offerings

In recent years, there has been an increasing amount of literature on the servitisation of manufacturing companies. The term 'servitisation' was first coined 25 years ago by Vandermere and Rada (1988) who observed the phenomenon that manufacturing companies all over the world had begun to add services to their market offerings. This global trend of service-oriented manufacturing companies has been confirmed and addressed by several scholars in a variety of academic disciplines, including industrial, production, operations and service management (see e.g. Baines et al. 2009; Cohen et al., 2006; Gebauer, 2008; Neely, 2008; Lay et al., 2010, Kallenberg & Oliva, 2003). Gebauer et al. (2005) described the trend as a strategic shift whereby manufacturers move from selling products to selling solutions. Even though the academic literature on the increased service focus in traditionally product oriented companies is growing, the research is argued by some to still be at an early stage, where most studies are limited to exploratory research (Jacob & Ulaga 2008). The focus on servitisation in relation to PMS has been even less researched although a few authors have paid attention to this topic (see e.g. Saccani et al., 2005; Cavalieri et al., 2007; Legnani & Cavalieri, 2011; Visnijk, 2013). The literature is however neither exhaustive nor conclusive, hence this thesis's aim to contribute in this field by researching a Western multinational manufacturing company's servitisation effort.

Servitised manufacturing companies use services as a means to add value to their market proposition, by increasingly selling "fuller market packages of customer-focused combinations of goods, services, support, self-service and knowledge" (Vandermere and Rada, 1988, p.314). Servitisation is primarily associated with manufacturers of durable goods in the business-to-business market, such as heavy machinery and production equipment, but may also include consumer goods. Durable goods often

require services that may prolong their useful life and reduce cost of ownership, including installation, operation, upgrades, decommission, spare parts, consumables, maintenance, and other after-sales service (Oliva & Kallenberg, 2003). A growing market is the life-cycle services market, which includes re-use and recycling that reduce the products' environmental impact by reducing material and energy consumption (Visnjic & Van Looy, 2013: p.170).

Multinational manufacturing companies based in Western economies have begun to realise the need to compete on value rather than cost in order to combat falling industry-wide profitability caused by global rivalry from developing economies (Martinez et al., 2010). In order to do so, Western companies have begun "shifting their market share from manufacturing to more product-service oriented systems" (Martinez et al., 2010, p. 450). Vandermere and Rada (1988) argued already 25 years ago that this shift would occur and that services no longer would be a separate topic for management but rather an integral part of corporate strategy and mission. Some companies that have successfully managed a transition from product to services include multinationals such as IBM, ABB, Caterpillar and GE (Cohen et al., 2006). These companies are not alone; a 1999 report demonstrated that American manufacturers earned 45% of gross profits and 24% of total revenues from after-sales services (Cohen et al., 2006). Six years later, in 2005, after-sales services accounted for an increased 42 % of American manufacturers' total revenues, according to a quantitative study by Fang et al. (2008). Neely (2008) has described a specific example of how Rolls-Royce Aerospace has moved from only selling aero engines to selling 'total care packages'. This means that customers buy the *capability* that the engines deliver and that Rolls-Royce are fully responsible for risk and maintenance over the product lifecycle. Now, 50% of the company's revenues are generated from services (Baines & Lightfoot, 2013).

2.1.2. Benefits and challenges of servitisation

The increased competition on the global marketplace, leading to price pressure and lower margins, has forced global manufacturers to enter the aftermarket business. A servitisation is driven by three main objectives that can potentially benefit the multinational manufacturing company; financial, marketing, and strategic objectives (Mathieu, 2001; framework extended by Gebauer et al., 2005).

The financial objectives are based on the potential to reap not only substantially higher revenues and margins as aftermarket services are generally more profitable than the sales of the so called 'installed base' at the customer site (i.e. the sale of the original durable goods), but also to benefit from steadier and more low-risk revenue streams (Gebauer et al., 2005). Aftermarket support contributes a disproportionate amount to the company's total profits and realizes the highest margins in the product portfolio in many industries (MCA solutions, Cohen). Studies have shown that in some traditional manufacturing companies the aftermarket business has grown to become even four to five times the size of the original business (Cohen et al., 2006).

The marketing objectives are related to customer proximity as servitisation presents a way to avoid the commoditisation trap and better satisfy customer needs (Visnjic & Loy, 2013), as well as improving company image, customer satisfaction and retention by providing high-quality service (Saccani et al., 2005). For example, a service such as preventive maintenance may prevent an auto manufacturer's production line from collapsing and will prolong the time it can be operated, which in turn will improve customer satisfaction and product quality perception. Customer proximity may also provide the seller more information on the customer's specific needs. That information can be infused in product development, marketing and sales that in turn will generate re-purchases and attract new customers (Visnjic & Van Looy, 2013).

Finally, the strategic objectives concern the argument that services may provide long-term competitive advantage due to the labour dependent nature of services, which is difficult for competitors to replicate (Kallenberg & Oliva, 2003; Gebauer et al., 2005). Cassani et al. (2006) have shown in an empirical study the important role of aftermarket service in business strategy, and summarises the role as such: “In a context of global competition and decreasing profit from product sales, after-sales service stands as a key competitive area for short-term profit, long-term customer retention and for product quality and improvement. A strategic approach to the management of after-sales is thus needed.” (Cassani et al., 2006: p.277).

There are then several potential benefits for a global manufacturing company to engage in servitisation. At the same time, research has found a number of challenges during a servitisation process. One important challenge is the market-relatedness between product sales and service sales. Visnjic & Van Looy (2013) point out that high quality services might be detrimental to product sales, for the simple reason that by prolonging product life the customer will not have to replace its product base as often. At the same time, increased product quality may reduce the need for future service work on those products (Kallenberg & Oliva, 2003). In an empirical case study conducted by Visnjic & Van Looy (2013) that investigated this revenue relationship between products and services, component sales and product sales were found to indeed complement each other. The researchers also found that the effect of product sales on service revenues was much more visible than vice versa. In addition, a complementary relationship between products and services is related to a business strategy that integrates products and services. Such a strategy views after sales service as a strategic complement to the products instead of merely a spare part, and moreover “...creates opportunities for growth beyond the installed product base by relying on related services, coupled with managerial practices that reinforce complementarity through customer proximity” (Visnjic & Van Looy, 2013: p.177).

A second stream of research focuses on the so called ‘service paradox’, which refers to a company’s inability to realise the expected increase in revenues from an extension of its service offering (Gebauer, 2005; Gebauer et al., 2012). More specifically, the service paradox is characterized by a tendency for the aftermarket business to become unprofitable in the medium-term, until the positive effect of economies of scale and learning (hopefully) are realized in the longer term (Visnjic & Van Looy, 2013). Several articles have addressed what firms should do to overcome or avoid falling into the service paradox (see e.g. Gebauer et al., 2005; Kallenberg & Oliva, 2003; Martinez et al., 2010; Visnjic & Van Looy, 2013). For example, Visnjic & Van Looy (2013) recommend that companies adopt an integrated product-service business model, implement practices that will improve customer proximity, and make necessary investment to achieve economies of scale in service ‘production’.

A third stream of research involves a concern that firms do not understand how the underlying capabilities in the manufacturing industry can be extended to also enable effective service delivery (Spring & Araujo, 2012). Kallenberg & Oliva (2003) highlight two challenges in developing the necessary service capabilities that manufacturing companies do not traditionally possess; to bring about an organisational cultural change to become more service minded, and to set up a global service organisation network that is able to be locally adapted. The first challenge is based on observations that it is difficult to make it attractive to work with and value the service offering side of business, in a previously product-only oriented organisation. In many cases, the practice has been to give away services to customers free of charge during selling negotiations, illustrating how the values permeates through all levels of the organisation (Visnjic & Van Looy, 2013). Values typical to services are heterogeneity and flexibility and these do not match the standardisation and efficiency values that are typical to manufacturing organisations (Visnjic & Van Looy, 2013). The second challenge refers to

the difficulties (and investments needed) in setting up a global service network; to develop new organisational capabilities in service which includes a new type of personnel that needs to be managed and trained, and to weigh standardisation of services which are easily diffusible against customization of local customer needs (Kallenberg & Oliva, 2003).

2.1.3. Servitisation practices

The lack of studies on how servitisation practically should be implemented inspired Kallenberg & Oliva (2003) to conduct an empirical study to shed some light on the matter. The study found that the servitised manufacturing companies in the capital equipment industry showed many similarities in how they developed service offering for their products. Based on their findings, Kallenberg & Oliva (2003) developed a framework that illustrates the dimensions that companies considered in their servitisation efforts.

First of all, the companies integrated their existing aftermarket activities in a separate service organisation, thereby parting service from manufacturing operations. This was regarded as a cornerstone in the servitisation effort. It was normally accompanied by initiatives to improve efficiency, quality and delivery time of the services. Importantly, the companies with the most profitable aftermarket businesses ran their service organisations as profit centres rather than cost centres. Second, Kallenberg & Oliva (2003) highlighted two challenges that companies faced in developing the necessary capabilities to implement service business strategies; creating a service-oriented corporate culture and the set-up of global service networks (as mentioned in the previous section). The creation of a separate service organisation was found to assist in overcoming the former challenge; “Our interpretation is that the new organisation effectively protects the emerging service culture – with its metrics, control systems and incentives – from the values and incentives predominant in the manufacturing organisation” (p.167). Regarding the second challenge, the study found that the service organisations appointed dedicated sales team, own service technicians, and invested in information system to monitor the business.

Furthermore, servitisation included a noteworthy extension of the service offering. This involved a move from transactions-based to relationship-based interaction. In practice, this meant a push towards a fixed fee price model such as maintenance contracts over a set period that covers all services, i.e. away from charging each service work separately. In effect, the service providers took on the risk and responsibility of product failure. The companies also moved away from being service providers to being ‘solution providers’. This involved complete responsibility for the installed base at the customer site throughout the product’s lifecycle, which went beyond ensuring that the products function properly to making them as efficient as possible (Kallenberg & Oliva, 2003).

Gebauer et al. (2005) argued along similar lines that manufacturing companies that want to extend their service focus must take the following actions: establish a market-oriented and clearly defined service development process, focus service offers on the value proposition to the customer, initiate relationship marketing, define a clear service strategy, establish a separate service organisation and create a service culture. Visnjic & Van Looy (2013) emphasize that servitisation is assisted by a business model that integrates products and services, since an integrated business model can stimulate spill-over revenue effects.

Saccani et al. (2006) have made several suggestion as to how manufacturing companies can succeed in servitisation; they suggested that companies implement a structured data collection, sophisticated performance measurement systems, and cross-functional feedback systems that run across both

functions (quality, marketing, sales, and logistics) as well as cross-organizational feedback systems between other actors in the supply chain of production and after-sales activities.

Gaiardelli et al. (2007) argue along similar lines and suggest that companies implement an integrated set of measures in the different PMS used by actors involved in the service supply chain, based on the fact that many actors are typically involved.

This section has described the concept of servitisation and how it has been adopted by Western multinational manufacturing companies as a means to combat increased global competition. Importantly, servitisation signifies a strategic shift that requires companies to re-shape their business models, create a service-oriented culture and develop necessary service capabilities, in order to overcome challenges associated with a servitisation effort. Empirical findings have shown that the integration of global service activities in separate service organisations was a key step in servitisation. This separation of service and product operations was also seen in the case study of this thesis, before the research commenced. For these reasons, a discussion on the organisational tensions that characterizes the process of global integration within MNCs is relevant. We therefore broaden our scope, turning to Busco et al. (2008) and provide an overview of their findings on three interrelated organisational tensions prevalent in any MNC. Importantly, Busco et al. (2008) found that a company's PMS plays a central role in managing these tensions. This issue will be addressed after the role of PMS in a MNC has been described (section 2.3.), in order to provide the reader with a better understanding of PMS before its specific role in managing organisational tensions is discussed.

2.2. Tensions in integrating MNCs

A major challenge for multinational companies (MNC) is how to align global corporate strategies with local business processes (Busco et al., 2008). This challenge is evident in a servitisation setting, as demonstrated in the preceding section. The literature has identified several tensions that occur in the process of integrating organisational units in an MNC, which Busco et al. (2008) summarised in three categories: centralisation vs. decentralisation, vertical vs. lateral relations, and standardisation vs. differentiation. These tensions cannot be eliminated although they can be managed by applying appropriate integrating control mechanisms, the researchers argued. PMS has been shown to play a central role in managing the three tension types, which will be further discussed in section 2.3.2. In the next section below, each section is addressed in consecutive order.

2.2.1. Centralisation vs. decentralisation

The tension related to the decision whether to centralise or decentralise is often referred to as the 'global integration vs. local responsiveness dilemma'. The centralisation vs. decentralisation discussion refers to what degree headquarters (HQ) should delegate decision-making authority to subunits. As such, the issue "is directly related to power and autonomy within the organisation" (Busco et al, 2008: p.106) and represents a key co-ordinating mechanism. The tension refers to the difficulty in balancing the need for centralisation for controlling purposes and to better leverage competitive advantages across regions, against a de-centralised structure where subsidiaries are given some degree of autonomy to promote responsiveness to local conditions. Centralisation vs. decentralisation issues are inevitably closely related to the extent of vertical and lateral relations as well as convergence and differentiation (Busco et al., 2008).

The traditional view on how power is distributed within the company has been challenged by several scholars, as Busco et al. (2008) pointed out. Namely, companies are not necessarily classified as having either a centralised or a decentralised organisational structure, as they are often characterised by hybrid structures in which control resides in multiple units in the organisation. Such a structure is

considered 'a-centred' and will give rise to both co-operation and competition between subsidiaries, since HQ encourages subsidiaries to work together while at the same time they must compete for resources and corporate position (see Quattrone & Hopper (2005); Busco et al., 2008). A company with such characteristics can be classified as 'a-centred'.

According to Quattrone and Hopper (2005) power relations within a company are related to the distance between HQ and subsidiaries (see Busco et al, 2008). The distance can relate to both a physical distance and time (i.e. the time that lapses from the formulation of a strategy to implementation in local subsidiaries and subsequent report to HQ). The extent to which a company can be considered centralised, decentralised, or a-centralised depends on HQ ability to collapse or maintain the distance between HQ and subsidiaries. (Busco et al, 2008).

2.2.2. Vertical vs. lateral relations

Vertical relations refer to the relations between HQ and subsidiaries and imply "well-defined superior-subordinate relations" (Busco et al., 2008: p.105). The lateral relations refer to the relations between the subsidiaries. The relationship context between HQ and subsidiaries will affect how HQ pressure and practices are perceived and adopted in the rest of the organisation (Busco et al., 2008). Lateral relations are more specifically defined as "the organisational arrangements in which managers work primarily with other managers at similar levels in a hierarchal sense", and are characterized by complexity, interdependence and continuous change (van der Meer-Koistra & Scapens, 2008: p.105). The lateral relations are important as they promote interaction between subsidiaries whereby knowledge sharing and ideas can be shared (Busco et al, 2008).

Much research on integration has been conducted on how HQ can control both types of relationships. Findings show that MNCs' increasing need to be more flexible in the marketplace has resulted in that typical hierarchical structures have been replaced by more flexible and de-centralised structures. In such structures, power over decision-making is more dispersed whereby lateral relations have become more important (van der Meer-Koistra & Scapens, 2008). In these relations, informal control such as knowledge-sharing and trust become important as there is a lack of a formal superior authority. These control mechanisms can be fostered through some form of structured communication processes between subunits in order to minimize the risk of engaging with other parties. Over time, however, van der Meer-Koistra & Scapens (2008) argued that the interaction between subsidiaries will generate trust which can effectively minimize the need for formal control mechanisms.

