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Back-Seat Driver or Cost Driver?

- *A Study of Swedish Manufacturing Firm's Cost Management*

by

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Abstract

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Five key words: Cost drivers, Activities, Strategic cost management, Strategic management accounting, Manufacturing firms

Purpose: The purpose of this paper is to investigate how manufacturing firms use cost drivers and if any factors affect manufacturing firms' cost driver approach.

Theoretical Perspective: The thesis theoretical perspective concentrates on explaining the concept of cost drivers, reviewing existing empirical findings and identification of factors which could affect manufacturing company´s approach towards cost drivers.

Methodology: A survey was created and sent out to professionals within the Swedish manufacturing industry, which was statistically analyzed in SPSS.

Empirical foundation: The study´s primary data is collected from mid-sized manufacturing firms´, with their headquarters in Sweden.

Conclusion: We found that strategic cost driver consideration and usage have positive influence on manufacturing firms' financial performance and achievement of strategic goals. Furthermore, Swedish manufacturing firms tends to mostly consider cost drivers if they have an impact and are derived from the underlying economic structure. For which, less statistically and more intuitive methods are used by our respondents. Finally, variations existed among firms and some specific cost driver approaches were affected by different factors.

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1.0 Introduction

1.1 Problem Discussion

The ever increasing challenges and demands on businesses worldwide have questioned the relevance of management accountings capability to contribute in the pursuit of competitive advantages. Today it is rather old news that the traditional world of business has been transformed into a world with tough competition, fast movements, innovations and structural changes. To stay relevant and keep up with the pace, management accountants must increase their business knowledge, become agile and include strategic aspects in decision-making (Byrne & Pierce, 2007; Hopper, Northcott & Scapens, 2007; Roslender, 1996). Bromwich (1990**)** advocate two perspectives to emphasize why management accounting needs to apply broader strategic thinking. Firstly, accounting plays a vital role for monitoring and costing desirable product attributes. Secondly, both existing and potential competition stress the need for internal and external market orientated information for decision making.

The urgency of strategic alignment has inevitably created a need for new practices, suitable for the changed requirements. Strategic management accounting and Strategic cost management are such responses (Langfield-Smith, 2008). The key concept of Strategic management accounting is to make management accounting strategically conscious. No unitary definition exists, but some researchers define Strategic management accounting based on its techniques, which vary between: attribute costing, life cycle costing, strategic performance measurement system and activity-based costing (ABC) (Langfield-Smith, 2008). Strategic cost management is defined as the use of cost information and analysis within the management process (Roslender, 1996) and is applied through three themes; value chain analysis, strategic positioning and cost driver analysis (Shank & Govindarajan, 1993). Beyond the strategic ambition, Strategic management accounting and Strategic cost management share mutual techniques, for instance, cost drivers are used in both Strategic management accounting (Activity-based costing) and Strategic cost management (Cost driver analysis).

Traditional management accounting views cost as a product of output volume, in Strategic cost management output volume is regarded to capture very little of the cost behavior (Shank & Govindarajan, 1993). Costs are determined and provoked by many different factors, named cost drivers. Cost drivers can be used in many diverse situations and through different methods, the utmost substantial definition of cost driver originates from the aforementioned ABC-method (Cokins & Capusneanu, 2010). According to ABC, cost driver units are used to causally exhibit and allocate joint and indirect resource expenditures. Cost objects like products and services use activities, and activities consume resources. Thus, any factor determining the amount of an activity's cost usage or provoking changes of activity costs can be named a cost driver (Cokins & Capusneanu, 2010). Contemporary researchers have

different opinions on which cost drivers firms should acknowledge, but irrespectively there is a consensus regarding output volumes lack of specificity for strategic analysis (Shank & Govindarajan, 1993). Furthermore, many researchers have rationalized the benefit of identifying cost drivers and using the information within decision-making and reducing activities that does not add value to the final product (MacArthur & Stranahan, 1998). Firms risk making worse decisions if they, for example, practices average cost for product related decisions, since it often tends to exceed actual cost (Banker & Johnston, 2007). With more accurate estimates of product costs managers can better visualize strategic alternatives and improve decision making regarding pricing, marketing, product design and product mix (Cooper & Kaplan, 1988), cost driver analysis is one way to achieve strategic visualization (Toompuu & Põlajeva, 2014).

Examining cost from the strategic perspective will improve understanding of the underlying cause-and-effect relationship between costs and its drivers, resulting in efficient and effective decision-making, and ultimately achieving the organization's strategic goals and objectives (Banker & Johnston, 2007). Empirical research supports these statements with evidence that many variables drives cost in numerous industries and firms (Banker, Potter & Schroeder, 1992; Foster & Gupta, 1990; Datar, Kekre, Mukhopadhyay & Srinivasan, 1993; Giannetti, Risso & Cinquini, 2016; Ittner & McDuffie, 1995) and in some instances the variables also drive customer value, revenue and profitability (Banker, Ou & Potter, 1997; Ittner, Larcker & Randall, 1997; Kekre & Srinivasan, 1990). Managing costs is about reducing and controlling costs while satisfying customers (Horngren, Bhimani, Datar & Foster, 2005), strict cost reductions are not necessarily translated into increased revenue or profitability. Because of the difficulties of realizing the potential of cost control it is of interest to know how management accountants work with cost drivers. However, existing studies generally revolves around identification of which drivers' organizations should acknowledge for analyzing overhead costs and decision making (Banker & Johnston, 1993; Banker, Potter & Schroeder 1992; MacArthur & Stranahan, 1998; Bjørnenak, 2000; Cape & Moorhead, 2005) and lacks empirical findings on how firms work with cost drivers and for what purpose. Beyond three famous case researches from the 80's about Tektronix, Zytek Corporation and Hewlett-Packard (Berlant, Browning & Foster, 1990; Merchant & Shields, 1993; Langfield-Smith, 2008), little evidence is provided regarding management accountants' perspective and usage of cost drivers.

Despite researcher's advocacy of Strategic management accounting and Strategic cost management's relevance, practical adoption appears to be scarce (Langfield-Smith, 2008). According to Gosselin (2007) has even one of academia's most important inventions in recent decades, ABC, been proven difficult to conceptualize. The relevance of using cost drivers with a strategic perspective appears to be of critical importance to compete efficiently in today's business environment. As the adoption of strategic management accounting's and strategic cost management's methods and perspectives appears

to be low, management accountants' risks being irrelevant. Nonetheless, strategic management accounting has stained of within organizations (Anderson, 2007, Otley, 2001) and many terms such as "activities" and "cost drivers" have become casual business language (Langfield-Smith, 2008). Banker & Johnston (2007) believes cost driver research needs further studies, the authors state that management accounting research should be a mix of theory development and practice, and more empirical evidence is required regarding managerial decision-making. Still, little is known if companies use cost drivers as intended by academia. For instance, Shank's (2007) conclusion about the low adoption of his Strategic cost management, is rather based on a notion and a few case studies. Shank (2007) requires a full-scale adoption, neglecting investigation if at least some of his ideas has set root. Consequently, he ignores evidence of management accountants' emergent usage of strategic thinking (Vaivio & Kokko, 2006; Hopper et al, 2007). The lack of research could depend on these unfounded dismissals. Researchers have jumped to the conclusion that cost driver analysis has not been adopted because of the failure in conceptualization of management accounting's golden egg, ABC.

The fact that the area has not been researched at a greater extent could also depend on researcher's willingness to first establish a solid theoretical foundation, which is extended by the dissension of cost driver terms and classifications (Porter, 1985; Cooper & Kaplan, 1999; Shank & Govindarajan, 1993; Foster & Gupta, 1990). This enhances the difficulties in management accounting practices where practitioners have a necessity of strategic alignment. Investigation in cost driver's practicality could provide insight on which drivers are most vital and maybe extend the discussion regarding prevailing theory. Furthermore, to avoid premature conclusions and actions against management accountants' irrelevance, companies´ practical usage of cost drivers needs to be examined.

Shank & Govindarajan (1993) state that all cost drivers are not equally important at all times but some are probably more important and useful at all times. Moreover, Shank & Govindarajan (1993) present different events when certain cost drivers have been important. However, they fall short with painting a general picture of what different factors and contingencies result in differences of importance and consideration. Furthermore, they lack indications of which cost drivers are most important for certain industries. As researchers advocate usage of cost driver analysis one could argue that successful firms will be more effective and efficient in their approach and usage of cost drivers. Hence, there is a real interest both from a practical and a theoretical point of view to investigate what factors makes firms work with certain cost drivers and in what ways. By studying this research-area, theorists and practitioners may increase their knowledge about differentiations in perspective and usage of cost drivers. With regards to previous mentioned importance of vitalizing strategic perspective on cost drivers, for businesses this perspective is about staying competitive or not. Since, neglecting strategic perspective on a firm's cost behavior could be the difference between succeeding and failing. Therefore, the ambition of this paper is to reduce the gap between academia and practice by studying companies'

management of cost drivers. Hence, the purpose of this paper is to investigate how manufacturing firms use cost drivers and if any factors affects manufacturing firms' cost driver approach. The study begins with a review of both theory and empirical research which have generated research questions aimed to answer the study's purpose.

2.0 Theoretical Framework

2.1 Cost Drivers and Their Taxonomies

Hansen & Mowen (2006) categorize organizational activities into: structural, executional and operational activities. Structural activities are the most static form of activities and determine the underlying economic structure and cost position of the firm (Hansen & Mowen, 2006; Shank & Govindarajan, 1993). Executional activities define the organization's processes and capabilities. Whereas operational activities are the results of chosen processes and structure, which relates to the organization´s daily activities (Hansen & Mowen, 2006). Independent of the activity´s categorization, any factor determining the amount of an activity's cost usage or provoking changes of activity costs can be named a cost driver (Cokins & Capusneanu, 2010) and by changing an activity and/or the activity usage you will either reduce or increase the cost. Hence, cost drivers are always connected to a corresponding activity with certain characteristics and countless of different activities exist within a firm. For example: If a firm selects a new process technology by procuring a new fully-automatic machine it might require new skills and experience. Hence, the structural activity and cost driver experience will drive costs upwards since the firm is required to collect new competence through new personnel or expert help.

According to Shank & Govindarajan (1993), cannot structural cost drivers be changed in short or medium term. Only the efficient level of a structural driver can change, either upwards or downwards. Hence, there are diseconomies of structural drivers. Executional cost drivers are the determinants of a firm's cost position and affect the firm's possibility to execute successfully. Diseconomies of executional cost drivers are less common and they pervade throughout the organization's operations, for instance, employee empowerment, including culture, degree of participation and commitment to continuous improvement (Shank & Govindarajan, 1993). Executional and structural activities shape the daily activities, thusly, operational activities. Product assembly, shipping products and scheduling, are typical operational activities and their corresponding driver of cost influence the total cost of operational activities (Hansen & Mowen, 2006). Although cost drivers can be defined depending on their connected activity, no predominant taxonomy exists. The most well-known taxonomies derive from theories and discussions by Porter (1985), Shank & Govindarajan (1993) and Cooper & Kaplan (1999) (Banker & Johnston, 2007). A complete list of the respective researchers cost driver taxonomies can be viewed in Table 1 and a brief explanation of each cost driver is presented in Appendix 1.

One clear distinction between the different cost driver taxonomies can be made; they focus on different types of cost drivers. Porter (1985) does not divide his cost drivers into activities. However, we found that they were limited to structural and executional activities. Unlike Porter (1985), Shank &

Govindarajan (1993) explicitly divide cost drivers into two categories, structural and executional cost drivers. Shank & Govindarajan (1993) acknowledge usage of Cooper & Kaplan's (1999) ABC; however, they maintain that structural and executional cost drivers are more valuable and useful from a strategic perspective. Cooper & Kaplan (1999), on the other hand, views operational cost drivers as means to substantiate strategic decisions.

Table 1 - Cost Driver Taxonomies

Porter (1985)	**Shank & Govindarajan (1993)**		**Cooper & Kaplan (1999)**
Scale	*Structural*	*Executional*	*Operational cost drivers*
Learning and spillovers	Scale	Work force participation	Unit-level
Capacity utilization	Scope	Quality	Batch-level
Linkages	Experience	Capacity utilization	Product-sustaining
Interrelationships	Technology	Plant layout efficiency	Customer-sustaining
Integration	Complexity	Product configuration	Brand/product-sustaining
Timing		Supplier and customer linkages	Order-related
Policies			Facility-sustaining
Location			Channel-sustaining
Institutional factors			

Although the different taxonomy promoters acknowledged different cost drivers, empirical evidence show that costs are driven by factors in all of the three taxonomies within manufacturing firms. In Appendix 2 a list of significant variables from empirical studies is presented. The significant variables are interpreted and categorized into the three most well-known taxonomies. Studies which enables general conclusions about cause and effect relationships between cost and cost drivers for manufacturing firms and will aid the construction of the study´s research design. Consequently, there is evidence of structural, executional and operational cost drivers (Anderson, 1995; Banker, Potter & Schroeder, 1992; Berlant, Browning & Foster, 1990; Datar, Kekre, Mukhopadhyay, & Srinivasan, 1993; Foster & Gupta, 1990; Ittner & McDuffie, 1995).