The tension in managing vertical vs. lateral relations is a result of the trade-off relationship between the two opposing parameters. In a study conducted by Tsai (2002) it was found that strong lateral relations have positive effects on knowledge sharing between subsidiaries. Also, the stronger HQ controls its subsidiaries the less willing the subsidiaries will be to co-operate. For instance, in a typical hierarchical organization, information flow is mediated through HQ and lateral relations are not encouraged (Busco et al., 2008). At the same time, lateral relations must be governed by a form of technical structure such as accounting systems, information systems, basic knowledge of the business, and technical expertise in order to function, according to van der Meer-Koistra & Scapens (2008).

2.2.3. Convergence vs. differentiation

The context of vertical vs. lateral relations affects the MNC's ability to set standardised global practices while at the same time adapt to local conditions. As such, there is also a tension inherent in the decision to what degree practices should be converged or differentiated. Convergence refers to integration and standardization, as well as an increase in similarities and practices across countries, which can bring cost savings and enable the organisation to leverage opportunities. Convergence may

also be needed in order to facilitate communication between employees. Differentiation is an opposing force; it preserves local cultures and practices. If there is too much differentiation, the variety of cultures and local practices will give rise to conflicts between subsidiaries. Still, differentiation will likely be required as the MNC must adapt to local business cultures to some extent by allowing local practices in subsidiaries to exist. As MNCs set out to integrate global organisational units, convergence and differentiation must therefore co-exist (Busco et al., 2008).

Convergence and differentiation may also take place at different levels in the organisation. As an example, strategic decisions taken at HQ are likely to require a global convergence among the centres of control within the MNCs to both agree on how to formulate and adopt them. At the same time, however, local adaption and thus divergence is required in order to implement them locally. (Busco et al, 2008). On a similar note, Dossi and Patelli (2008) conducted a quantitative study that found that if subsidiaries participate with HQ in the design of the subsidiary's performance measurement system, the system would have a greater decision-making influence on the subsidiary. In other words, differentiation in the design of performance measurement systems between subsidiaries was needed for the systems to become more influential.

In relation to servitisation, Kallenberg & Oliva (2003) found that servitised manufacturing companies made "an explicit decision about the degree of standardisation of the service offer in order to balance between the transferability of services across markets vs. customization for individual end-users" (Kallenberg & Oliva, 2003: p.167) – a decision that is then likely to feed into the tension of convergence vs. differentiation of practices.

2.3. The role of performance management systems in MNCs

This section provides a brief overview of the literature on performance management systems (PMS) and related issues in order to clarify this thesis's take on PMS. The generic role of PMS in MNCs will be addressed, followed by its specific role in managing the three tension types that occur in an integration process. Finally, we draw attention to the servitisation setting by presenting some studies on how PMSs have been adapted to support manufacturing companies' servitisation efforts.

2.3.1. PMS definition and purpose

As this thesis set out to explore the role of PMS in managing tensions in a servitisation setting, the same interpretation of PMS as presented in the study by Busco et al. (2008) has been applied. Thus, PMS are interpreted as "sets of practices that support processes of strategic decision making, planning and control" that "provide managers with a common language informed by accounting and non-accounting measures and information that are spread across the different parts of the organisation." (Busco et al, 2008: p.104). As such, this thesis takes on a broad interpretation of the definition of PMS. The PMS literature, however, is undecided as to what mechanisms PMS comprises. The literature overview presented below will clarify the interpretation of PMS made in this thesis.

The literature on PMS can roughly be categorized in a 'traditional' and a 'modern' view: the traditional view focuses on performance in terms of performance *measurement* whereas the modern view extends that view to focus on performance *management*. The interpretation of PMS by Busco et al. (2008) belongs to the modern view, which as can be expected, has been less researched than performance measurement systems (Broadbent & Laughlin, 2009). The terminology that relates to PMS used in academic research is considerable. It is therefore necessary to point out that this thesis's interpretation of PMS includes, but is not limited to, performance measurement. According to Busco et al. (2008), PMS is construed by formal and informal control mechanisms. Although an explicit definition of formal control mechanisms (formal PMS) is not given, it can be inferred that it relates to

management accounting systems and related information and performance measurement systems. Informal control mechanisms, conversely, refer to non-technical functions; namely informal relations, knowledge sharing and trust. As such, they are not information-based systems but refer to social interaction. Informal relationships may appear spontaneously between actors but can be motivated through internal structures (Busco et al., 2008).

The traditionalist definition of a performance measurement system, or formal PMS, is an administrative system that is employed by headquarters “to monitor local performance results and influence the subsidiaries’ decisions” (see Dossi and Patelli, 2008: p.126). Merchant & Van der Stede (2007) stated that through the use of performance measures, companies are able to set performance targets, allocate economic responsibility and decision rights and finally reward the achievement of targets. There is a common understanding that performance measurement system is critical to be able to exert effective control, although the views on how it should be designed differ between scholars (Coates et al, 1992). Henri (2006) derived from previous literature that formal PMS have four distinct purposes: monitoring, attention focusing, assisting strategic decision-making, and legitimization.

A popular formal PMS is the ‘balanced scorecard’ (BSC) (Kaplan & Norton, 1992), which has become one of the most dominating concepts within the field of management control and strategy (Marr & Schiuma, 2003). The BSC was innovative in that it introduced three operational performance variables to complement the traditional financial performance measures and visualized it in a scorecard to give managers a quick and broad overview of the business. Kaplan & Norton (1992) argued that adding operational measures to the measurement systems was essential for a company to navigate through an increasingly complex business environment, and that focusing on short-term financial measures has a risk of steering the company away from its long-term strategic objectives (Kaplan & Norton, 1992).

There is a widespread belief in the literature that formal PMS, and performance measures in particular, should be derived from strategy (Bourne et al., 2000). Malina & Selto (2004) highlight the importance of an organisation to change the performance measures to reflect the current environment, as the organisation itself is always adapting to it. Bourne et al. (2000) add that companies need processes in place to update the measures in accordance with firm strategy, i.e. when strategy is altered the PMS must be reviewed to ensure that it supports the strategy.

Turning to the modern view on PMS; the term ‘performance management’ gained wide academic interest after the publication of an article by David Otley (1999). The article was a response to the traditional consideration of performance measurement as typically restricted to being focused on financial performance. It proposes instead an inductively generated framework that takes on a more holistic approach to also include an organisation’s several other internal activities. “By looking beyond the *measurement* of performance to the *management* of performance”, the framework will assist management in the design of management control systems, specifically by answering five central questions to managing business performance (Otley, 1999: p.364). The argument behind the framework was that existing research had, by focusing empirics on particular aspects of PMS, failed to illustrate the close interrelationships of all building stones that make up a PMS; including such things as the corporate vision, organisational structure, strategies, performance measures, rewards, and process of reviewing (Ferreira & Otley, 2009). As such, performance measurement is one of several components of a PMS.

Broadbent & Laughlin (2009) agreed that the narrower focus on performance measurement provides limited contributions to literature, and have suggested the adoption of a more conceptual view – the

PMS. Broadbent & Laughlin (2009) bring further clarification of the term PMS by summarizing the definitions from previous research to be “concerned with the defining, controlling and managing both the achievement of outcomes or ends *as well as* the means used to achieve these results at a societal and organisational, rather than individual level” (Broadbent & Laughlin, 2009: p.283). Alvesson & Karreman (2004) argue along similar lines that a holistic approach is needed to understand PMS, and calls for a more “...symbolic, meaning-focusing view on bureaucratic and output measurement control” (p.423). In their study of different interfaces of control, they bring attention to culture being a management control tool that can be directed in the sense that for instance structural controls can be directed. In a related topic, Kunda (1992) emphasized that for many employees “...’culture’ replaces ‘structure’ as an organizing principle and is used both to explain and guide action” (reference from Alvesson & Karreman, 2004: p.424).

Although there is not commonly agreed on definition of organisational culture, as many scholars have offered their definition of the term, Barney (1986) suggested a definition that is arguably consistent with most research. He defined organisational culture as “...a complex set of values, beliefs, assumptions, and symbols that define the way in which a firm conducts its business. In this sense, culture has pervasive effects on a firm because a firm's culture not only defines who its relevant employees, customers, suppliers, and competitors are, but it also defines how a firm will interact with these key actors” (Barney, 1986: p.657). Hence, as informal control mechanisms constitute practices that support decision making and provides managers a common language (Busco et al., 2008), cultural control tools represent such control mechanisms.

This section described the interpretation of PMS and gave a brief overview of the PMS literature, in order to clarify the meaning of the ‘modern view’ of PMS adopted in this thesis. Importantly, the interpretation of PMS made by Busco et al. (2008) is applied. PMS has been described as a central concept of management control that consists of formal and informal control mechanisms. Examples of both types of control mechanisms have been given. PMS has been shown to include, but is not limited to, performance measurement systems. The role of PMS in managing tensions will be discussed next, drawing mainly upon the findings by Busco et al. (2008).

2.3.2. Role of PMS in managing tensions

Busco et al. (2008) contributed to the literature by investigating the role of PMS in managing organisational tensions associated with a MNC’s global integration efforts. Importantly, the tensions need to be managed “...in order to achieve the benefits of global co-ordination and the advantages of local responsiveness” (Busco et al., 2008: p.122). Their study investigated the three most pronounced tensions simultaneously in a single in-depth case study on NW. The case study demonstrated that PMS can be used to manage all three tension types. More specifically, the study showed that formal PMS (i.e. the technical functions of PMS) alone cannot manage the tensions, and needs to be complemented by informal control mechanisms, such as the development of trust between actors. In addition, informal mechanisms can both challenge and reinforce the potential of PMS in managing the tensions (Busco et al., 2008). A fuller description is given below.

Busco et al. (2008) starts off by providing an overview of previous literature on the role of formal PMS in managing the three tension types. With regard to centralisation vs. decentralisation, Quattrone & Hopper (2005) showed that accounting information enables HQ to obtain a better overview of all sub units, and in so doing can both maintain and collapse the distance between HQ and the peripheries (see Busco et al., 2008: p.109). In terms of vertical vs. lateral relations, van der Meer-Koistra and Scapens (2008) found that formal PMS can be developed to manage both vertical and lateral relations, by facilitating communication between subsidiaries and thereby supporting the development of trust,

without much involvement from HQ. As such, the formal PMS can overcome its traditional reputation as strictly a control tool that reinforces vertical hierarchic relations (reference taken from Busco et al, 2008: p.109). In an earlier study, Busco et al. (2006) found in the case of General Electric that PMS can also be used to manage the convergence vs. differentiation of practices dilemma. Through the implementation of a global PMS, General Electric was able to integrate local cultures and practices by converging management accounting systems while at the same time permitting local performance measurement systems. A set of standardised targets could then be applied differently in the subunits.

The case study of Nestlé Waters (NW) confirmed that formal PMS played a central role in managing all three tensions types (Busco et al., 2008). NW was characterized by a de-centralised structure and a high degree of interaction between multiple centres of decision-making authority. In an effort to improve the internal co-ordination of international brands across countries NW decided to set up two new global business units that integrated all value chain activities from production to the distribution and marketing of products. Global strategies were simultaneously set for the two new business units. Also, the formal PMS was adapted in adding an 'end-to-end' profit and loss account that consolidated information from both producer and distributor; "In this way, shared planning procedures, measurement practices and business rationales were diffused across the worldwide NW operations" (Busco et al., 2008: p.114).

The profit and loss account gave the different subsidiaries (the producers and distributors) within the new business units common goals to achieve and therefore fostered information sharing and co-operation, for instance through shared planning and budgeting processes. The formal PMS was thus able to encourage and facilitate lateral relations. Vertical relations were not hampered by the process on the other hand, since HQ dictated the performance targets for the business units and supervised the process. By supervising the PMS, the risks implied in producers sharing information with distributors, and vice versa, were also reduced which motivated collaboration. Convergence and differentiation were maintained in NW by allowing separate PMS to co-exist in the local subsidiaries; on the one hand a global PMS for managing the international brands; on the other hand a local PMS to manage to local brands. The global PMS converged practices by forcing producers and distributors to standardise budgeting practices and transfer pricing systems. The end-to-end profit and loss accountability also fostered an end-to-end thinking within the business units, and a common strategy required it to be deployed world-wide. Finally, GE was able to sustain both centralisation and decentralisation, by creating the international brand business units (centralisation) and maintaining local ownership of domestic brands (decentralisation).

Interestingly, the formal PMS at NW was found to rely on the assistance of informal control mechanisms. This has to do with the fact that distributors had the possibility to cheat the producers within the transfer pricing system, without the producers ever knowing. Therefore, the design of budgeting processes and transfer pricing systems needed to be complemented by a certain degree of trust between the subsidiaries, which needed to be renewed constantly.

In conclusion, Busco et al. (2008) found in the NW case that formal PMS can be used to manage all three tensions. Although formal PMS played a dominating role in managing the tensions, formal PMS was found to be incomplete instruments, as were dependent on informal control mechanisms. Finally, the informal control mechanisms were found to be able to both reinforce and challenge the formal PMS.

2.4. Theoretical framework

The literature section has reviewed the areas of servitisation, organisational tensions in integrating MNCs, PMS and the role of PMS in managing tensions. Servitisation has been described as a strategic

shift among Western multinational manufacturing companies as a response to increased global competition. The practices associated with servitisation have been reviewed in which the separation of product and service operations is considered a fundamental element. The characteristics of the three closely related organisational tensions in MNCs were then given, i.e. centralisation vs. decentralisation, vertical vs. lateral relations, and convergence vs. differentiation. This section was followed by a clarification of this thesis's interpretation of PMS and the role of PMS in managing the tensions, drawing mainly upon Busco et al. (2008). The case company in our thesis, ManuCo, is a Swedish based global manufacturer of durable goods that has entered the aftermarket business and can be considered to have become "servitised". In the effort towards servitisation ManuCo integrated the aftermarket activities in separate service divisions. As such, the literature review has covered what is needed to guide the case study research at ManuCo to answer the research question: *What is the role of PMS in managing tensions in a servitisation setting?*

The theoretical framework which will be used to guide the analysis is summarized in figure 1 below.

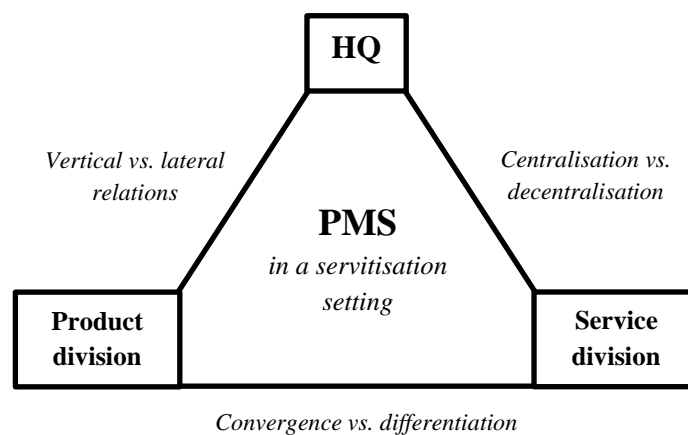


Figure 1: Theoretical framework based on the findings by Busco et al. (2008)

2.4.1. Contribution to existing literature

This thesis covers a research topic that has not previously been studied. A considerable amount of literature has been published on PMS, whereas the stream of research on servitisation is still scarce although the topic has gained popularity in recent years. Some researchers have conducted exploratory studies to identify challenges in a servitisation setting and have provided recommendations for manufacturing companies, as has been covered in the previous literature review. Busco et al. (2008) investigated three types of tensions that are inherent in any MNCs global integration process and how PMS can manage those tensions. This study adds to the literature on servitisation, tensions and PMS by investigating the organisational tensions in the specific context of a servitisation. Furthermore, the study has a group perspective and offers insights not only from a service point of view, but also from a product point of view. This provides a more holistic view for a better understanding of the tensions and the management complexity related to a manufacturing company's transition from a product towards a service orientation.

3. Methodology

This section on methodology will describe the choice of research method and how it has been applied in the analysis of the empirical results. First, the motivation for the choice of research design will be given. Second, a description of how data was collected is presented. Finally, the third section will deal with the reliability and validity of the data, which the reader should be aware of when interpreting the results. The methodology section will continually address how the data has been practically applied in the analysis of the empirical findings.

3.1. Research design

3.1.1. The case study approach

A qualitative, single-case, in-depth case study was conducted for the purpose of this thesis. To begin with, case studies are common in organizational research (Cassel & Symon, 2004) as well as in several other social sciences (Yin, 2009), which we found to be true during our own literature research. As such, a case study was early on regarded as a probable approach in the research for the thesis. Importantly, the approach was chosen not because of its popularity but since it was considered to be the most appropriate in order for us to answer our research question.

The research question is embedded in a particular context – the servitisation process of a multinational manufacturing firm – in which management tensions and the role of performance measurement systems was to be examined. Our aim went beyond a description of the two phenomena to also explain why they look the way they do and how they relate to the servitisation process itself. This is a type of “what” question that can be classified as exploratory, as it goes beyond asking descriptive questions (Yin, 2009). Such questions are a “*justifiable rationale for conducting an exploratory study, the goal being to develop pertinent hypotheses and propositions for further enquiry*” (Yin, 2009: p. 9). The goal matches that of this thesis. At the same time, Yin (2009) points out that an exploratory study may apply several research methods, a case study being one of them.

According to Otley & Berry (1994), a case study is considered to be appropriate in an exploratory study. The authors concluded that the study of the particular research field of management accounting and control cannot be understood in isolation from their context. They further recommend case study as appropriate where existing theories can be considered incomplete whereby a case study may provide a more holistic approach. This fit our thesis well as we set out to explore the particular setting of servitisation, which had not previously been covered by existing literature on managerial tensions and PMS. Dubois & Gadde (2002) state that specifically an *in-depth* case study is best suited for an understanding of the interaction between context and phenomenon. This opinion is shared by Cassel & Symon (2004) who highlight its usefulness in understanding the reciprocal relationship between context and phenomena such as behaviour and processes. Cassell & Symon (2004) further add that the case study approach is “*particularly suited to research questions which require detailed understanding of social and organizational processes because of the rich data collected in context*”.

As Bennett (2001) points out, there is sometimes confusion between the terms ‘case study methods’ and ‘qualitative methods’, as these bear different meanings. To clarify this thesis’ research design, we have applied a case study design combined with a qualitative method. Case studies are often associated with qualitative methods for which interviews are mainly used as the main avenue for data collection (see e.g. Merriam, 1998).

The choice of using a single case to draw empirical observations from was mainly taken from a practical point of view. We did not initially have access to two companies where we could conduct

two in-depth studies, and given the time constraint of the thesis we decided on a single-case study. Being focused on only one case study therefore allowed us to dig deeper than we would have been able to, had we conducted two. Importantly, single case studies have been generally accepted as able to develop theory (Bennet, 2001).

We acknowledge that other methods may have been appropriate to use as well for this thesis. Taken all of the above into consideration, however, we decided that an in-depth, qualitative case study was indeed appropriate to answer our research question.

3.1.2. A non-linear research process

Our choice of research topic was inspired by the existing literature on servitisation and the role of PMS in managing tensions, in particular research conducted by Busco et al. (2008). Our aim was to build a theoretical framework based on existing theories and research and to ultimately advance those theories by contributing with an analysis of our own empirical findings. Notably, we did not set out to test the validity of the theories but to instead embrace them and use them as a framework to guide our own research. As such, this was not a hypothesis-driven research.

As we set out to investigate the case company our understanding of the interplay between management tensions, PMS and servitisation increased, which lead us to revisit the theoretical framework and also to tweak our empirical research. The process was therefore neither purely inductive nor deductive in nature. Instead, it reflects a so-called ‘systemic combination’ process referred to as an abductive approach, as discussed in length by Dubois & Gadde (2002). Their arguments for the use of systemic combining are that theory and empirical observation cannot be understood in isolation, and that a non-linear research process will increase the researchers understanding of both theory and empirical observation. Their arguments tone with Otley & Berry (1994) who point out that “*it is important to remember that observations are not themselves theory free*” (p.46). We therefore acknowledge that our theoretical framework shapes our understanding of our empirical data. We believe that this is not necessarily a disadvantage as our goal is to further develop the existing theories.

In order to improve the value of our findings, we clearly articulate our theoretical standpoint, as recommended by Otley & Berry (1994). In addition, Dubois & Gadde (2002) argue that an increased reliance on theory will limit some of the drawbacks associated with case studies that have been noted by several authors. Namely, that a case study may fail to offer more than wide descriptions and that some case studies merely give limited support to theories, or even parts of theories.

In terms of practicality, in constructing our theoretical standpoint articles were searched from 1995 to date in the three largest accounting journals. Each issue of each year was scanned to find relevant publications on performance measurement systems, managerial tensions and servitisation phenomenon. Other information was found by following up on references used in relevant articles. The theoretical framework was then developed over time as the research progressed.

3.1.3. Researching a change process

As defined earlier, servitisation “refers to the transition process of adding services into a goods-based offering” (Turonen & Neely 2011: p.1)”. Put differently, servitisation is not something that takes place over night. Rather, it is a process in which the firm gradually transitions from one state to another. The notion of servitisation being a process was considered in the research that we conducted.

Having done preliminary research at ManuCo, we decided not to approach the topic in terms of contrasting before/after scenarios. This was decided as it was not clear when the transition process

had actually begun at ManuCo; was it when the first service offering was first commenced decades ago, or when the first defined service strategy was declared in one of the subsidiaries? Was it when the first service business line was created, when the first service division was created, or was it when the current CEO began to officially declare the company's intensified focus on service offerings? Also relevant in this discussion, we would not have been able to access high quality data of how the firm operated far back in history. Given that we were not able to define the starting (nor the ending point for that matter) of the servitisation process, and for practical reasons, we decided to research the servitisation process as an on-going transition and how management tensions and the PMS are currently interacting in that context.

Our research approach to the servitisation process corresponds with the arguments made by Andon (2007), who challenges the traditional view of change as a transition from a well-defined 'State A' to a well-defined 'State B' (Andon, 2007). Interestingly, the debate about the concept of change has been limited, as argued by Quattrone & Hopper (see Andon, 2007). Andon (2007) questions the traditional view of change based on its assumption that one is able to clearly identify the two different states involved in the change, and based on previous research that accounting change is not a straight-line and orderly process but rather a set of incomplete and experimental attempts at moving from one state to another. He calls instead for a view on accounting change as *relational drifting*, which he describes as “(drawing) attention to the configurations of human and non-human elements that situate accounting change and the morphology of these configurations that not only harbour the potential of accounting change to emerge in unpredictable ways (Quattrone and Hopper, 2001: p. 427), but also influence and/or constrain the freeplay of this action” (Andon, 2007: p. 278). In other words, when studying accounting change one should not see it as a definite and clear change, but acknowledge that it is a disorganized process which involves human beings. Given our initial research at the case company, we found this to be true. As such, we are confident in our decision to not look at the servitisation process from a before/after point of view, but as an on-going and dynamic process.

3.2. Selecting a case company

The choice of case company was influenced by one of the researchers' prior work experience at the company. Her time spent at one of the Asian subsidiaries inspired her to better understand both the opportunities and challenges of undergoing servitisation as a multinational manufacturing firm. Given her personal network within the company, we were able to approach human resources with our research idea. The idea was accepted and the Head of Group Controlling agreed to be our main point of contact in the company.

The chosen case company provided an excellent opportunity for us to answer our research question, for three main reasons. First of all, the company is currently undergoing a servitisation process. The process had been undergoing for many years prior to our investigation, but only a few years back was the increased focus on the aftermarket business officially declared by group level management. This was notable to external analysts in annual reports and as the company decided to add service-dedicated divisions to the organizational structure.

Second, our contact at the company was in a position to assist us in arranging interviews with top level management throughout the group. This was important since this thesis takes on a group level perspective on management tensions and performance measurement systems. We therefore did not focus on a specific business area of the company but rather had a broader view in order to better capture the complexity of managing a large multinational company.

Third, the characteristics of the case company were appropriate to apply our theoretical framework on. This is so because the case company has similar characteristics as the case company used in the research by Busco et al. (2008). The case companies are similar in that they: a) are multinational companies, b) are manufacturing organizations, c) have de-centralised governance, and d) had similar needs of better integration and coordination of certain global market activities which included an organizational restructuring and adaptation of performance measurement systems. What makes this thesis different is the application of the theoretical framework by Busco et al. (2008) in a servitisation context and how that affects managerial tensions and the use of performance measurement systems to manage those.

3.3. Data collection

Data was gathered from multiple sources at various time points during the spring semester of the 2013 academic year. The main data source was a total of 24 conducted interviews, which was complemented by internal documentation.

3.3.1. Selection of interviewees

This thesis takes on a group management perspective on managerial tensions in a servitisation setting and the role of performance measurement systems in managing those tensions. As a result, we wanted input from employees with a managerial role and a population sample that was representative of the organizational group as a whole. In doing so, we hoped to gain a more exhaustive insight and lower the risk of overseeing any relevant findings, compared to having a narrower focus on for instance a specific business area. A major change in ManuCo's servitisation process was the separation of the product and service operations through the creation of service dedicated divisions. In order to examine the managerial tensions related to servitisation it was crucial that we interviewed management in both the product and the service divisions.

We also wanted the interviewee to have responsibility within strategy, accounting, and/or operations management, in order to investigate whether the findings differed depending on employee type. At ManuCo, we learned that service operations are run from customer centres that are dispersed all over the world. Each customer centre belongs to one of four business areas. At a typical customer centre, each division within the business area is represented by a manager; a product division has an operations manager and the service division has a service manager. Our contact person therefore suggested that we also speak with one or several service managers at customer centres. Finally, we knew prior to the commencement of the interviews that the company had recently finalized an organizational restructuring whereby the service operations had been removed from the responsibility of the existing product divisions (hereafter referred to as product divisions) and integrated into one, common service division for each business area. This procedure had been repeated in each of the four business areas. Therefore, we found it necessary to interview employees working in both product divisions and in service divisions in order to capture the effect of this organizational change on those who were directly affected by it. Finally, we decided to speak with employees from different countries to further improve our aim to get as fair of a representation of the group as possible, since ManuCo is a truly global firm. Indeed, it would have been difficult to only interview Swedish employees since the different business areas have head offices all over the world. The reason to interview different nationalities was therefore not specifically to capture cultural differences, although we were open to the possibility that cultural differences could be found to be an explanatory factor. The interviewee base was represented by the geographical regions Sweden, Germany, Belgium, and China.

The selection of interviewees was made together with our main contact person at the case company, the Head of Group Controlling. We were then given the contact details to 28 employees, of which 24

volunteered for an interview. The vast majority of the interviewees had been with the group for more than 15 years, which enabled them to draw from experiences in often a number of different companies and positions within the group. The representation of the interviewees is summarized in figure 2.

Note that we were unfortunately not able to meet the business area presidents and we were not able to interview all employee types within each division in the group. This would have given us a more representative picture, but time constraints and the difficulty of getting hold of top level management did not make it possible.

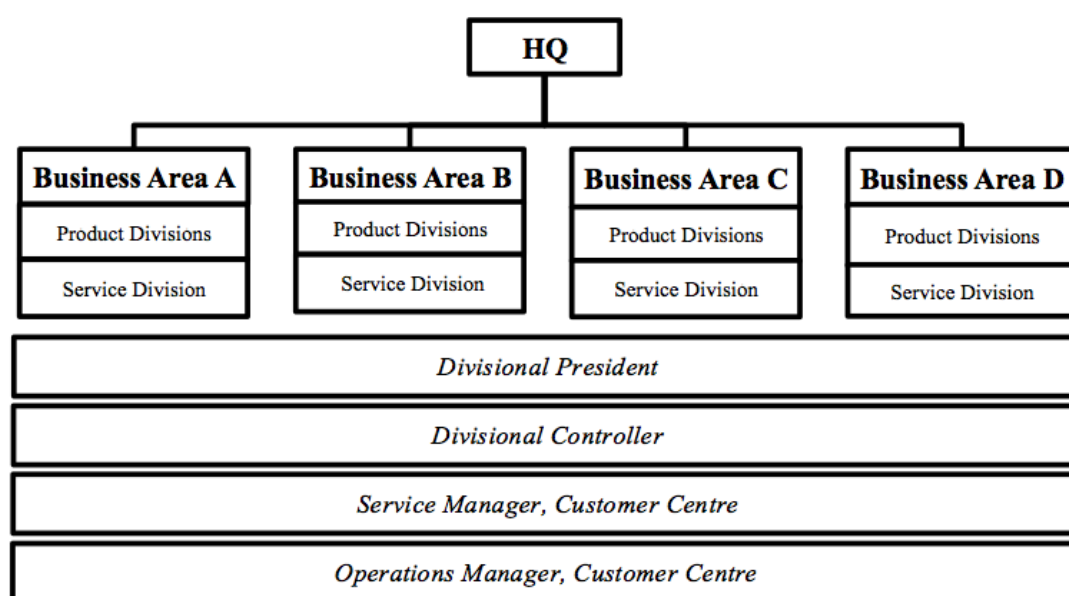


Figure 2: Interview overview

3.3.2. Interview process

We decided to conduct the interviews using a semi-structured approach. In practice, this meant that we had prepared a set list of question on which we structured our interview, but we were open to follow new and sometimes unexpected avenues as the interview carried on. At the same time, we made sure that we had received answers to all of our set questions by the end of the interview. The set list of questions was therefore treated rather as a checklist. We decided to do so since we had insufficient knowledge of the possible managerial tensions and the PMS used prior to the interviewing process, as that information was difficult to assess by other means than through interviews.

The set list of question was constructed after a thorough review of the relevant literature at hand and after two initial meetings with two representatives from group controlling, including the head of the unit. We asked primarily open-ended questions in order not to consciously lead the interviewee into a certain direction, and we often asked the interviewee to further expand on his/her answers. After some of the interviews, we also reviewed our set of questions and revisited our theoretical framework, based on the interview findings. This followed our ‘systemic combination’ approach.

The interviews were normally one hour long and were conducted either in person or over the phone. The interviews were all conducted in as comfortable a manner as possible. Due to both time constraint and financial means we were not able to meet the foreign employees in person. The interviews were tape-recorded after permission from the interviewee so that they could be reviewed afterwards. In cases where there were uncertainties or where we needed more information, we would contact the interviewee via e-mail and request further information.

It would have been preferable to have the interviews take place in similar settings, i.e. to have conducted all interviews in person for instance. In doing so, the interviews would have been better matched for comparison. Previous research have been made that shows that an interviewee is likely to respond differently depending on the context in which the interview takes place, such as at work or at home, number of people present, communication tool etc. However, the area is under-researched (Hunter, 2001) and there are no easily accessible answers as to how to deal with the consequences of having different settings.

3.4. Quality of study

When interpreting the results the reader should be fully aware of the strengths and weakness of the research design as well as the reliability and validity of the data collection and analysis.