Consequently, cost drivers do not operate within a firm without an organizational activity which causes the cost to be driven. Furthermore, empirical studies have enlightened that many of the different cost drivers exists within organizations and organizational activities differs between firms. Hence, different cost drivers might be more relevant in different organizations depending on the organizations structure of structural, executional and operational activities. Furthermore, the large amount of cost drivers within an organization often requires management to prioritize to achieve comprehensive information (Homburg, 2001). Thusly, firms could collectively consider the same cost drivers, but the amount of impact and level of consideration for cost drivers should differ due to different organizational activities and prioritization.

2.2 Identifying Cost Drivers

Different methods exist within Strategic management accounting and Strategic cost management to identify cost drivers. Regardless of the approach, the purpose is to determine if the selected cost drivers can be of importance within cost driver analysis. Hence, the goal is to provide knowledge or evidence that the considered cost drivers actually impact the organization's costs. According to Shank & Govindarajan (1993) the cause and effect relationship between cost and cost drivers can be explained through a regression analysis. The result is a statistical analysis of the impact or significance of one's chosen cost driver. Shank & Govindarajan (1993) acknowledge that the regression model requires many assumptions and approximations but say that the benefits of the model overweigh the disadvantages. The regression model is also used by Banker & Johnston (1993) and Datar et al (1993) to improve estimations of individual activities cost (Dopuch, 1993). Dopuch (1993) states that researchers employing regression analysis misses to provide result of their cost estimates dominance over alternative estimations. Further on, El Kelety (2006) mentions the difficulties of quantifying the impact factors such as complexity; experience and innovation have on cost. It might explain why less statistical and mathematical means of identifying cost drivers also have emerged.

Cooper & Kaplan (1999) provides three criteria for selecting cost drivers. Firstly, they should accurately reflect the cost of the activity they measure. Secondly, the cost of measuring the cost drivers accurately should be proportional to its influence and impact (cost vs. benefit). Finally, cost drivers must encourage management-desired actions. Hence, chosen cost driver should aid management in their evaluations and work towards organizational objectives. One way to achieve the criteria is by scrutinizing the basic economics of an activity (Porter, 1985). It closely relates to value chain analysis in Strategic cost management literature where organizations should diagnose cost drivers by reviewing activities, revenues and tied assets (Shank & Govindarajan, 1993). For instance, interviews are one mean to discover relationships between activities and their cost drivers and qualities of every cost driver connected to each activity (Cooper & Kaplan, 1999; Porter, 1985). Operational cost drivers can be

discovered through interviewing personnel about how many times a certain activity is made, how large the output/resource usage of an activity is or how long time an activity takes (Cooper & Kaplan, 1999).

Furthermore, firms can discover cost driver relationships and effects by reviewing changes of costs before and after events (e.g. new production methods, new product design or changed location) (Porter, 1985). A process which can be described as identifying cost drivers through internal experience and knowledge, by understanding the impact specific decisions had on costs. The firm´s internal experience, can be defined as a part of the firm´s intangible or knowledge assets, which might require management. However, within management accounting the focus has mainly been towards learning and no understanding is provided regarding experience or learnings relationship with cost management of activities (Anderson, 2007). A fourth way of identifying cost drivers are through computing competitors' relative costs of value-chain activities. By exploring competitors' cost drivers, managers and accountants can understand the competitive positions of firms in the industry (Jones, 1988). However, the process of determining competitors' value chain activities and costs can be problematic due to information asymmetry (Porter, 1985). Sometimes the absolute magnitude cannot be determined while it is still feasible to approximate the direction of the relative cost difference with a competitor in a value activity, thusly developing an understanding of a competitor's relative cost position. Moreover, an organization can improve the accuracy of competitor approximations through simultaneous comparisons between competitors (Porter, 1985). Porter (1995) also discusses cost comparisons between business units as a means to discover cost drivers. Similar to comparison with competitors, differences can be displayed by comparing business units. However, this method will reduce information asymmetry since perfect information exists regarding business unit costs.

Managers are required to know cost behavior and structure to make informed decisions and evaluations (El Kelety, 2006). To use cost drivers efficiently, it is inherent to calculate effects on costs, make correct decisions and attain and sustain your competitive position (Shank & Govindarajan, 1993). As previously mentioned, since it is difficult to discover accurate cost drivers and what results alterations of the activities and drivers will have, it is not an aim to have the most accurate cost system. The challenge is to manage the trade-off between the cost of collecting and using cost driver data and the cost of incorrect measures or drivers. Similar to the lack of a dominant way of categorizing cost drivers, previous discussion exhibit that no dominant way of identifying cost drivers exists, the discussed identification methods are summarized in Table 2. Furthermore, because of Cooper & Kaplan (1999) stated criteria and the methods different focuses, firms might identify different cost drivers depending on the used method.

Table 2 - Identification Methods

Identification Method
Interviews
Value chain analysis
Competitive cost analysis
Comparisons of internal units
Observation of cost behavior over time
Regression analysis
Experience

2.3 Motives for Cost Driver Consideration

Porter (1985) and Shank & Govindarajan (1993) believe that firms should direct focus towards their individual strategic objectives. Furthermore, Banker & Johnston (2007) argue that business, marketing and operating strategies will determine value, revenue, profit and drivers of cost through a complex interrelationship. To align decision-making with strategy, management can employ Strategic cost management to attain value-creating information related to cost drivers in the value chain (Gliaubicas & Kanapickiene, 2015). Thusly, different strategies will result in different alignment of strategical objectives and perspectives. Ultimately, it will result in different consideration of individual cost driver's and activities' importance. A discussion which provides insight to Shank & Govindarajan´s (1993) statement that all cost drivers will not be equally important at each instance, but some of them will probably be important all the time.

Toompuu & Põlajeva's (2014) research reveals that other factors than strategic importance can influence at what rate different cost drivers are considered. Toompuu & Põlajeva (2014) asked universities what motives they had to focus on a certain set of cost drivers. The most common answer was the existence of a cause-and-effect relationship between drivers and costs. Hence, differences of cost drivers' importance might also be influenced by the ability to prove a causal relationship between activities and costs. The second most common answer in Toompuu & Põlajeva's (2014) research was easy access of data. In the absence of a standardized method for identification of cost driver's interrelationships practitioners might struggle with attaining reliable information and be limited by practicality. Interactions between cost drivers are often timid, still the interrelationship and counteractions among them implies the urgency for correctly identifying cost driver relationships (Porter, 1985). The complexity increases as the importance of different cost drivers varies between occasions. The complex management of the cost drivers are further aggravated with the large evidence of endogeneity (Banker & Johnston, 2007), which results in a loop of causality and puts pressure on econometric models to mathematically confirm cause-and-effect relationship between costs and drivers (Banker & Johnston,

2007). Hence, Organizations are constrained to motivate their consideration of cost driver by both proving causal relationships and information accessibility, which might be explained by the interrelationship between different activities and cost drivers. Consequently, cost concepts are only relevant if they have an impact on decisions, and cost data is only relevant if it can be used within a cost concept. Hence, cost drivers and activities simultaneous relationship might force organizations to prioritize and limit consideration of cost drivers to what can be proven and managed. The motives for cost driver consideration is listed down below in Table 3.

Table 3 - Motives for Cost Driver Consideration

Motives for Cost Driver Consideration
Strategic Importance
Cause & Effect Relationship (between cost & driver)
Access to Data

2.4 Cost Driver´s Application Areas

Traditionally, cost management focused on total cost per produced unit (El Kelety, 2006) by analyzing historical reports from cost systems (Berliner & Brimson, 1988). Which was possible since, the old world of business was characterized by less uncertainties and production of homogeneous products cost structures were easier to influence (El Kelety, 2006). Moreover, as production was a tool for competitive advantage, manufacturing costs were highly emphasized (Hansen & Mowen, 2006) and less focus was directed towards the firm's entire value chain (El Kelety, 2006). Emphasis that have been proved to have little effect on management of cost per unit (Naughton, 2001), as the internal perspective fails to provide insight and relevant cost information in a changing, complex world (Drury, 2000). Budget systems focusing on production processes and short-term costs belong to the past, understanding which activities and costs define the firm's competitive position belongs to the existing world of business (El Kelety, 2006). Identifying and using drivers of cost enables firms to locate activities that are non-value-adding and should therefore be reduced or eliminated (Cokins & Capusneanu, 2010; Messenböck, Pichler, Gossy, Mülenbein, & Wunderlich, 2015; Porter, 1985). The benefit of efficient cost management is ultimately a financial result and analyzing cost drivers is seemingly the most efficient way to achieve that goal, as effective organizational structure and strategic cost management information allows companies to strive for success (Gliaubicas & Kanapickiene, 2015).

Strategic management accounting and Strategic cost management wants to differentiate from traditional cost management by several means. Strategic management accounting and Strategic cost management promoters describe how usage of cost drivers needs to be improved and become up to date. However, Cooper & Kaplan (1999), Shank & Govindarajan (1993) and Porter (1985) all have different approaches

to cost driver usage and present different application areas. Subsequent paragraphs will walk through the most discussed application areas of cost drivers and describe the differences between traditional and strategic views of cost driver usage.

2.4.1 Cost Analysis

Since traditional cost thinking is limited to unit cost certain concepts becomes especially important, as for instance, fixed vs variable costs, break-even analysis and flexible budgets (El Kelety, 2006). Furthermore, traditional cost thinking has often had a fixed financial focus, disregarding other aspects with high strategic significance (Shank, 1996), and fixed focus on volume and financial aspects leads to a certain usage of cost analysis. Traditional cost analysis becomes the selection and assessment of financial impacts of alternative managerial decisions (Shank & Govindarajan, 1993). However, except for analyzing cost behavior at a certain time, firms must analyze how absolute and relative cost of value activities moves independently of strategy. Such forecasting is called Cost dynamic analysis, which helps exhibition of industry condition changes, such as real growth, scale sensitivity, learning rates, technological change and market adjustment. An assessment of cost dynamics enables organizations to forecast changes in cost drivers and find out which value activities will gain or lose cost position by changed circumstances. Hence, cost dynamics is dependent on the interplay among cost drivers and upcoming changes within the firm or the environment (Porter, 1985).

2.4.2 Products and Service Applications

Although traditional cost management is criticized for its internal focus, Strategic management accounting and Strategic cost management researchers also advocates increased internal use of cost drivers. As cost driver analysis and activity analysis started within manufacturing, the methods tend to remain at the plant. However, quite frequently it is not the manufacturing costs that needs to be cut, particularly when a certain degree of manufacturing efficiency has been attained and you want to maintain your product quality (El Kelety, 2006). Cost drivers can help to focus attention and establish required product specifications, consequently, assist within designing and development of products and production processes (NPD Solutions, 2018) and avoid hidden costs. Hidden costs are according to Johnson & Kaplan (1987) generated by not highlighting primary cost drivers, which the researchers state that traditional systems fail to discover. Hidden cost originates from the firm´s complexity and are hidden since they cannot be explained by the production output. With improved accuracy, you can discover hidden costs, make better estimations, evaluate selling prices and profit margins. Analyzing cost with many different drivers is highlighted as the most important contributor to increase accuracy in total and per-unit cost calculations (Cokins & Capusneanu, 2010). With improved estimations, you may strategically rationalize your sold products, you may also strategically select most useful and profitable selling-channel and segment your customers (Cokins & Capusneanu, 2010).

2.4.3 Value Chain Analysis and Benchmarking

By reconfiguring your value chain, it is possible to achieve superior position, by for instance, changing production process, using new distribution channels, changing sales approach or new raw material (Porter, 1985). Value chain scrutinization initiatives can be; defining relative importance of each activity for total cost, examine explanations for the firm's relatively efficiency and effectiveness in activities, defining relationships between cost drivers, and decide activity sourcing (Shank & Govindarajan, 1993). One ultimate hope from Porter (1985) is that activity analysis will lead to eliminated or improved activities and coalitions with other firms to reduce costs and improve value for customers. By benchmarking both within and outside the company it is possible to reveal possibilities for change and highlight the most important cost drivers (Porter, 1985; Shank & Govindarajan, 1993). Through analyzing competitors value chain an organization can achieve understanding of cost behaviors richness and select strategic priorities. Nevertheless, Porter (1985) mention several pitfalls with using value chain analysis and cost drivers when managing costs for competitive advantage. He mentions that the difficulty of properly assigning costs to activities can lead to inaccurate activity costs which creates a chain reaction of more inaccuracies and consumes resources. Value chain analysis itself is a costly and resource consuming task, and large focus on details firms may only attain small and incremental cost savings (Porter, 1985).

2.4.4 Procurement and Human Resources

For long procurement costs were allocated arbitrarily within traditional cost management systems (El Kelety, 2006). The strategic perspective withholds that many crucial aspects within procurement are lost when utilizing the traditional method. Ferrin & Plank (2002) states that it is crucial to include long term perspective and other elements of purchase price when evaluating procurements. For instance, it is vital to include the consideration of procurements impact on other business processes and activities associated with the purchase. For instance, Degraeve & Roodhooft (1998) developed a decision model for determining sourcing strategies based on activity and cost driver knowledge. Furthermore, other units than procurements are pressured to maximize value and reduce costs, for instance Human resources units (El Kelety, 2006). Companies incapable to count costs, related to their human resources, risk making value minimizing decisions (Johanson, 1999). By for example utilizing ABC, firms might appropriately sort cost drivers and activities, thus enabling identification of critical human resources and improve performance by linking the critical human resources with strategic objectives.

2.4.5 Investments

Even though today's business environment has changed, many aspects of traditional cost management are still relevant, even from strategic perspectives. For instance, traditional cost management approaches can be used for short-term operation decisions like smaller replacement investments (El Kelety, 2006).