3.4.1. Strengths and weaknesses of the research design

The case study method is commonly used in accounting research, and as any method it has its advantages and disadvantages. It has been shown above that the case study is an appropriate method to apply when conducting exploratory research. The disadvantages that have been highlighted are concerns for a lack of generalizability and the opinion that while case study findings are often descriptively interesting, the results and conclusion are not convincing. On the other hand, proponents for the case study method argue that the method is necessary in order to be able to grasp the complexity of theory and phenomena (Otley & Berry, 1994). While we agree with the latter argument, we acknowledge the former. As for generalizability we do not claim that our findings will be generalizable, since they are dependent on a context which is unique for the case company. However, the findings will be of interest to managers at a company in a servitisation process as these can be compared and contrasted to their company's particular business setting. Also, our findings will add to existing literature since similar research has not previously been conducted. In order to advance the literature, we have had a clear theoretical point of departure, which has been followed throughout the research.

3.4.2. Reliability and validity of data collection and analysis

In order to improve the reliability and validity of the data collection and analysis, we have followed the three recommendations made by Yin (2009), namely: 1) to make use of multiple data sources, 2) to establish a 'chain of evidence', and 3) to continually have key informants review drafts of the study.

Multiple sources of information were used in the research in the form of interviews, visits to company premises, demonstrations of internal software tools and processes as well as a range of documents on strategy development, business practices etc. We therefore relied on more than the interviews alone, so as to receive a broad as picture as possible.

A study provides a 'chain of evidence' by presenting the contents in a way that the reader can understand how the conclusion was logically derived. We hope to have provided such a structure to our thesis by clearly stating our intentions of the research, our theoretical standpoint, how the research was conducted, by presenting relevant results in an orderly fashion, and finally having a well-structured analysis. A careful use of referencing has naturally been applied.

Finally, we communicated with key informants at the case company and the academic institution during the course of the study. Summaries of our understanding of business practices were communicate to our main contact person at the case company for cross-checking. Our academic tutor

was involved throughout the process to review the logic of the study as well as to review drafts of the thesis itself.

4. Empirics

This chapter describes the empirical findings of our case study. The chapter is divided into five sections. First, a brief overview of the case company, ManuCo, is given. This section presents a short company history and ManuCo's organisational structure. Next, we describe ManuCo's servitisation efforts, where our focus will be on the creation of the service divisions and their characteristics. The third section gives an overview of the managers' perceptions of the increased focus on service and particularly the decision to separate service from product operations. Both the views of the service and product divisions are given. The section also addresses the practices that are in place at ManuCo to foster collaboration between the two division types. In the fourth section we describe the formal PMS at ManuCo, which will be followed by a fifth and final section on the observed informal control mechanisms at ManuCo. Note that all interviewees will be referred to as 'he' to better disguise their identities.

4.1. ManuCo background

ManuCo is an industrial group that offers industrial productivity solutions including industrial equipment, tools and after-sales service. The group was founded in Sweden at the end of the 19th century. Today, ManuCo is a multinational company with operations in more than 170 countries worldwide and employs around 40 000 employees (Annual Report, 2012). The corporate culture is characterised by openness and co-operation, customer commitment and a continuous development of high quality products (Divisional Controller, Product Division). In the 1980's, the company fundamentally re-structured its organisation and became highly divisionalised, which all interviewees agree is the main strength of the company. ManuCo is structured around four business areas that in turn consist of a number of near-autonomously governed divisions. In 2011, in order to increase the focus on service, a decision to add four service divisions to the organisational chart was taken, one for each business area, resulting in a total of 22 divisions. Each division has separate profit and loss accountability and balance sheets, and the division is considered the highest operating unit at ManuCo. HQ has no operational influence. Figure 3 below illustrates the organisational structure at ManuCo.

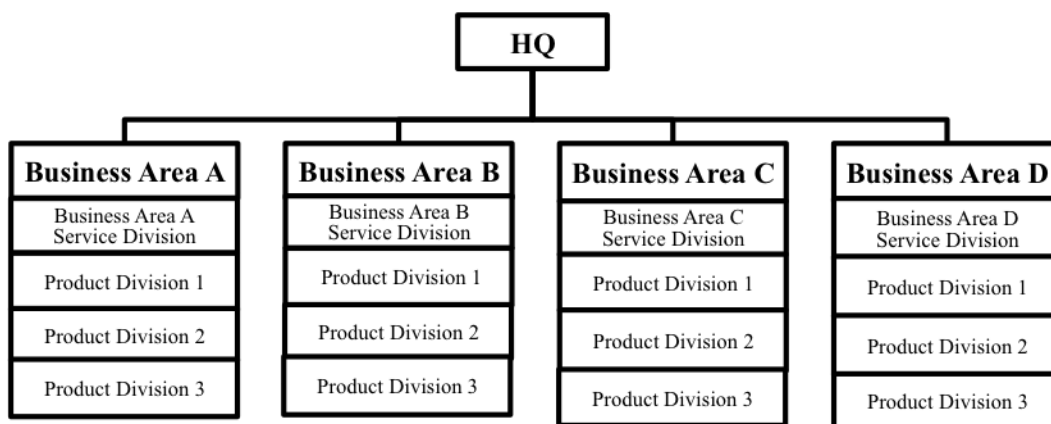


Figure 3: ManuCo's organisational structure

Each business area comprises a number of product divisions and a service division responsible for the servicing the aftermarket for all product divisions within its business area. The product divisions develop and manufacture products and spare parts and the service divisions are responsible for the after-sales service, or the 'aftermarket'. Operations are carried out through a number of globally scattered business entities, consisting of product companies, distribution centres and customer centres. There are in total close to 500 business entities worldwide, many of which are shared between

divisions and business areas in a complex network. The product companies are responsible for product development and manufacturing. Finished products are transferred to the distribution centre and then shipped to customer centres, re-sellers, or the end-consumer. The customer centres are responsible for sales of the product divisions' products as well as for sales of the service divisions' services. The customer centres also conducts the service and are responsible for all customer contact. In fact, the service divisions' operations take place in the customer centres, as the technicians are employed within the customer centres. This was the way the customer centres were structured before the reorganization as well.

The focus in this paper is on the relationship between the HQ, the product divisions and the service divisions. Divisional top management has been interviewed as well as representatives from the HQ, and as such we have a high level perspective within the organisation.

4.2. ManuCo's servitisation: focusing corporate strategy on the aftermarket

ManuCo has a long history of being a highly product driven company. Over time, however, the company has increased its focus on serving the aftermarket. In 2012, service revenue represented 40% of the company's business (Annual Report, 2012). This section first describes the organisational restructuring that took place when the service divisions were created, which is then followed by a description of the new service organisations.

4.2.1. The creation of service divisions: a group-wide effort

Prior to the creation of separate service organisations at ManuCo, each product division was responsible for the product from R&D to manufacturing and after-sales services. In this set up, there was little or no co-ordination between the product divisions' aftermarket activities. Figure 4 illustrates the organisational structure in place before 2011, the year by which all business areas had established separate service divisions.

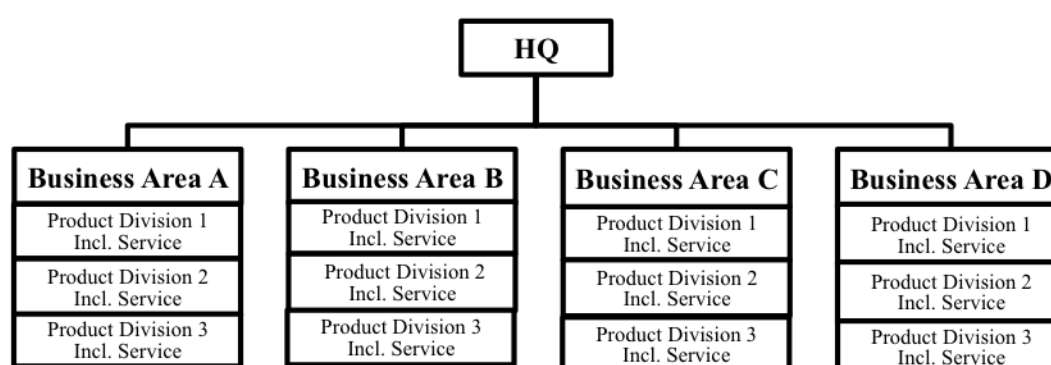


Figure 4: Organisational structure before the creation of the service divisions

In the organisational setup above, the results from the high-margin aftermarket business were consolidated with the results from less profitable product sales. The accounting systems were not able to fully distinguish the two businesses and thus made it difficult to determine their respective profitability. The margins differ significantly; the aftermarket business can enjoy profit margins reaching 70% compared to profit margins around 20% on product sales (Vice President, Service Division).

In 2011, a group-wide organizational restructuring was undertaken, in which it was decided that all four business areas should add a service division that would integrate the aftermarket within each respective business area. Each service division was given profit and loss accountability and reporting

responsibilities similar to the product divisions. This restructuring was the result of a long process. In the beginning of the 21st century, service activities were not something that the group as a whole was devoted to:

“Service and aftermarket used to come as a tail after the product equipment sale, the culture was to sell machines, service was taken for granted and we did not work with it. However, over time focus has changed” (Divisional Controller, Product Division).

Over time, the service focus increased in the different business areas, although to different extents. In 2001, one of the smaller business areas in ManuCo (Business Area C) decided to create a *service business line*, in order to obtain a higher accounting transparency and better information on the service operations (Vice President, Service Division). Another key driver to create a separate service business line for the aftermarket was to develop a competitive edge towards competitors by preventing the habit that service was often almost given away for free to customers, which the divisional controller of the business line (that later became a *division*) explains as such:

“If we sell and provide good service, it will improve customer satisfaction and make ManuCo more unique in comparison with our competitors. However if we give away service, the customer will not see the value in it, and we ourselves will do a bad job, as we will focus on keeping costs down. By creating the service business line we ensured that it was a profitable business.” (Divisional Controller, Service Division)

In 2007, the group’s largest business area (Business Area A) created a separate service division as a step to grow the aftermarket business and to improve the service offering. To increase the focus within the *product divisions* was also mentioned as an objective by an interviewee. The service division creation resulted in that this business area was able to focus its purchasing and coordinate overlapping functions (Press release 2007-10-18). The main difference between a service business line and a service division is that a division has much more autonomy than a business line.

The final decision to create service divisions in the three other business areas was decided at HQ. The decision can to a large extent be associated to the (at the time) newly appointed CEO, who was the former business area president of the business area that created a separate division in 2007. The timeline below (figure 5) illustrates the three major organisational changes towards a dedicated service focus at ManuCo.

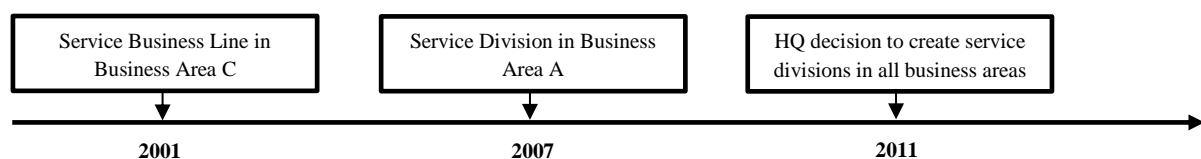


Figure 5: Important steps towards servitisation

The main driver to establish service divisions in all four business areas was to increase the service “focus” within the organisation. The predicted effects of a greater focus were higher aftermarket revenues, improved operational efficiency, increase the quality of the service offerings and ultimately improve customer satisfaction and profitability (Vice President, Service Division). All interviewees agree that the restructuring did increase the focus on service; “It is a very dedicated organisation now” as one interview puts it (Divisional Controller, Service Division). As two of the business areas already had separate service organisations, one in the form of a business line and one as a separate division, the creation of the service divisions in 2011 did not have a large impact on these two business areas.

Figure 6 below illustrates the organisational structure after the creation of the four service divisions.

The creation of the service divisions resulted in a separation of product value chain responsibility.

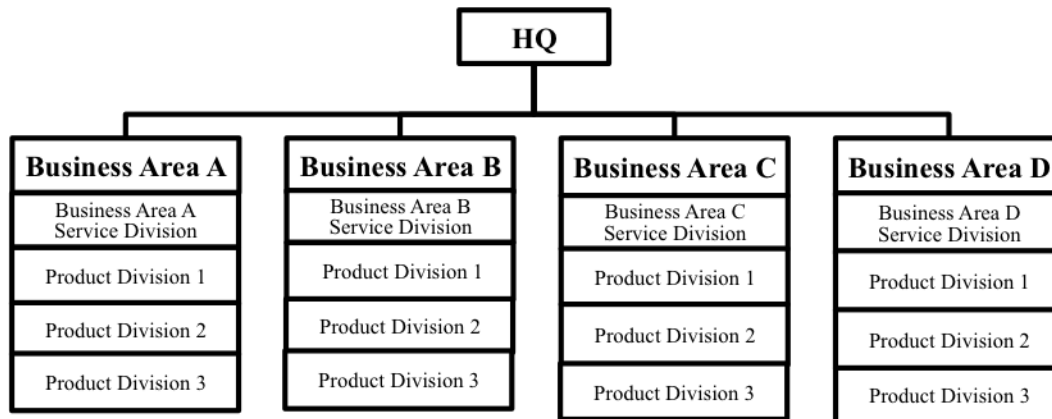


Figure 6: New organisational structure

Before the organisational restructuring, product divisions had full value chain responsibility, i.e. responsibility for product development, manufacturing, sales and marketing, and the aftermarket. As a result of the servitisation efforts at ManuCo, the service divisions were given responsibility for the aftermarket services (and the sales and marketing for those services) for all product divisions in a business area (see figure 7 for a simplistic overview of the value chain responsibilities):

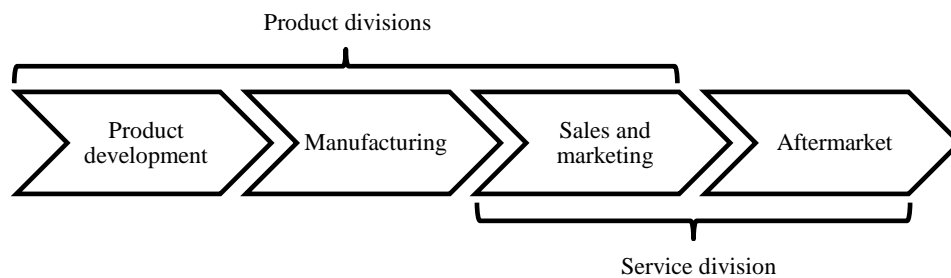


Figure 7: Value chain responsibility – shared between the service division and the product divisions

4.2.2. Service division characteristics

The service divisions are responsible for the provision of aftermarket services, which mainly consist of the sale of spare parts, product repair, maintenance, add-ons, product optimisation services, product and service support, and training. As such, the service offering consists of both spare parts and labour. Each service division has global responsibility and the nature of the services varies between business areas. The “production” of services is mainly conducted in the customer centres or at the customer site. ManuCo also employs service technicians full-time at the customer sites to conduct continuous preventive maintenance and repair.

ManuCo offers several types of service plans. As a step in growing the aftermarket business (the servitisation process), ManuCo works on increasing the sales of service plans and other more comprehensive service contracts. This ambition is referred to as “climbing the service ladder”, which was confirmed by the interviewees. The ‘service ladder’ illustrates the different kinds of services that ManuCo offers, ranging from simple services at the bottom of the ladder, to increasingly more labour-intensive and comprehensive services as the ladder progresses.

The service ladder does not look the same across the business areas, although the principle is the same (illustrated in figure 8 below).