However, for expansion or Strategic investments, investments with extensive impact on the entire organization and on long-term performance (Carr & Tomkins, 1996), traditional means might constrain the decision process (Shank, 1996). Traditional investment decisions are solely based on capital budgeting techniques like NPV (Carr & Tomkins, 1996). Shank (1996) however, rather uses the cost driver concept for expansion investments like new technology. A strong financial orientation tends to rule out more elaborate strategic analysis and vice versa (Carr, Tomkins & Babyliss, 1994). Which explains the limited strategic focus found in more traditional forms of expansion investments. Still there seems to exist a benefit of cost driver usage for expansion or strategic investments. Carr & Tomkins (1996) found that relatively few firms appraised fundamental cost drivers for expansion or strategic investments. However, they could see that successful performers focused twice as much on fundamental cost drivers than poor performers. Meanwhile the successful performers merely focused one quarter more on financial calculus than poor performers. Table 3 summarizes the different areas of cost driver usage and crystallize at what extent they are exploited in the traditional respectively strategic cost driver usage.

Despite the discussion of the superiority of strategic usage of cost driver applications, doubts exist that cost drivers are widely used. Most of Strategic management accountings techniques has not been received too well and although ABC might have been quite generally adopted, the usage of strategic management concepts is in decline (Langfield-Smith, 2007). According to Shank (2007) the whole Strategic cost management "experiment" has largely failed and the users are limited to a handful of companies. He argues that there has been too little attention in mainstream literature and that the strategic view got disregarded when accounting scandals emerged after 2000, and strict internal control directed towards detection and prevention received large attention. Roslender & Hart (2010) states that it is unlikely that future studies will display an increased interest in or adoption of strategic management accounting. However, the specific area of cost drivers has not been widely researched. And, the previously held discussion (and Table 4) highlights that all firms use cost driver applications but with different focus or perspectives. Hence, cost drivers are used by firms but could be employed differently.

Table 4 - Extent of Traditional and Strategic use of Cost Drivers

Application Areas	Traditional usage of cost drivers	Strategic usage of cost drivers
Cost/Revenue Analysis	Yes	Yes
Cost Dynamics	Yes	Yes
Pricing of Products and Services	Yes	Yes
Replacement Investments	Yes	Yes
Strategic (expansion) Investments	No	Yes
Internal Benchmarking	Marginally	Yes
Value Chain Scrutinization	Marginally	Yes
New Business Establishment	Marginally	Yes
Product Development	Marginally	Yes
External Benchmarking	Marginally	Yes
In Partnership with Customers/Suppliers	No	Yes
Human Resource Usage	No	Yes
Customer Segmentation	No	Yes
Procurement	No	Yes

2.5 Factors Affecting Cost Driver Approach

Today we do not know if different factors affect company's application of cost drivers, or if certain factors could affect cost drivers to impact differently. Cadez & Guilding (2008) advocates that no universal strategic cost management system is applicable on organizations, instead factors such as size and strategy influences the approach. Up until now, the review of existing literature and empirical findings has revealed several tendencies for cost drivers. One of them that strategy, ultimately strategic alignment, might influence cost drivers' importance, and according to Chenhall (2003) strategies are tools to handle and influence the organization's external environment. It is highlighted that a firm needs to align its firm's structure with its contextual factors to perform well (Drazin & Van de Ven, 1985) Furthermore, strategy is the primary designer of cost structure (Anderson, 2007) which forms the firm and its cost drivers (Banker & Johnston, 2007). Hence, other factors might influence strategic prioritization and firm's employment of cost drivers. Factors that does not necessarily have to be strictly linked to strategy, but aspects that characterize organizations and cause organizations to approach cost drivers differently.

2.5.1 External Environment and Size

Chenhall (2003) advocates that the firm's external environment is the most powerful contextual factor, and thusly strongly influencing organizational strategies. Furthermore, Baines & Langfield-Smith (2003) advocate that the environment has become dominant by demanding customers and intense competition, which the organization has to align with its strategy. And in the hunt of competitive advantages, firm´s may implement different manufacturing technology to support strategic priorities (Baines & Langfield-Smith, 2003). Thusly, the organizational structure will be influenced by the external environment of which the firm operates in. More specifically, by the uncertainty of the external environment, which could be defined by the environments diversity, hostility and complexity (Chenhall, 2003). Further on, turbulent external environment and intense competition is positively correlated with reliance on formal controls (Chenhall, 2003) and refined accounting and statistical control (Khandwalla, 1972). Hence, the organization's environment will influence strategies and accounting structures and thusly advocating different application of cost drivers depending on the firm's external environment.

Company size is another factor which is related to more specialized and sophisticated accounting practice, as growth bears control problems (Cadez & Guilding, 2008). Further on, larger companies will generally have more available resources (Gliaubicas & Kanapickiene, 2015), relatively lower cost of information (Cadez & Guilding, 2008) and generally have larger need of controlling (Chenhall, 2003). Thusly, larger organizations might utilize cost drivers differently than small companies, as their accounting practice is more sophisticated, it is relatively cheaper for them to consider more cost drivers and they have a larger need for controlling their environment and can afford it.

2.5.2 Product and Process Design

A firm's product design characteristics affect decisions concerning organizational structure, technology and operating strategy (Banker & Johnston, 2007). Further on, product design is highly correlated with process design (transforming inputs to outputs) and vice versa. And according to Banker & Johnston (2007) product design is related to the cost driver scope (product line breadth/variety) and product line complexity, while process design is related to all structural and executional cost drivers. The chain-reaction continues, as the fundamental decisions of strategies, product design and process design will cause structural and executional limitations on operational activities (Banker & Johnston, 2007). Hence, together, product and process design will constitute the largest base of a manufacturing firm’s activities within the entire value chain (operational, structural and executional) and as we know, any factor determining the amount of an activity’s cost usage or provoking changes of activity costs can be named a cost driver (Banker & Johnston, 2007). Hence, cost drivers are influenced by product and process design, and could be a factor which influence firm's employment of cost drivers. More specifically differences in product and production design should influence different employment of cost drivers. As

non-standard, diversified products tend to generate complex production technologies, and the opposite applies for a standardized product (Chenhall, 2003) and it is the differences that should influence cost drivers. Further on, as previously mentioned, cost drivers can assist within designing and developing products and production processes (NPD Solutions, 2018) and avoid hidden costs (Johnson & Kaplan, 1987). Hidden cost, which originates from the firm´s complexity, are hidden since they cannot be explained by production output, as production output does not appropriately account for the richness of cost behavior (Shank & Govindarajan, 1993). Hence, to account for the firm´s complexity, and ultimately reducing cost, more cost drivers than production output must be considered. Furthermore, management control systems have evolved and included external information regarding for example customers (Chenhall, 2003). Banker & Johnston (2007) states that customer value is the difference between willingness to pay and market price. By understanding customers wants, firms can drive revenues through customer loyalty and retaining old customers. However, same forces which drives revenue will also drive variable and flexible costs. Hence, firm's responses towards different customer needs and wants might result in different cost drivers.

2.6.3 Performance

Studies of the relationship between strategic management accounting and performance have shown diverse results, although there appears to be a positive correlation between accounting information usage and performance (Cadez & Guilding, 2008). Furthermore, Shank & Govindarajan (1993) states that cost driver analysis will improve decision-making and make the firm more strategically aligned by incorporating cost information in company performance. Simultaneously, researcher has also proven that several drivers of cost originate from managerial decisions regarding business strategy, customer value, revenue and profit drivers, so called decision variables (Banker, Ou & Potter, 1997; Ittner, Larcker & Randall, 1997 & Kekre & Srinivasan, 1990). According to Shank & Govindarajan (1993) and Porter (1985) firms can achieve cost advantages by managing their cost drivers appropriately, meaning acknowledgement of all cost drivers and their complex interplay (Johnson & Kaplan, 1987; Porter, 1985; Shank & Govindarajan, 1993). Ultimately strategic application of cost drivers demonstrates many aspects where organizational performance could be improved, for instance reduction of non-value adding activities and discovery of hidden costs (more examples are presented in section 2.3). Therefore, firms using cost drivers for strategic purposes such as benchmarking, expansion investments and customer segmentation should in return perform better than competitors in strategic important areas. In fact, researchers imply that the overall performance will be greater by using cost drivers appropriately (Shank & Govindarajan, 1993, Porter, 1985) something that have been proven, for investment decisions (Carr & Tomkins, 1996). Hence, by managing cost drivers strategically, you may increase profitability and ultimately performance. Furthermore, firms who are outperforming their competitors should also harvest more resources which enables them to consider cost drivers at a higher extent, further improving

their competitiveness. Hence, the interest of investigating subjectively successful firm's application of cost drivers is advocated by researchers' statement of appropriate usage leading to superior performance.

2.6 Research Questions

During the literature review, several discussions has highlighted various unanswered questions. The questions are in the scope of the thesis' purpose and will be discussed in section 5.0.

Does manufacturing firms consider individual cost drivers differently?

How does manufacturing firms identify cost drivers?

What motivates manufacturing firms to consider cost drivers?

How and in which application areas does manufacturing firms use cost drivers?

Does the external environment, size, product complexity, process complexity or performance (factors) influence manufacturing firms approach to cost drivers?

3.0 Methodology

3.1 Research Design

The following chapter describes *how* the research has been performed and *why* the research has been performed in this way. With a broad and explanatory purpose "*investigate how manufacturing firms use cost drivers and if any factors affect manufacturing firms' cost driver approach"* the aim was to investigate extensively. To achieve the study's purpose and answer the research questions derived from the literature review, a survey was sent out to professionals within the manufacturing industry. A survey, collecting quantitative primary data, was considered to be most appropriate for the study's purpose. Since the purpose required insight in several companies' management of cost drivers and the research questions generated investigation of general relationships. Conceptualizing theory into concrete questions was deemed to be a pragmatic method to search for patterns and generalizability. Furthermore, the research questions organized the thesis and the survey´s structure.

The decision to focus on manufacturing companies was based on the context´s sufficient empirical research, which provided validation and enabled concept formation of the survey questions. Furthermore, the origins of the cost driver concept can be traced back to the manufacturing industry (El Kelety, 2006) which increases the possibility of the respondent's familiarization of cost drivers. One country, Sweden, was chosen to attain enough respondents with resembling contextual factors. Thus, enabling distribution of one, single survey which enhanced comparability and analyzability. After Swedish manufacturing companies had been selected we chose to target mid-sized firms. As mid-sized firms were believed to be small enough to have one single employee with sufficient knowledge of operations and strategic decisions, but also large enough to have formalized processes.

Swedish mid-sized manufacturing companies were filtered out in the database *Retriever Business* which contains all firms registered in Sweden. *Retriever Business* (2018) classifies mid-sized companies according to the European Commission's recommendation (2003/361): 100-499 employees and 100 001 000 SEK - 430 000 000 SEK in total assets. Of the 298 companies that matched the search, 93 companies were found to fulfill the limitations of manufacturing a product at their own manufacturing plant and having their headquarters in Sweden. Limiting the sample to firms with headquarters in Sweden, reassured the contacted employee possessed knowledge of both operative and strategic character. The stated sampling frame (Bryman & Bell, 2011) were manually validated by scanning the 298 company's respective websites. Manually and not randomly selecting respondents from the manufacturing industry increases the risk for sampling error (Bryman & Bell, 2011), which limits the study's generalizability of Swedish manufacturing companies.

Toompuu & Põlajeva (2014) is the only research with a similar aim as this study, but their survey research is constructed in way which hinders comparability and investigation of patterns. Toompuu & Põlajeva (2014) includes respondents from several different countries, and do not classify cost drivers within any taxonomy, which affects comparability. Furthermore, their survey is designed with multiple choice questions, which neglects the possibility of variance between individual cost driver's usage. Which is especially of interest as Shank & Govindarajan (1993) states that all cost drivers are not equally important at all times. To contribute to existing research our study included the aforementioned aspects, through employment of a seven-point Likert scale (Bryman & Bell, 2011). All of the respondents were asked the exact same questions, which facilitated quantification of data and comparability of variables. Important aspects that assisted us in the search for relatedness between variables and ultimately causal relationships.

3.2 Data Collection

The survey was constructed to directly address the study's purpose and should therefore be considered as the thesis primary data. Gathering of the data meant operationalizing the purpose and the research questions into survey questions, for which the literature review and Appendix 2 was used as guidance. A task which was central for the study´s reliability and validity. To assure consistency and validation of measures a thorough review of the surveys construction will be presented (Bryman & Bell, 2011). The survey was written in Swedish and is in its entirety presented in Appendix 4, an English version of the survey is presented in Appendix 5. The survey was designed in Word and to assist us with experience in survey-making our supervisor guided us through several meetings and discussions. Furthermore, before acquiring the study's primary data, the survey was tested on a trial person to assure that the questions were interpreted in the intended way (Bryman & Bell, 2011). The "Trial person" was a CFO with experience of the manufacturing industry. Our trial testing provided information about the design, misinterpretations and general opinions of the survey. The interactions with both our supervisor and our "trial person" lead to important contributions of the survey´s design and content.