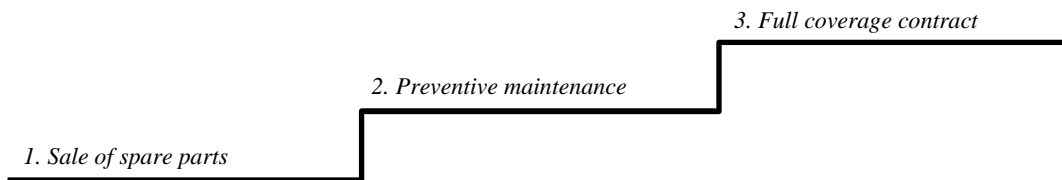


Figure 8: The ‘service ladder’

The first ‘step’ on this simplified ladder is the sale of spare parts. The second step constitutes a preventive maintenance contract in which the customer signs up to a regular inspection plan to prevent product malfunctioning. At the top of the ladder, customers are charged a fixed fee for a service package that includes all necessary spare parts and most or all of the services that ManuCo has to offer, during a pre-determined time period. For instance, ManuCo may have service technicians and local repair shops set up at the customer site that provide maintenance, repair, and continuous calibration and customization of machinery to optimize the product performance with other products in a production system. These types of contract are valued by customers who want a predictable total cost of ownership and who suffer great expenses during production system down-time (e.g. a halted production line).

4.3. Management response to servitisation

This section provides an overview of how the servitisation was perceived by the interviewees, and in particular how the creation of the service divisions was perceived. First, a short introduction to the general effects of the servitisation efforts is given. We then turn our focus to the perception of the product divisions, followed by the perception of the service divisions. Next, two important processes in place to foster collaboration between service and product divisions are covered.

Overall, the creation of separate service divisions has had a positive effect on both the performance of the aftermarket as well as the performance of the product divisions, according to the interviewees. Services were for a long time not considered as a value adding product. In many cases, service was treated as an “add-on product” that often was often included in the product sale for free, and was thus not regarded as money making. The service divisions definitely solved this way of thinking about services. Furthermore, the restructuring has resulted in leaner product divisions as they have been forced to prove their profitability without the aftermarket contribution to the bottom line:

“To be honest, before we split the aftermarket, we didn’t realize how profitable the aftermarket was as clearly as we do now. Maybe we should do a better job on the equipment side too, we were thinking. All the divisions in the company have become better after the service division creation.” (Operations Manager, Service Division)

Despite the many positive effects brought by the servitisation efforts, several issues occurred as well. The main issue that was voiced concerns the relationship between the service and the product divisions. The product divisions have specific goals that often do not coincide with the service divisions’ goals. The lack of dialogue between product development and service divisions is illustrated in the following statement:

”The product always comes first. Then there is a fire distinguisher when it comes to the development of the aftermarket products.” (General Manager, Customer Centre)

There seems to be a general agreement among the interviewees that there are many challenges that must be solved in terms of the collaboration between the two division types, both from a product division point of view and from a service division point of view. Both sides also agree that

collaboration is extremely important, given the evident interrelatedness of the two businesses, and that it will take time until a well-functioning collaboration is in place. The necessity of collaboration was expressed as followed by a divisional controller from a product division:

“We are living in a symbiosis and collaboration is vital for our survival.” (Divisional Controller, Product Division)

4.3.1. Perceptions of the product divisions

From a product division point of view, an immediate effect of the creation of the service divisions was a sharp decline in revenues;

“The first thing I noticed was that we lost half of our revenues and even more of the profits. The spare parts were very profitable and now they no longer belonged to us.” (Divisional Controller, Product Division)

Another divisional controller saw how the division he belonged to went from being ManuCo's most profitable division to become the least profitable one. Despite this drastic change, the general view among the interviewees from the product divisions was that the restructuring was good for the company. In the beginning, however, there was some reluctance to separate the aftermarket from the product divisions, as expressed by a vice president in a product division:

“Over time I have become more and more convinced of the positive effects in having stronger, separate service divisions.” (Vice President, Product Division)

Another vice president has a pragmatic take on the subject:

“Some decisions we can't fight against. Instead I started to think ‘how can we make this work?’” (Vice President, Product division)

However, this vice president was not convinced that the decision was wise as he feels that he has lost control over an important part of the business;

“The customer sees ManuCo as ‘one’. When I as a product guy visit the customers, all they talk about is their aftermarket support for which I am not responsible.” (Vice President, Product Division)

One interviewee is concerned that ManuCo's strengths of being a divisionalised company had been lost when the service divisions were created. He emphasises that separating service from product operations in fact made the business area the highest operational unit, instead of the divisions. He stresses that there is much more of a distance now between the product and service operations (Vice President, Product division). There seems to be a general agreement among the product division employees also that the service divisions have moved too far away from the product divisions and that the service divisions do not have the best interests of the product divisions at heart.

Some concerns are voiced related to the fact being that the customer demand for services is different in the various businesses areas. A divisional controller in a product division believes that it was not a good idea to separate the aftermarket in his business area in the same way as it was done in other business areas,;

In business area A, service technicians seldom travel to visit their customers to discuss product issues whereas the service technicians in my division interacts on a daily basis with the product operators (i.e. customers, authors' remark) and thereby gets a constant feedback about what is good and bad about the product itself.” (Divisional Controller, Service Division)

Since the technicians in his business area work so much closer to the customer and the product itself, he argues that product and service are much more interrelated, and thus were difficult to separate.

The product divisions address several issues concerning the collaboration with the service division in their respective business area. One of the concerns that interviewees mention is the struggle over which division should bear certain costs;

“We spend a lot of time arguing about which division that should take the costs on certain inventory. This is clearly not value creating for the customer. I think that we have some difficulties when it comes to being pragmatic about this and I think it is ridiculous to have these internal debates.” (Divisional Controller, Product Division)

Another friction between the divisions concerns profit sharing between the service and product division when a product sale also includes an after sales service (which it does in many cases). The general manager at a customer centre argues that in these scenarios it is common to see arguments about which division should take the cost of offering discounts to the shared customer, for instance. The product divisions also raise complaints that the service divisions priced spare parts too high, and that the pricing after the service division creation was more aggressive than it had been when the product divisions were responsible for the pricing. The argument is that if customers believe that spare parts are too expensive they are likely to altogether switch product supplier.

Thus, from a product division point of view, the collaboration with the service division has met several challenges. The vice president at a product division is also worried that these could become more severe in the future. He bases his argument on the rate at which the service division is externally recruiting new employees with no previous experience at ManuCo, which he argues constituted a risk that the product and service businesses would increasingly diverge from each other. This could likely happen, he argues, since the new recruits do not have the same ‘know-how’ of the product business and its co-dependence with the aftermarket business as the current managers did, most of whom had been with ManuCo long before the service divisions were created. “If this goes too far we will have no business at all” he says (Vice President, Product Division).

The above statements summarise the product division representatives’ perceptions of the servitisation efforts at ManuCo. The perceptions were mixed, although most interviewees argued that the decision to create separate service divisions was ultimately a good idea for the company. However, the product divisions experienced several collaboration difficulties with the service divisions, which has caused frictions between them.

4.3.2. Perceptions of the service divisions

The interviewees at the service divisions all celebrate the decision to create separate service divisions for all the aftermarket activities in a business area. Importantly, the service divisions are perceived to have given the aftermarket a much more prominent role at ManuCo. The role of the aftermarket has changed from only signifying a “simple” servicing of products to being regarded as a strong business generator that significantly contributes to ManuCo’s bottom-line, the vice president at a service division reflects. There is also a general agreement that employees today feel prouder to work with service than they did before. As one manager puts it:

“Today people have the position and respect they deserve. Before the service people worked in the dark, while generating most of the profits.” (Operations Manager, Service Division)

Due to the elevated status of service operations, managers find it easier to recruit new employees to the aftermarket business, which previously was not considered an attractive workplace by many. A

service division vice president points out that the competence level among employees has increased as a result, along with the salary levels. The general manager at a customer centre further argues that employees who strive for a future management role want to make sure that they have worked with aftermarket at some point in their careers.

There is a general conviction that the servitisation efforts at ManuCo have increased the profitability of the aftermarket business. The creation of service divisions was considered a main driver behind the improved results, due to the increased focus and accounting transparency that followed. Although it has long been understood that the aftermarket was profitable, the exact cost structures or margins were not known, as a group controller points out. The vice president as a service division also highlights cost synergies that could be achieved through integrating all service operations within the business area. Before the service divisions were created, the product divisions were responsible for the whole lifecycle of the product and as such had separate systems and back-offices to support their aftermarket. By integrating the aftermarket businesses in the service divisions, there was only need for one system that handled technical documentation, for instance, and administrative tasks could be designated to one rather than several locations. General procurement of IT systems, software programs and similar could also be co-ordinated and a few functions were outsourced (Vice President, Service Division).

Although several benefits were achieved from the increased service focus, the service division interviewees point out several challenges that relate to the collaboration between them and the product divisions. One service division operations manager points out the importance of seeing the service division as a 'dedicated' rather than as a separate service division.

"It is about the mind-set and about how we approach each other within the organisations. The divisional management must work hard when it comes to communicating to the other divisions that we are a *dedicated division*, not a separate one. We do not want to see any barriers, because if we do, it means less profit and a lot of wasted time."

The collaboration is improving, however, many argue, as illustrated in the following statement:

"Last year we were engaged to the product guys, this year we are going to get married to them. That is the way we see ourselves. It is to aligning our business, knowing what they want from us. We need to work with synergies." (Divisional Controller, Service Division)

Nonetheless, the service division interviewees believe that there are too much internal politics within the business area and that there is a need to synergise more between service and product divisions. Some of the managers in the service divisions feel they do not get the support they need from the product divisions;

"If I go to the product division and say that we need to work together I don't get any cooperation. I need to make a fuss first. It's about people attitudes. At the end of the day, it is about ManuCo's business as a whole. Who cares which business area or division it is?" (Divisional Controller, Service Division)

The vice president at a service division also emphasized that the service division has fundamentally different goals than the product divisions do; the product divisions focus on product quality and innovation while holding R&D and manufacturing costs down. The service divisions, on the other hand, have a much stronger focus on the customer and strive to be the most committed, efficient and competent service provider to maximise customer value and satisfaction.

One area where collaboration between the two division types is vital relates to product design and development. The aim to 'design for service' is discussed by several interviewees. Design for service involves including service design and serviceability in the product development projects. However, some interviewees argue that there is a lack of co-operation from the product divisions. One example given by a divisional controller who illustrates how the product divisions are reluctant to design the machines in a way that would make certain components of the products competitor proof and thereby ensure that the customer buys spare parts and services from ManuCo:

"Doing this might require the product division to buy a more costly component, however it would ensure piracy protection. However, as the product division has low production cost as an important goal this is difficult." (Divisional Controller, Service Division)

There is therefore no short-term or direct benefit for the product division to choose the more costly component since the additional revenue streams will be reaped by the aftermarket. Another interviewee mentions how his division wishes to install tracking sensors on a certain product type that would significantly improve monitoring. Such a sensor would ultimately enable the service technicians to better service the machine as the sensor would inform the technician when to service the product, and which parts. However, the product division had not yet agreed to the project, as it would not bring the product division any value, they argued (Operations Manager, Service Division).

One potential reason contributing to the lack of collaboration seem to be that the service and product divisions have separate profit and loss statements, and that this is what matters in the end;

"We have been working internally across the divisions to align focus and all the presidents are friends and we all understand the importance of service. However, in the end, it is the division's own profit and loss that counts." (Vice President, Service Division)

Finally, another issue concerns that the product divisions do not provide the service divisions with the right information that enables them to service the machine:

"Usually, after the product design is done they are less interested in doing the technical information and so needed for servicing it, since those creating the information are not those that use the information." (Operations Manager, Service Division)

The above statements summarise the service division representatives' perceptions of the servitisation effort at ManuCo. All interviewees agree that the decision to create separate service divisions was good as it increased the overall focus on service in the company. Similar to the product divisions, the interviewees from the service divisions raise several concerns about the collaboration between the two division types. The service division employees highlights that they do not receive enough support from the product divisions, which results in frictions between them.

4.3.3. Structures and processes to foster collaboration between service and product divisions

The above two sections illustrate how ManuCo's servitisation has included the separation of product and service operation by creating service divisions, and how this was perceived by high level managers in both division types. Several difficulties in the collaboration between service and product divisions were exemplified. It also addressed the goals and agendas in the two division types. Two initiatives that promote collaboration between the two division types are the design for service initiatives and the variable compensation system.

An initiative aimed to improve the collaboration between service and product divisions is the 'Design for service'. Design for service is a corporate initiative that involves including service design and

serviceability in the product development projects. To ensure that the product divisions include a service perspective when developing the products, one of the service division employees declares that the service division bears 50% of the product development costs. This gives them the authority to staff service employees in product development processes, in order to improve the serviceability of the products. The importance of the design for service initiative is expressed as follows by an operations manager in a service division:

“The most important co-operation we have is that we (service) have people in product development. We are engaged from project start to product launch and we strive to ensure that the product is easy to service. Designing for service is about making a product that can be served in an economic, environmental and sustainable way.” (Operations Manager, Service Division)

In order to reach the benefits of the design for service, there must be a co-operation between the research and development function at the product divisions and service divisions. However, as illustrated in 4.3.2., there are several frictions. The issues with designing for service were there already prevalent before the creation of the service division, some interviewees argue, but now they have to be dealt with between two strong divisions, which made it more complicated. One interviewee suggests that a dedicated function to do the communication job between service divisions and product division could be a good way to ensure co-operation (Operations Manager, Service Division).

Further, ManuCo has a remuneration package in place for divisional management that includes variable compensation. The variable compensation is calculated based on a number of parameters, which are updated and evaluated on an annual basis. The divisional vice presidents have a significant part of their variable compensation based on the business area performance as a whole, which means that their variable compensation is dependent on the performance of both the product divisions and the service divisions. As such, the variable compensation package is used as a tool to steer behaviour and financially incentivise collaboration between the divisions.

Finally, there is a general agreement among the interviewees that they wish for the collaboration between the service and product divisions to be stronger. The view that the restructuring has resulted in a silo way of thinking is widespread among the interviewees. A major challenge seems to be to create an understanding that both divisions have a common goal, all the way out in the organisation. The service manager at a customer centre puts it as such:

“If we focus too much on the individual goals we will forget about the big hat!” (Service Manager, Customer Centre)

4.4. Formal PMS

This section provides an overview of the main formal control mechanisms that are in place at ManuCo. At ManuCo the formal PMS consist of a group wide reporting system (GRS), which is used in combination with a large variety of local performance measurement systems that are division specific. There are also a wide range of various performance measures in every customer centre, distribution centre and product company. Figure 9 on the following page provides an overview of the formal PMS in place at ManuCo.