It was, for the study´s reliability, of utmost importance to reassure that the respondent possessed sufficient knowledge and information about the firm to answer the survey precisely. We therefore chose to target and contact CFOs or controllers, as they were deemed to have an appropriate link between operations and management. If direct contact information did not exist on respective company´s homepage we called the company and asked for contact information. Furthermore, during our contact with the company we clarified that if the respondent lacked sufficient knowledge he or she should refrain from conducting the survey. Through the contact with our respondents we also received indications that several of the respondents consolidated colleagues to provide the research with accurate answers. Hence, the respondents took the research seriously and we therefore considered their answers reliable. However,

some of the population´s 93 firms did not accept surveys by principle and some lacked the time to contribute to the research. In the end 59 surveys were sent out to different companies' CFO´s, controller´s or other, considered by the firm, appropriate employee. Hence, the research covers a sample of the entire population. Once contact had been established, the survey was handed out by email with a deadline of five working days. After the deadline had passed a first reminder was sent out and a second reminder after ten working days. Out of the 59 distributed surveys 21 answers were collected. No bias was found regarding size between the companies that participated in the survey and those that did not.

3.3 The Survey

The survey starts with a description of the study's purpose and a brief summary of the research area, which was followed by instruction of how the respondent should conduct the survey. To further mitigate misinterpretation, instructions were included along the way and academically and theoretical phrases were reformulated and exemplified. Moreover, our contact information was available if any questions would arise. To increase the study´s transparency and reliability, will the following section describe how the survey questions were constructed (Bryman & Bell, 2011). The survey was divided into three major parts (I) *Information About the Respondent & the Company* (II) *Cost Drivers and* (III) *Usage of Cost Drivers* and will be reviewed accordingly. A structure deemed logic and simple for the respondent, as he/she could first focus on the firm's context before moving onto specific cost drivers.

3.3.1 Survey Part I - Information About the Company and the Respondent

To enable validation of the answers the survey´s first part concentrates on the respondents' name, work title and number of years within the company (Bryman & Bell, 2011). The survey continues with general questions about the company were the respondent is asked to type in their answer. After the initial part, the survey no longer requires any typing, instead a seven-point "Likert scale" or multiple-choice questions are employed throughout the survey (Bryman & Bell, 2011).

The remaining segment of the survey's first part aimed to identify the factors discussed in the theory chapter 2.6. By investigating the responding firm's *Customers & Market, Products, Production* and *Performance in Relation to Competitors.* Within every section were questions and aspects, identified by the literature review, asked. *Customers & Markets*, is divided into three parts, the first of which concerns predictability and changes of the external environment, defined by us as customers, suppliers, competitors and technology. Furthermore, two questions are asked to define if customers are characterized by different statements and if customers differ between these statements. We believe that investigating predictability, changes, characteristics and the diversity of characteristics reflects the complexity and richness of uncertainty within *Customers & Market.* Aspects that altogether intend to cover the hostility, diversity and complexity of the responding's company's external environment, as

discussed by Chenhall (2003). Furthermore, selection of aspects to bring forth literature from McDonald & Dunbar (2012) and Kaplan & Narayanan (2001) were used to find factors to reflect customer and market uncertainty. We are aware that many other factors could be accounted for as a company's external environment and that firm-specific environments may occur. Although, we believed that the rather homogeneous respondents, provided by the study's sample frame, would enables us to define and test the general external environment.

The two sections regarding *Products & Production* aims to identify characteristics within the company's product and process designs. The statements and characteristics within the two *Products* questions are based on previous empirical findings within manufacturing firms regarding product complexity´s effect on cost (Foster & Gupta, 1990; Berlant, Browning & Foster, 1990; Ittner & MacDuffie, 1995). Hence, the relevance of asking the question has already been established. The questions were divided into; how the statements fit the organization's products and at what extent they differ, this is done to capture the richness of product characteristics. Production is on the other hand operationalized by one question where the respondent is asked to state at what extent the statement fits the company. The scale is once again a seventh-grade Likert scale, where one equals not at all and seven equals that the statement fits the organization at a high extent. The purpose of including production characteristics is to investigate if the required transformation of input to output affects manufacturing firm´s cost driver approach.

The concluding section (of Part I) concerns *Performance in Relation to Competitors*. With the purpose of operationalizing the discussion regarding cost drivers' relationship with increased performance. This is partly derived from Cadez & Guilding´s (2008) discussion of strategic management accountings positive effect on performance and researchers' implication that using cost drivers appropriately will increase overall performance (Shank & Govindarajan, 1993, Porter, 1985).

3.3.2 Survey Part II - Cost Drivers

The surveys second part focuses solely on individual cost drivers. The question is divided into two aspects, where the respondent is asked to simultaneously state what impact the driver has on costs with in the firm and at what extent the driver is considered. This was done to investigate if there could be any variance between level of impact and level of consideration, as a driver might affect costs at great extent but is seldom considered because it is not part of the daily workflow as other drivers might be. Additionally, a cost driver can also be considered often but have smaller impact on total cost. The cost drivers stated in the survey where derived from Porter (1985), Shank & Govindarajan (1993) and Cooper & Kaplan´s (1999) acknowledged cost drivers are presented. A complete list of the researchers cost drivers is presented in Appendix 1. When compiling the list of cost drivers many similarities between the different researchers' cost drivers were discovered. The small differences between the cost driver terms caused difficulties in separating them without extensive descriptions, and the respondents needed

to comprehend each term to avoid confusion and assure fulfillment of the survey. Furthermore, some of the cost drivers were not easily explained by one term. These factors instigated the division and amalgamation of cost drivers to easily comprehensible (cost driver) answer alternatives. Therefore, we created a compressed list of cost drivers and categorized into three different parts: operational, structural and executional cost drivers. The compressed list, which can be observed in Appendix 2, is a result of operationalizing theory into survey questions. All of the factors are, in the survey, exemplified to avoid misunderstanding and misinterpretation, and their ability to drive cost has already been established as they are all derived from previous literature. The following section will review how cost drivers has been compressed, terms that were directly translated and transferred from the taxonomies will not be reviewed.

First of all, Porter´s (1985) Policies was a term that could not be included in one single answer alternative. Strategy choices pervade throughout the firm and result in numerous of policies, for instance other drivers such as Technology, Complexity and Scope are related to policy choices. Hence, Policies could be viewed differently, and we concluded that the respondents would interpreted the term in too many different ways for the question to remain valid. Porter´s (1985) Timing was also not employed as an alternative in the survey, since the term was too complex and deemed to result in large confusion. Due to, Timing´s, many interpretation possibilities and specific contingencies. Since, the concluding part contains a list were the respondent can enter other factors that they concern should be included as a driver of cost, the excluded factors still have a possibility to be entered.