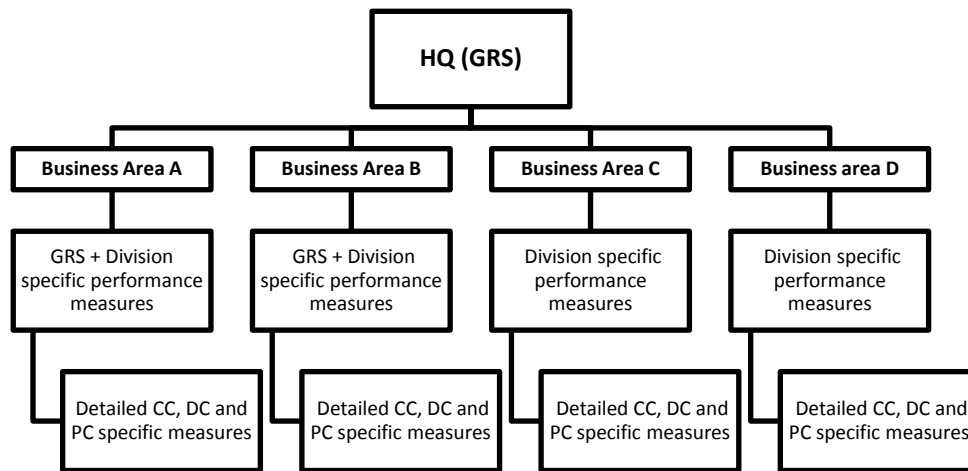


Figure 9: Formal PMS at ManuCo

All controllers in ManuCo use the group wide reporting system. The GRS measures are set by HQ and consist of three reporting areas: financials, HR (related to the employee base, such as number of employees, ageing, and diversity) and sustainability. During the first three days of each month the divisional controllers feed their figures into GRS by importing data from their respective business systems. The divisional controller consolidates data from the customer centres (CC), production companies (PC), and distribution companies (DC). Each service division and product division forwards consolidated reports to the business area where the results from all divisions are further consolidated before it is finally passed on to HQ. In addition to GRS, all the divisions and entities have their own business systems, which are owned locally and not standardised across the group. These consist of a large number of diverse KPI:s, both financial and non-financial. One divisional controller from a product division reports that they are using 10 different systems. The reporting on customer centre, production company and distribution centre level is more detailed than the reporting on a divisional level. However, what is reported to HQ always runs via GRS, which is seen as the primary reporting system in all units.

Measures that will have an influence on the whole group are in general set by the group and then communicated down to the divisional controllers. In some cases, divisional controllers will suggest measures to be included in the GRS. The group level management then decides if it should be diffused in the rest of the organisation. This is often a long and slow process, on the other hand, as it takes a long time to get all relevant parties in the group to agree. Therefore, customised division specific solutions are often made;

“Due to the decentralisation it is difficult to convince everyone. If we want to implement the measure within a reasonable amount of time, we choose to measure it on the side.” (Divisional Controller, Product Division).

Formal PMS in relation to aftermarket operations

Before the service divisions were created, some product divisions reported a set of key figures that related to their aftermarket business. These key figures were proposed by the divisions to the group, with the aim to improve the monitoring and follow-up of the aftermarket business. Further, the aftermarket business was measured in different ways depending on the product division. This put a large workload on the customer centres that had to deal with a variety of measures and reports that needed to be tailored to each product division’s specific needs and structures.

When all service divisions were established, service changed from being a cost centre to being a profit centre. Further, there was no longer any product division that reported service specific key figures in the GRS. Instead, all service divisions were given full profit and loss accountability and balance sheets separate from the product divisions. As a result, it became less complex for the product divisions to follow up on their operations, as they were no longer held accountable for the aftermarket. In addition, the service divisions standardised much of the reporting and performance measurement practices in the aftermarket entities (i.e. the customer centres). The general manager of a customer centre sums it up as such:

“Before the service division was created, each product division had different views on how the aftermarket should be conducted. This made it complicated for me, the customer centres, and the salespeople in terms of systems and reporting requirements. Now it is a lot more streamlined. If we have a preventive maintenance contract for instance, it is now specified in the same way regardless if the products belong to division 1 or division 2.” (General Manager, Customer Centre)

When the service divisions were created in the remaining three business areas in 2011, many of the measures used in the service division that was created in 2007 were “copied” and implemented in the new service divisions. One such measure was the one-to-one ratio, which represents the ratio of the installed base that ManuCo services in a given year. This measure was thus diffused from the original service division across the organisation and is now one of the most important service specific measures in all business areas. The practices of more experienced service divisions could therefore be leveraged across the organisation, as a divisional controller explains:

“Since this division is big with a long history it has been able to develop the service function, and have had the time to implement a lot of standardised processes.” (Divisional Controller, Service Division)

Although certain key measures have been diffused globally, the performance measures between service divisions still differ given the differences in their business practices.

No overlapping financial measures on a divisional level

There exist no overlapping financial measures across divisions at ManuCo. The performance measurement systems are constricted to the separate divisions. As such, there are no direct financial incentives for a product division to stimulate the business of the aftermarket;

“Everybody is behaving the way they are measured. If you are only measured on selling red cars then you will only sell red cars, and no other colours, right?” (Vice President, Product Division)

The vice president in a product division believes that overlapping financial measures would be a good way to incentivise collaboration across the two division types and believes that conflicts could be better managed by improving the follow-up;

“I strongly believe that there should be separate service divisions, however the conflicts need to be better managed between the divisions, which of course is related to service and follow-up.” (Vice President, Product Division)

A service division product manager believes that overlapping financial measures would be a good way to enable cross-communication. The formal PMS in place that foster collaboration consist of two mechanisms: a variable compensation portion of the vice presidents’ remuneration packages that are tied to the results of the business area as a whole (see section 4.3.3.), and the customer surveys. ManuCo performs customer surveys on a regular basis across the entire organisation. “Number one is to know the feedback from our customers” a vice president in a service division puts it. The customer

survey is seen as a performance evaluation tool that combines the performance of both service divisions and product divisions. This has to do with the fact that the customer evaluates his experiences with ManuCo as a whole.

4.5. Informal control mechanisms

The informal control mechanisms at ManuCo could be found in the company culture and in the personal interactions between high-level managers. ManuCo has a strong culture, with Swedish influences and a long history of being a product driven culture. The employees tend to stay long with the firm, which is clearly reflected in the fact that almost all interviewees have been working for ManuCo between 10-20 years. Further, around 80% of the manager positions are internally recruited. Most managers have also worked in different parts in the organisation and have large personal networks that they can make use of to contact employees in different divisions to discuss strategies or issues.

The CEO of ManuCo is described as being passionate about service and in the corporate communication it is evident that the CEO assigns a high value to the company's service offer. Moreover, according to one of the interviewees, the CEO sees the company as a service company rather than as a product company. However, some of the interviewees believe that the CEO's service vision has not yet permeated the whole organisation. For instance, the new service focused approach within the company has not been fully incorporated into the culture;

"We are still very product focused, it is about having the coolest products. Service is more of an underdog." (Vice President, Service Division)

However, most interviewees agree that the company is going towards a more service driven culture;

"We are still mostly a product driven company, but step by step we are becoming more service driven. But when it boils down to it, the most important thing is to sell the product and the service then comes after." (General Manager, Customer Centre)

Nevertheless, the service thinking seems to be a clear component of the culture in the service divisions, and the importance of having a service-oriented culture in the service divisions is expressed as follows:

"For a service organisation, culture is far more important than strategy. People must feel that they want to do the right thing and work with the customer in a long term perspective. The proud people perform culture is extremely important in a service organisation." (Vice President, Service Division)

Regarding personal interactions, the divisional management usually comes together in meetings; typically the divisions sit together in a monthly management meeting, and every quarter strategic issues are discussed;

"We have quite a good level of interaction, sometimes we fight, but we don't kill each other." (Vice President, Service Division)

Another interviewee has a less positive view on the collaboration:

"We are so busy so that when we meet in the monthly management meetings there's not much time to attend to innovation and co-operation." (Vice President, Product Division)

The operations manager within a service division stresses that the divisions are so different with respect to their business models doubting the gains of having formal meetings;

“We should not add meetings just for the sake of having meetings. If I want to learn something specific from another division, I talk to the person directly, we know each other.” (Operations Manager, Service Division)

There is a general agreement that the culture and people’s mind set is an important aspect to consider when discussing the servitisation of ManuCo’s business;

“It’s about people’s attitudes and mind-set. They should think globally, who cares about which business area or division it is.” (Divisional Controller, Service Division)

The discussions with ManuCo’s employees reveal that a more service oriented culture has the potential to reduce the frictions between the product divisions and the service divisions. Furthermore, culture is pointed out as an important factor to ensure that people are behaving in the same way.

5. Analysis

In this chapter, the empirical results drawn from the case study at ManuCo is analysed based upon the theoretical framework developed in section 2.4. (see figure 10). An important component in a servitisation setting is the separation of service and product operations. At ManuCo, this had been done by integrating the global aftermarket activities in four distinct service divisions, one for each business area. The framework guides the discussion to bring an answer to the research question as to what role PMS play in managing tensions in a servitisation setting. The analysis is divided in two parts; the first part investigates the three tensions types described by Busco et al. (2008) in ManuCo's servitisation setting. The second part investigates the role that PMS have in managing the tensions and concludes with answering the research question.

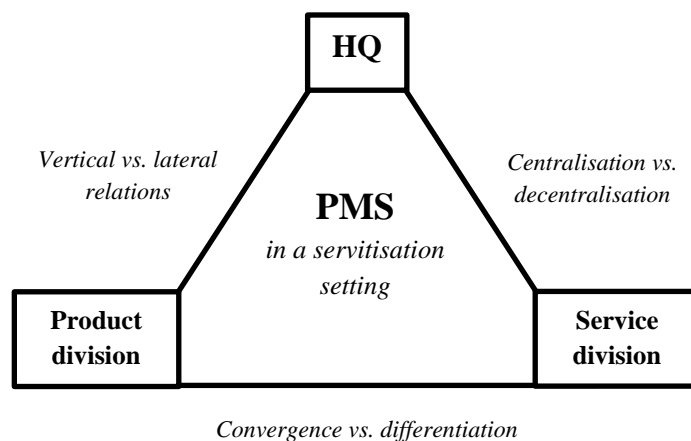


Figure 10: Theoretical framework, based on the findings by Busco et al. (2008)

5.1. Tensions in a servitisation setting

Busco et al. (2008) discussed the challenges that multinational companies face when aligning global corporate strategies with local business processes in terms of organisational tensions. Previous research has identified three types of tensions that are inherent in such a global integration process. These tensions relate to three dilemmas that the multinational companies will face; the desire to simultaneously centralise and de-centralise decision-making authority, the trade-off relationship between vertical vs. lateral relations in terms of control vs. promoting collaboration between organisational units, and the degree to which practices need to be converged and differentiated. They further argue that although the tensions cannot be eliminated, managing them will assist the company in achieving "...the benefits of global co-ordination and the advantages of local responsiveness" (Busco et al., 2008: p.122).

A key element in a servitisation transition is the integration of global aftermarket units in separate service divisions (Kallenberg & Oliva, 2003). As has been demonstrated in the empirics, this was also done at ManuCo. The decision to separate product and service operations and incorporate the service operations in distinct service divisions resulted in several positive outcomes, e.g. efficiency improvements in both service and product divisions as well as revenue growth in the aftermarket business. However, the increased focus on service also created several organisational challenges. The following sections will separately analyse the three types of organisational tensions in ManuCo's servitisation setting. The first section addresses the tension related to the centralisation vs. decentralisation of decision making. The second section analyses the tension related to vertical vs.

lateral relations, followed by the third section that addresses convergence vs. differentiation of practices. Finally, a conclusion of the tensions is given.

5.1.1. Centralisation vs. decentralisation

The level of centralisation and decentralisation reflects the extent to which the HQ delegates decision making authority across the organisation (Busco et al., 2008). Multinational organisations want to leverage their competitive advantage throughout the organisation, which requires a degree of centralisation and co-ordination. At the same time, however, HQ must also allow a certain degree of decentralisation in order for the company to be more responsive to local market conditions, thus an organisational tension can evolve (Busco et al., 2008).

ManuCo has been described as a highly decentralised company in which the highest operating unit is the division. As such, there are several centres of control in the group. Prior to the creation of the service divisions, the entire business (including the aftermarket) was controlled by 18 divisional vice presidents. As a result of creating the service divisions, the decision-making authority over the aftermarket business shifted hands from the product divisions to the service division in each of the four business areas. The addition of four new divisions thus *decentralised* the group as a whole, as decision-making authority became more dispersed. At the same time, the service concentration of the service operations in four different loci, one in each service division, represents a centralisation move as knowledge distance was collapsed between HQ and aftermarket business (Quattrone & Hopper, 2011). Hence, the service operations within each business area fell under the responsibility of the service division that governed all global service operations for the product groups represented in the business area. This brought the different aftermarket operations together. Before the service division creation, there was little or no co-ordination between the aftermarket operations.

The vice president at one of the product divisions confirmed that the separation of service operations from the product operations had a significant impact on his role:

“I no longer have full control, now that I don’t have the aftermarket business in my hand anymore.” (Vice President, Product Division)

Importantly, the decision to create service divisions not only separated service from product operations but also divided the decision-making authority in terms of the product value chain. From having previously been fully responsible for the product, from manufacturing to after-sales service, the product divisions now had to share the value chain responsibility with the service division in their business area. This directly resulted in goal incongruence between the division types, as the main goal of the product divisions was described as selling innovative product while holding the product costs down and the main goal of the service divisions was described as providing the best service. This was further enforced by the fact that the service and product divisions had separate profit and loss accountability. However, collaboration between the divisions was seen as paramount according to managers from both division types. Due to the goal incongruence and a lack of overlapping responsibility, on the other hand, several collaboration issues surfaced as confessed by all interviewees.

In relation to goal incongruence, Visnjic & Van Looy (2013) emphasized that companies should create an integrated business model between product and service operations, in order to emphasize that service is a strategic value component and not merely an add-on product. ManuCo’s business model did integrate product and services, which has been clearly communicated in the company’s recent annual reports. Further, the appointment of a new CEO in 2009 also signalled a stronger commitment to service, as the new CEO had a strong focus on the aftermarket. All interviewees

confirmed that there was a clear understanding on top management level of the strategic importance of the aftermarket. Moreover, business area management is involved in the strategy-making process in each of the subordinate divisions. As such, the needs of product divisions were to some extent taken into consideration when the strategy for the service division was formulated, and vice versa. However, ManuCo's de-centralised structure made it difficult for the group to agree on common goals and agendas. The vice president at a service division commented as such:

"You have an incredible freedom as vice president to do what you want. The downside is that the vice presidents have so much power that they can choose to completely ignore topics that are discussed during meetings when the divisions gather to coordinate activities." (Vice President, Service Division)

The new service divisions were given authority over all product divisions' aftermarket operations, which thereby solved some of the earlier coordination problems between the product divisions that concerned the aftermarket business. However, having one common strategy for an entire business area's aftermarket caused the aftermarket business to diverge from the different product divisions' own goals. As one of the Vice President of a service division confessed:

"They (the product divisions) will probably tell you that service has gone too much in its own direction and have forgotten the product focus and mentality." (Vice President, Service Division).

The goal incongruence did for instance materialize in the challenges in making 'design for service' work (see section 4.2.3.). Other frictions concerned the pricing of spare parts and profit sharing issues between the service and product division when after-sales service was added to a product sale (see section 4.3.1.). The problem that the service divisions was seen to deviate from the product divisions' interests was expressed by the General Manager at a customer centre, who highlighted the importance of seeing the service divisions as 'dedicated' rather than 'separate' organisations, to better instil the notion among employees that all divisions were indeed operating under the same organisational umbrella.

To conclude, central to ManuCo's servitisation setting was the creation of separate service divisions, which resulted in a centralisation of the aftermarket business and a de-centralisation of decision-making authority over the product value chain in each business area. Even though all divisions at ManuCo needed to respond to pressure from HQ to have a stronger focus on the aftermarket business, the divisions were at the end of the day only financially and operationally responsible for their individual division. Goal incongruence thus appeared between service and product divisions which caused collaboration challenges. This strengthened centralisation combined with a higher degree of decentralisation thus caused an organisational tension at ManuCo.

5.1.2. Vertical vs. lateral relations

Vertical and lateral relations are two opposing forces and there exists an inherent trade-off between strong HQ control over subsidiaries (vertical relations) and a strong willingness among subsidiaries to collaborate with each other (lateral relations) (Tsai, 2001).

The creation of four service divisions formed new organisational relations at ManuCo, both vertically and laterally; vertical relations were formed between HQ, business area management and the service divisions, and lateral relations were formed between the service division and the product divisions. Figure 11 on the following page provides an illustration of the new relations (note that the figure concentrates on one business area for simplicity, as the same type of relations were formed within each of the four business areas).

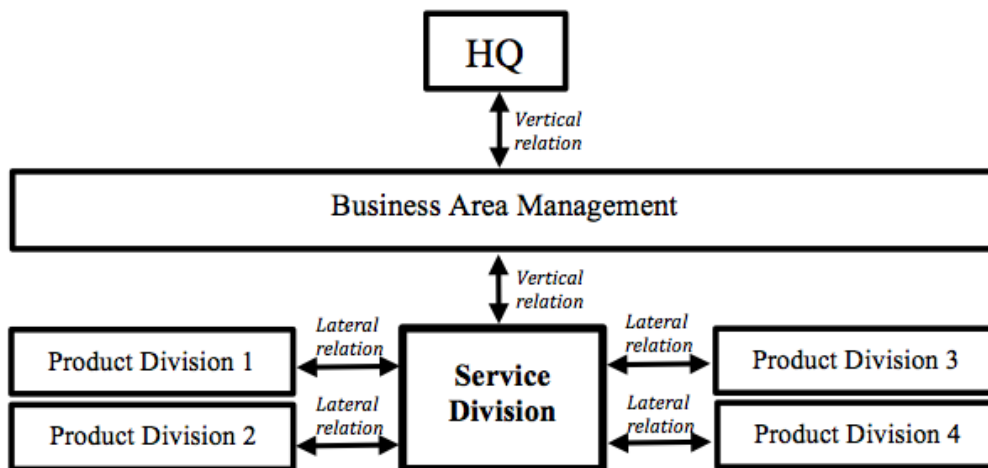


Figure 11: New vertical and lateral relations after the creation of the service divisions

Van der Meer-Koistra & Scapens (2008) highlight the phenomenon that traditional hierarchical organisations are increasingly replaced by organisational structures that have more complex intra-organisational relationships, and where lateral relations have become more important. This transition has also been seen in ManuCo. First of all, ManuCo decided during the 1980s to decentralise the organisation by creating the divisionalised structure that prevails today. Second, the complexity of the intra-organisational relations has increased due to the formation of new lateral relations, as a result of servitisation. Previously, the aftermarket operations were directly integrated with the product divisions, as each product division managed the aftermarket service for their own products. The separation of service operations from the product divisions therefore caused an immediate need to collaborate between the service and the product divisions. As the general manager of a customer centre stated:

“If the service division performs well, so does the entire business area, as they are ultimately sharing the same customers”. (General Manager, Customer Centre)

Service-related issues that previously were handled internally in the product divisions now had to be mediated with the service division. The new lateral relations between service and product divisions were marred by collaboration difficulties, as could be seen in sections 4.3.1. to 4.3.2., where the perceptions of the servitisation efforts were presented. Interviewees from both service and product divisions wanted a stronger collaboration between them. This, in combination with the many collaboration difficulties seen at ManuCo, demonstrates weak lateral relations.

The organisational restructuring can be said to have reinforced the vertical relations between the aftermarket and HQ. By making the service divisions profit centres, the aftermarket was suddenly subject to clearer goals and targets similar to the product divisions. Moreover, the relations between HQ and the aftermarket became more straightforward in each business area, as the aftermarket operations became the responsibility of one single division. This implies that HQ pressure became stronger, indicating stronger vertical relations, as stated by Busco et al. (2008). Despite the strengthening of the vertical relations, however, they are still considered to be weak at ManuCo. This is related to the highly decentralised organisational structure. According to Busco et al. (2008), vertical relationships are defined by (and define) the extent of centralisation vs. decentralisation, and thus the extent to which HQ delegates decision-making authority to subsidiaries. Therefore, as ManuCo is a highly decentralised company, its vertical relations are weak.

A decentralised structure motivates information sharing and collaboration between subsidiaries, as information does not flow exclusively through HQ (Tsai 2011). Thus, the weak vertical relations at ManuCo should encourage the two division types to co-operate according to previous research. However, the low degree of collaboration between the divisions demonstrates that this did not occur in the case of ManuCo.

To conclude, the addition of four service divisions formed new vertical and lateral relations, resulting in a more complex organisational structure. The separation of product and service operations caused an immediate need for strong lateral relations between the two division types. At ManuCo, however, the lateral relations were found to be weak, which was manifested by the frictions found in the collaboration between service and product divisions. The vertical relations were found to be strengthened by the new service divisions, but were nevertheless still considered to be weak. An organisational tension will occur if HQ simultaneously wants to establish both strong vertical and lateral relations, since there is a trade-off between the two forces. Since both the lateral and vertical relations were found to be weak at ManuCo, we can establish that no tension can be associated to ManuCo's servitisation setting.

5.1.3. Convergence vs. differentiation

Busco et al. (2008) argued that in order for MNCs to implement global strategies, there is a need for some degree of convergence among strategic decision making authorities and of business practices between geographically scattered and culturally diverse subunits. At the same time, subunits must be able to adapt to local market requirements. The aspiration to converge business practices while adapting to local market requirement has been found to create an organisational tension.

As has been illustrated, there was little or no coordination between the aftermarket operations in the various product divisions before the service divisions were created. Consequently, the aftermarket business was carried out differently between the divisions within each business area. As an example, the vice president of a service division pointed out that some product divisions were fully committed to the concept of 'design for service' whereas some product divisions did not consider it in their strategy. However, when the service divisions were created, one common and global strategy for the aftermarket was set, which resulted in a convergence of business practices within each business area. For instance, the concept of designing for service became integral to all product divisions.

The convergence and differentiation of practices were seen both in terms of accounting and performance measurement practices, as well as in operational practices. First of all, the service divisions standardised *accounting and performance measurement practices* in the customer centres. Since the service divisions were made profit centres, the reporting requirements from HQ for the aftermarket became significantly higher. The service divisions now reported in the same GRS system as the product divisions with near-identical reporting requirements, with the exception that specific lines in the income statement as well as key figures were specific for the service divisions. An example of how performance measurement converged was the global diffusion of the so-called 'one-to-one ratio' that measured how often the service technicians visited the installed base (i.e. ManuCo products in operation at customer sites). This became a key variable to measure for all products, regardless of the product division they belonged to. In line with the findings by Busco et al. (2006), the diffusion of global performance measurement practices thus enabled the integration of local practices. Although the customer centres were forced to measure and report a certain set of key measures (see section 4.4.2), they also had the authority to measure additional division specific measures, preserving local measurement cultures. The vice president at a service division pointed out that there was a large number of different measurement systems among the customer centres across

the globe. Thus, differentiation of accounting practices prevailed, even though an increased convergence had occurred.

Second of all, the creation of service divisions converged *operational practices*. As a result, several cost synergies could be realised (e.g. related to administration and procurement). The convergence of operational practices could for example be seen in the service divisions' price-setting of spare parts; the service division priced the spare parts more aggressively than the product divisions had done. Further, a policy against offering services for free in product sales deals was implemented. Similar to many other manufacturing companies (Visnjic & Van Looy, 2013), ManuCo often did not charge for after-sales service. After the service division creation, this was no longer allowed;

“Before (when the product divisions handled the aftermarket), marketing people sometimes gave away service for free. For example, here's a rock drill and we will throw in three months free service for you to sweeten the deal. Today, product marketing people can no longer do so.” (Operations Manager, Service Division).

When practices converge, there is an inherent risk that the company becomes slower in adapting to the local market, according to Busco et al. (2008). At ManuCo, the interviewees from service divisions did not voice any complaints in this regard. Quite the contrary; the convergence of practices was welcomed since there was a common understanding that this was a necessity to realize the efficiency gains in the aftermarket business. At the same time, differentiation was achieved by maintaining local accounting and operational practices in the customer centres, thus preserving the ability to adapt to local market needs. From a service division point of view then, the convergence of practices was perceived to be positive. However, from a product division point of view, the convergence of practices in aftermarket operations caused some frustrations, as the new practices were different from the old ones. For example, the inability to use services to 'sweeten the deal' caused frustration among the product divisions, who found it more difficult to sell their products and argued that customer satisfaction also suffered as a result.

To conclude, the integration of aftermarket practices in separate service divisions resulted in a convergence of aftermarket practices. This was not found to have caused any noteworthy tensions, as convergence of activities did not seemingly limit ManuCo's ability to be locally adaptive. The convergence of aftermarket practices in each business area made the aftermarket practices less tailored to each division's specific needs. This reinforced the frictions *between* the service and product divisions by strengthening the goal incongruence. As found in section 5.1.1., the goal incongruence originated from the separation of service operations, and was a major cause for the centralisation vs. decentralisation tension. As such, the frictions caused by the convergence of practices thus aggravated an existing organisational tension rather than representing an entirely new tension.

5.1.4. Sub-conclusion

The sections above have discussed three organisational tension types in a servitisation setting at ManuCo. The three tensions types were found to be closely interrelated, as Busco et al. (2008) also pointed out. In the case of ManuCo; the simultaneous centralisation of the aftermarket business while decentralising the decision making authority between service and product divisions, contributed to creating new, but weak lateral relations as well as contributed to the convergence of aftermarket practices. However, based on the empirical findings, only one organisational tension could be directly related to the servitisation setting, namely the tension inherent in the centralisation vs. decentralisation dilemma.

This tension was manifested in collaboration difficulties, or frictions, between product and service divisions. We argue that these frictions were rooted in goal incongruence as a result from separating service from product operations, i.e. changing the decision making authority within the group. We further argue that the weak lateral relations and the convergence of aftermarket practices contributed to aggravate the tensions related to the centralisation vs. decentralisation issues.

Our discussion from sections 5.1.1.-5.1.3. is summarised in table 1 below:

Tension	Tensions in a servitisation setting
Centralisation vs. decentralisation	<ul style="list-style-type: none"> • Centralisation of the aftermarket business. Group wide decentralisation. • The simultaneous strengthening of centralisation and the decentralisation of decision-making authority of the product value chain caused an organisational tension that was manifested in frictions between service and product divisions.
Vertical vs. lateral relations	<ul style="list-style-type: none"> • New vertical and lateral relations formed. • Vertical and lateral relations both found to be weak, thus no tension found related to servitisation. • Frictions found in the new lateral relations between service and product divisions, strengthening the tension related to centralisation vs. decentralisation.
Convergence vs. differentiation	<ul style="list-style-type: none"> • Convergence of aftermarket practices within each business area. • No tension related to servitisation found, as convergence of practices did not limit ManuCo's ability to be differentiated toward the local marketplace. • Convergence of aftermarket practices contributed to frictions between service and product divisions, strengthening the tension related to centralisation vs. decentralisation.

Table 1: Summary, tension(s) in a servitisation setting at ManuCo

To conclude, due to the simultaneous strengthening of centralisation and decentralisation an organisational tension became apparent, due to the trade-off relationship between the two opposing forces (Busco et al, 2008). The vertical and lateral relations were both found to be weak, and seemingly did not result in a tension. The tension between convergence and differentiation of practices was also not found, as an increased level of convergence did not limit ManuCo's ability to be differentiated. The role of managing the observed organisational tension related to the centralisation vs. decentralisation dilemma will be investigated in the following section.

5.2. Role of PMS in managing the tension of centralisation vs. decentralisation

The previous sections analysed the three tension types in a servitisation setting and demonstrated that the tension of centralisation vs. decentralisation was the only tension that could be derived from the case study. This section investigates the role of PMS in managing the tension inherent in the centralisation vs. decentralisation dilemma. As described in section 2.3.2., Busco et al. (2008) argue that an organisational tension cannot be eliminated, but should be *managed* by implementing a set of control mechanisms that can assist the MNC in achieving the benefits of global co-ordination and local responsiveness. The control mechanisms can both be formal (i.e. the technical functions related to management accounting systems and related information and performance measurement systems) and informal (e.g. informal relations, knowledge sharing, trust, and corporate culture). Busco et al. (2008) found that formal control mechanisms, or the 'formal PMS', played the dominant role in managing tensions. However, formal PMS was found to be insufficient in managing the tensions and needed to be complemented by informal control mechanisms that could establish a sufficient degree of trust between actors in order to promote collaboration. Furthermore, informal control mechanisms were found to possibly also damage the potential of formal PMS in managing tensions.

ManuCo's servitisation led to a combination of a higher level of centralisation in one respect and increased decentralisation in another, which resulted in an organisational tension. This tension was

manifested in the collaboration difficulties between service and product divisions due to goal incongruence between the two division types. First, we discuss the role of formal PMS given its alleged dominant role in managing tensions. Second, a discussion on the role of informal control mechanisms follows, which addresses whether or not they were found to be able to both support and obstruct the formal PMS' ability to manage the tension. In the final section, the thesis' research question is answered by concluding what the role of PMS in managing tension in a servitisation setting is.

5.2.1. Role of formal PMS

According to literature, formal PMS are closely linked to corporate strategy and should therefore be adjusted accordingly (see section 2.3.). Servitisation represents a significant strategic shift in a manufacturing company (Baines & Lightfoot, 2013) and as such PMS are expected to be affected. At ManuCo, the formal PMS were updated in connection to the company's servitisation effort, particularly in connection to the integration of aftermarket activities, by separating service from product operations. The new service divisions were made profit centres and were given the same accounting responsibility as the product divisions. As such, four separate formal PMS were added in ManuCo, one for each service division. By comparing ManuCo to the Nestlé Waters case in the study by Busco et al. (2008), we found one significant difference in how the companies chose to integrate their global business units. This ultimately affected the ability of ManuCo's new formal PMS to manage the organisational tension.

Similar to ManuCo, Nestlé Waters set up two new business units as a step to better integrate global activities. The new units integrated all value chain activities, as they were responsible from production to the distribution and marketing of products. Simultaneously, a global strategy was set for these units and the PMS were adapted by adding an 'end-to-end' profit and loss account, which consolidated information from both producer and distributor. As a result, the formal PMS effectively integrated all value chain actors (Busco et al, 2008). At ManuCo, however, the creation of the service organisations ended the product divisions' profit and loss responsibility over the whole value chain. The new service divisions integrated the global aftermarket operations and thus did not integrate all functions in the value chain. Importantly, there was no overlapping accountability between the value chain actors (the product and service divisions) embedded in the PMS design.

Saccani et al. (2006) suggested that manufacturers implement formal PMS that run across both functions and organisations in order to assist the management of aftermarket services. At ManuCo, the PMS included the different organisational and functional units within the service divisions, but they did not include other functional units in the product value chain. Product and service divisions were thus not 'forced' to co-operate as in the case of Nestlé Waters. As such, we found that the formal PMS at ManuCo played a limited role in fully managing the tension related to centralisation vs. decentralisation.

This example demonstrates how the formal PMS design at ManuCo contributed to aggravate internal tensions by reinforcing the goal incongruence between service and product divisions. From a theoretical point of view, ManuCo did what most manufacturing companies have been found to do; separating service from product operations and integrating them in a new profit centre (see theoretical section 2.1.3.). However, the combination of splitting up value chain responsibility to be shared between separate organizations, and the lack of a common profit and loss responsibility for those organizations, reinforced the goal incongruence between the service and product divisions. Van der Meer-Koistra & Scapens (2008) argue that, in order to facilitate collaboration between subsidiaries, some degree of technical structures (such as accounting systems, information systems, basic

knowledge of the business, and technical expertise) is needed to govern the relationship. The technical structure in place at ManuCo was not found to be sufficient to either promote or force collaboration between product and service divisions. This can explain the minor role that formal PMS was found to play in managing the tension in ManuCo's servitisation setting. Further, we found that the formal PMS constituted a demotivating factor to sometimes act in the best interest of the group, as the divisional managers were only directly accountable for the performance of their own divisions and not the group's long term performance.

The only two formal control mechanisms that were identified to incentivise collaboration were the customer surveys and the variable compensation component of the vice presidents' remuneration packages, which was tied to the results of the business area as a whole. However, this was apparently not a sufficient motivating mechanism as the interviewees indicated that the product and aftermarket business had begun to move in different directions after the creation of the service divisions. The formal PMS were arguably not designed with the intention to facilitate collaboration between service and product divisions; they were rather designed to add "focus" on the aftermarket business, in order to improve efficiency, grow revenues and ultimately bring the operations closer to HQ through better monitoring practices. Instead, the separate profit and loss accountability for the divisions has been found to contribute to collaboration *challenges*, by reinforcing goal incongruence. Some interviewees suggested a formal PMS that included overlapping accountability between the two division types, as a possible solution to incentivise collaboration.

Based on this finding that the formal PMS were not designed in such a way that financially incentivized the service and product divisions to collaborate, we draw the conclusion that HQ relied on the informal control mechanisms to fill that gap. In other words, HQ can be said to have relied on high level managers' common understanding of the interdependency between product sales and aftermarket sales for ManuCo's (and their individual) success, in order to manage the frictions caused by goal incongruence.

To conclude, the formal PMS at ManuCo were not able to manage the tension related to the centralisation vs. decentralisation dilemma. The comparison with Nestlé Waters revealed that ManuCo's formal PMS aggravated the tension by strengthening goal incongruence, as the new PMS that was developed in connection to the service division creation did not cover the entire product value chain.

5.2.3. Role of informal control mechanisms

When the service operations were centralised at ManuCo and the decentralisation of decision-making authority within the business area took place, an organisational tension arose. As seen in the above section, the formal PMS did not sufficiently manage this tension, which was demonstrated in the frictions between product and service divisions. We find that informal control mechanisms had a role, albeit insufficient, in facilitating the collaboration between the division types, which is discussed below.

The informal control mechanisms consisted of informal relationships and the corporate culture. The informal relationships between divisional managers constituted an important means to bridge different opinions between managers at product and service divisions. Almost all the managers that were interviewed had been with ManuCo for at least 10 years and therefore had large personal networks in the company. In most cases, they had also rotated between different product divisions and thus had a broad understanding of their business area, including an understanding of the aftermarket operations and its co-dependence with the product business. Several of the interviewees further testified that they

felt that they could easily contact other divisional managers if there was a need to. However, due to the fundamental goal incongruence (strengthened by the formal PMS), the informal relationships did not constitute a sufficient mechanism to manage the tension. This was expressed by the vice president at a service division:

“We have been working internally across the divisions to align focus, all the presidents are friends and we all understand the importance of service. However, in the end, it is the division’s own P/L that counts.”
(Vice President, Service Division)

Kunda (1992) argues that culture has the potential to replace formal structures in guiding employee behaviour and actions. The interviewees declared that ManuCo had a strong corporate culture where managers confessed to strive toward the success of not only their own business unit but of the company as a whole. As such, this informal control tool contributed to holding the business areas together by instilling a sense of commonness, ensuring that the product and service divisions were heading in the same direction.

Kallenberg & Oliva (2003) argue that manufacturing companies that undergo servitisation need to change their corporate cultures to incorporate service-specific values, and that the creation of a separate service organisation is a useful strategy to cultivate and protect a service culture. Our empirical findings show that the service divisions did indeed cultivate a service culture, but only within the service divisions; as such cultural differences were created within ManuCo. Although the service culture played a role in integrating the aftermarket business within the service divisions, it also contributed to increasing the distance between service and product divisions. Despite the fact that “service thinking” had become more prominent in ManuCo in recent years, the interviewees argued that the corporate culture was still primarily product driven – a legacy of the company’s long history of product manufacturing and innovation. This had consequences for the shared goals within the business area and contributed to the argument that the service and product divisions had begun to move away from each other. This implies that the role of company culture in managing tensions became limited.

To conclude, informal control mechanisms had a role in managing the tension. However, the informal control mechanisms have not been sufficient in complementing the formal PMS, as frictions were found in the relationship between the product and service divisions. This could partly be explained by the observation that the service culture seemed to be rather exclusive to the service divisions, and had not yet permeated the entire organisation. This caused cultural differences that made collaboration more difficult. The ManuCo case therefore demonstrates that although a service culture can be cultivated in a separate service organisation, it could potentially harm the service thinking in the other parts of the organisations, a finding which was not addressed by Kallenberg & Oliva (2003). The case also indicates that informal control mechanisms can both reinforce and damage the potential of PMS in managing tensions, in line with the findings by Busco et al. (2008).

5.2.3. Conclusion

Overall, our findings indicate that ManuCo’s PMS were found to be insufficient in managing the tension of centralisation vs. decentralisation in the servitisation setting. The tension was manifested in the collaboration challenges between the service and product divisions, as a result of goal incongruence between the division types. The goal incongruence was formed due to the separation of service and product operations within each business area, which centralised the aftermarket business under a single management responsibility and decentralised the decision-making authority over the

product value chain. Both formal PMS and informal control mechanisms have been found to be insufficient in managing the tension.

First of all, formal PMS did not play a significant role in managing the organisational tension. This was due to the fact that the new formal PMS design did not sufficiently incentivise collaboration between service and product divisions, mainly as it did not incorporate the entire value chain. In fact, it strengthened the goal incongruence, thus aggravating the tension. Busco et al. (2008) argue that formal PMS can instil trust between participants by decreasing the risk associated when two autonomous units collaborate. As Busco et al. (2008) put it: “the relationship between accounting and trust is complex and intertwined”. In the case of ManuCo, however, we argue that the formal PMS were not able to create a sufficient degree of trust between service and product divisions as they were not connected through for instance common performance measures or shared profit and loss accountability.

As the formal PMS were designed in such a way that clearly did not facilitate collaboration, it indicates that ManuCo relied on informal control mechanisms to promote collaboration. Even though the informal mechanisms had some positive influence on managing the tension, they were not a sufficient complement to the formal PMS. In addition, the service values did not yet fully permeate the entire organisation, but were primarily confined to the service divisions, which caused cultural differences that in turn made collaboration between product and service divisions more difficult. As such, the informal control mechanisms were also shown to indirectly aggravate the organisational tension.

Based on the above findings, we suggest that formal PMS have a greater potential to manage tensions in a servitisation setting than informal control mechanisms do. The inherent goal incongruence within this setting seems to require a certain amount of formal PMS in order to directly promote collaboration between service and product divisions. It also implies that a sufficient degree of formal control mechanisms must be in place for the informal relationships to be effective in complementing the PMS in managing tensions.

To conclude, only one of the three main organisational tension types could be found in ManuCo’s servitisation setting – the tension related to centralisation vs. decentralisation of decision making authority. The formal PMS were found to be insufficient in managing this tension and informal control mechanisms were found to be insufficient in complementing the role of formal PMS. Similar to Busco et al. (2008), we found that informal control mechanisms have the potential to both reinforce and damage the role of PMS in managing tensions. Different from Busco et al. (2008), the formal PMS were also found to also have the possibility to reinforce the tension.

6. Summary and concluding remarks

This thesis aimed to investigate the role of performance management systems (PMS) in managing tensions in a multinational manufacturing company's servitisation setting. The topic was inspired by the current global trend that Western manufacturing companies are becoming increasingly service oriented to remain competitive in a tougher global marketplace. Preliminary research informed us that the integration of global service activities in separate service organisations constitutes a key step in a servitisation transition. As such we found it interesting to see how the separation of product and service operations could result in organisational challenges. In order to structure our research, we chose to apply the framework developed Busco et al. (2008) that identifies three main organisational tensions that characterises integration processes in multinational companies, and the role of PMS in managing these tensions.

To explore the tensions inherent in a servitisation setting, a qualitative case study was conducted at ManuCo; a Swedish multinational manufacturing company that had recently increased its focus on after-sales service (the 'aftermarket'), which represented a significant strategic change. Interviews were conducted with 24 high level divisional managers from four countries. To ensure a holistic picture of the ManuCo's servitisation setting, the interviewees were selected so that both the product divisions and the newly created service divisions were represented in the empirics.

In order to achieve a greater emphasis on the aftermarket business, ManuCo created four separate service divisions that integrated the service operations within each business area. The service business grew and became more efficient as a result. However, as the service operations became decoupled from the product divisions, frictions arose between the service and the product divisions.

The three tensions that were analysed were: centralisation vs. decentralisation of decision making, vertical vs. lateral relations, and convergence vs. differentiation of practices. First, the creation of the service divisions resulted in a centralisation of the aftermarket business and a decentralisation of the decision making authority over the product value chain, as the product divisions' aftermarket responsibility was transferred to the new service divisions. The simultaneous strengthening of centralisation and a higher degree of decentralisation sparked an organisational tension as goal incongruence was created between the service and product divisions. The tension was manifested in the many collaboration challenges between the two division types.

Second, new vertical and lateral relations were formed as a result of the service division creation. Both the vertical and the lateral relations were found to be weak, however, and no tension could thus be found in relation to the servitisation setting. Nevertheless, frictions were found in the lateral relations between the service and product divisions, which reinforced the centralisation vs. decentralisation tension.

Third, the service divisions gave rise to convergence of aftermarket practices in each business area but were not found to limit ManuCo's ability to be differentiated in the marketplace. As a result, no tension could be found in the interplay between convergence and differentiation of practices that can be related to the servitisation setting. However, the convergence of aftermarket practices further reinforced the frictions between the two division types and thereby the centralisation vs. decentralisation tension.

As stated by Busco et al. (2008), the organisational tensions cannot be solved, but they can be managed by the use of proper control mechanisms. They argue that by managing the tensions, multinational companies will be able to achieve the benefits of global co-ordination and the

advantages of local responsiveness. This thesis has adopted the same interpretation of PMS as offered by Busco et al. (2008), i.e. as the “sets of practices that support processes of strategic decision making, planning and control”, which consist of both formal control mechanisms (formal PMS) and informal control mechanisms.

When the new service divisions were created, the formal PMS were updated through the addition of four new profit and loss statements, one for each service division. The formal PMS at ManuCo played a central role in integrating each business area’s service operations. On the other hand, the formal PMS were found to neither play a significant nor a sufficient role in managing the tension related to centralisation vs. decentralisation. This was due to the fact that the new formal PMS design did not sufficiently incentivise collaboration between service and product divisions, mainly as it did not incorporate the entire value chain. In fact, the design strengthened the goal incongruence, thus aggravating the tension. The informal control mechanisms, which mainly were identified as personal relationships between managers and the corporate culture, were not found to be sufficient complements to the formal PMS. In addition, informal control mechanisms were shown to some extent indirectly aggravate the organisational tension.

Based on our findings, we suggest that formal PMS have a greater potential to manage tensions in a servitisation setting than informal control mechanisms do, since the fundamental goal incongruence between the two division types that caused the tension was mainly created by the formal PMS design. Similar to Busco et al. (2008), we can also conclude that informal control mechanisms have the potential to both reinforce and damage the role of PMS in managing tensions. Different from the findings by Busco et al. (2008), we conclude that the formal PMS was found to have reinforced the tension. As such, this thesis contributes to a deeper understanding of the role of PMS in managing tensions and to a unique insight into the role of PMS in the particular servitisation setting.

Limitations and suggestions for future research

According to Otley & Berry (1994), a case study is considered to be an appropriate method when conducting an exploratory study, as it has potential to provide a more holistic approach, in particular when existing theories can be considered incomplete. As such, we feel confident that our choice of conducting a case study to answer the research question was an appropriate choice. However, as the conclusions are drawn from a qualitative case study it is difficult to draw general conclusions, as discussed in the methodology section (see section 3.4.1.). We do not claim that our findings will be generalizable, since they are dependent on a context that is unique for the case company. We also believe that ManuCo’s highly decentralised structure has had a significant impact on the findings. Further, due to the fact that we interviewed 24 individuals, it is possible that some aspects relevant for our research were not covered. It will also be difficult to replicate the study, as the interviewees’ opinions may change over time, in particular as the service focus is increasing. The fact that the interviewees all were high-level divisional managers might also have resulted in a skewed picture of the situation. However, we believe that the selection of interviewees gave us a deep understanding of the most critical issues related to our research question.

For future research, it would be interesting to further explore the role of PMS in managing tension in a servitisation setting, by conducting a similar study on a number of different companies. We believe that the findings have been influenced by the decentralised structure of ManuCo and it would be interesting to explore the role of PMS in servitisation setting in a less decentralised company. Furthermore, it would be interesting to conduct a similar study but having respondents further down in the organisation, as we found that the service thinking had not successfully permeated the entire

organisation. This could for instance be done by surveying a larger number of respondents, and in such a way analysing quantitative data rather than qualitative data. Finally, as servitisation can be seen as an on-going process, it would also be interesting to conduct a longitudinal case study to determine whether the role of PMS in managing tensions changes over time.

7. Managerial implications

Based on our findings, a couple of managerial implications can be drawn. First we argue that one should not underestimate the importance of a formal PMS as a cornerstone in a servitisation setting where service operations are separated from product operations. As previously stated, studies have shown that accounting systems can create trust between participants. A stronger formal PMS has the potential to reduce the frictions between service and product operations, and the PMS must therefore be adapted not only to accommodate for the integration of service operations but for the business area as a whole. In the case of ManuCo, the formal PMS systems did not play a significant role in managing the tensions. Instead it actually contributed to aggravate the tensions. We believe that a stronger, and possibly overlapping formal PMS system between value chain actors, and stronger HQ control over the lateral relations in the company would contribute to manage the tensions and to strengthen the informal control mechanisms.

Furthermore, we believe that company culture could have an important role in managing the tension inherent in the centralisation vs. decentralisation dilemma. Our findings suggest that a service culture is necessary in all parts of the company, as a strong service culture could have the potential to diminish the goal incongruence between product and service divisions.

To conclude, the integration of a more service oriented strategy could be facilitated by extending the formal PMS systems to also include overlapping measures and focusing on implementing service values in the overall company culture.

8. References

Interviewees, ManuCo

Title	Function	Country	Interview type	Date
Group Controller	HQ	Sweden	Physical	2013-04-22
Vice President	HQ	Sweden	Physical	2013-04-22
Divisional Controller	Product Division	Sweden	Physical	2013-04-09
Divisional Controller	Product Division	Sweden	Phone	2013-04-02
Divisional Controller	Product Division	Sweden	Physical	2013-04-04
Divisional Controller	Product Division	Belgium	Phone	2013-03-28
Divisional Controller	Product Division	China	Phone	2013-04-03
Vice President	Product Division	Sweden	Phone	2013-04-09
Vice President	Product Division	Sweden	Phone	2013-04-10
Vice President	Product Division	China	Phone	2013-03-01
Divisional Controller	Service Division	Sweden	Physical	2013-04-08
Divisional Controller	Service Division	Sweden	Physical	2013-03-01
Divisional Controller	Service Division	Belgium	Phone	2013-04-02
Operations Manager	Service Division	Sweden	Physical	2013-03-06
Operations Manager	Service Division	Sweden	Phone	2013-04-05
Operations Manager	Service Division	Belgium	Phone	2013-03-29
Operations Manager	Service Division	Germany	Phone	2013-04-02
Product Manager	Service Division	China	Phone	2013-04-11
Vice President	Service Division	Sweden	Physical	2013-03-10
Vice President	Service Division	Sweden	Physical	2013-03-15
Vice President	Service Division	Belgium	Phone	2013-04-09
General Manager	Customer Centre	Sweden	Physical	2013-04-04
General Manager	Customer Centre	Sweden	Physical	2013-04-04
Service Manager	Customer Centre	Sweden	Physical	2013-03-09

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