Furthermore, to accurately portray both Scale and Complexity they were divide into two separate terms. Scale, from Shank & Govindarajan's (1993) and Porter's (1985) taxonomies, was divided into Plant size and Plant output. A division familiar from Foster & Gupta's (1990) empirical research, and Banker, Potter & Schroeder's (1992) and Ittner & McDuffie's (1995) measure of scale. Furthermore, Ittner & McDuffie's (1995) and Foster & Gupta's (1990) work guided the division of Shank & Govindarajan's (1993) Complexity into: Product portfolio breadth and Product variety. Number of fully owned parts of the value chain described the sourcing decision, both "Integration" (Porter, 1985) and Scope (Shank & Govindarajan, 1993) aimed to pronounce. Likewise, could "Learning and spillovers (Porter, 1985) and Experience (Shank & Govindarajan, 1993) easily be combined into one term, Experience, as they both aimed to describe knowledge gained over time. Interrelationships (Porter, 1985) and Supplier and customer linkages was integrated into one term, Interrelationships. Supplier and customer linkages was also included in Production-process efficiency together with Plant layout efficiency (Shank & Govindarajan, 1993) and Linkages (Porter, 1985). Since, efficient transfers throughout the value chain is highly related to how efficient the plant layout is. Similarly, Linkages and Supplier and customer linkages is also related to the efficiency in transitions between parts of the value chain.

Finally, both Order-related and Channel sustaining cost drivers were included in Batch-level respectively Customer-sustaining cost drivers, as they are very similar. Inclusion of Order-related and Channel-sustaining drivers would most likely lead to confusion, which was confirmed by our trial person who tested the survey before it was sent out. Who also confirmed our prediction regarding the confusion of Timing. According to Cooper & Kaplan (1999) the most common activities (thus cost drivers) are; unit, batch, product and customer-level activities. Furthermore, they admit that Order-related and Channel-sustaining activities occur less frequently, we concluded that the additional value in our research would not weigh up the additional confusion from presenting all of the terms independently. The final result, the 29 cost drivers presented in Appendix 1, were compressed into 21 factors which were stated in the survey.

3.3.3 Survey Part III - Identification and Usage of Cost Drivers

The third and concluding part of the survey, consisted of three questions and focused on the responding firm´s identification motives for consideration and application of cost drivers. The respondents were first asked to state at which extent specific motives have influenced the choice of cost drivers they consider the most. The alternatives were based on the motives in Table 3. Strategic Importance was divided into three parts: Strategical importance, Top management and recommended by externals. Access to Data was divided into Information access and Practicality. Top management's influence was included to reflect Strategic cost management’s possibility to attain value-creating information related to decision-making. The influence of external recommendations was included as firms might have used external information, for instance, the empirical research of cost drivers. Accesses to Data refers to the problems of finding and using cost drivers. Hence, both Information access and Practicality were deemed as appropriate measures.

Next question asks the respondent to state which method they have used to identify the cost drivers (asked in survey part II). The question is designed with multiple choices, were the respondent was able to choose more than one option and if deemed necessary enter a non-listed method. The answer alternatives were derived from the literature review, Table 2, (section 2.4). Furthermore, we chose to add Partnership with customer/suppliers, to reflect the aspect of controlling cost while satisfying customers (Horngren, Bhimani, Datar & Foster, 2005). Lastly, we also added Recommended by external stakeholders, to grasp if existing literature or empirical research has provided guidance within the identification process. The survey´s final question focuses on the company's cost driver application methods, by asking at what extent the firm use cost drivers in different theory based situations (Cokins & Capusneanu, 2010; Porter, 1985; Shank & Govindarajan, 1993).

3.3.4 Summary of the Survey

A combination of theoretical perspectives and empirical findings were used to construct the survey. An approach that enabled the survey to mainly consist of predetermined response options and increased the study´s reliability and validity. Which seems to have yielded a satisfactory result, as none of the respondent chose to use the answer alternative "other" on any of the questions. Furthermore, the survey responses have been treated confidentially, hence respondents name or company name will not be revealed. From an ethical perspective, we believed that privacy of the company and the respondent would increase the response rate and that the name of the responding companies would not attain any additional layer to the research.

We received 21 responses, which constitutes roughly 36% of the 59 sent out surveys, and roughly 23% of the total population of 93 companies. We are quite satisfied with the number of responses for several reasons. Firstly, the contracted companies were in a period of high workload and the survey was rather time consuming. Secondly, Toompuu & Põlajeva (2014) related research achieved 34 responses during a much longer period of time. Although, within quantitative researcher it is important to consider the generalizability, which in this study is strictly limited to the population of which the sample has been drawn from (Bryman & Bell, 2011). Hence, the study is limited to generalize within Swedish manufacturing firms, but must also account for the size of the sample and the response rate. Therefore, generalization should be done with caution and the study´s empirical findings should be seen as descriptive statistics of a specific sample within a specific context. Even though the survey questions are based on proven important areas within cost driver analysis, the cause and effect relationship between the different parts of the survey should be reviewed with skepticism and cautious generalization of the entire population.

3.5 Data Analysis

In comparison to an online survey Word has more room for errors because we had to manually transfer data from Word to Excel, but by double-entering survey responses errors were minimized. Furthermore, Word relative to an online survey could accept missing answers, for that reason we asked each respondent for their contact details if a follow up question was required. After the surveys had been manually entered into Excel the data was processed with the help of SPSS Statistics. Our analysis is mainly made through Spearman's correlation analysis since the data was ordinal, which requires non-parametric tests (Hinton, Brownlow, McMurray & Cozens, 2004). Ordinal scale means that you cannot determine the actual amount or magnitude in absolute terms (Hair, Black, Babin & Anderson, 2010). Non-parametric tests count for the deficiencies of ordinal scale. Still, the significant relationships were also verified through the non-parametric test Mann-Whitney to increase the reliability (Wahlgren, 2012). Wilcoxon Signed Ranks test was used as a non-parametric paired difference test and exact signs were

chosen to avoid asymptotic answers (Wahlgren, 2012). For the regression analysis which explained financial performance's relationship with total application, several diagnosis tests were made through Eviews. The test of normality was made through the Jarque-Bera test. The null-hypothesis for the test are normality (Brooks, 2008) and with a probability value of 0,66 we will accept the null-hypothesis and confirm the regression analysis's normal distribution. To investigate if the variance for errors is constant, the white-test can be used (Brooks, 2008). The tests null-hypothesis is homoscedasticity. Since White-test gave a p-value of 0,66 the null-hypothesis has to be accepted and the variance for errors are constant. Non-linearity was tested to see if it was appropriate to assume the function was linear (Brooks, 2008). A Ramsey-RESET test was performed with the null-hypothesis of linearity. With p-value of 0,26 for the test the null-hypothesis had to be accepted. Consequently, the regression analysis passed all performed diagnosis tests.

3.6 Variable Measurements

Several variables will be used for analysis in following sections. A short presentation will follow about the fundaments and calculations of the variables.

Goal to market was a variable computed to represent the firm's ability to fulfill its organizational goals with greatest prioritization. Therefore, Goal to market was computed by first selecting areas where the firms reported an importance of 6 or 7. Secondly, the average of each firm's performance, where companies listed importance of 6 or 7, was calculated. The second variable is Financial performance which refers to the ability to succeed financially. To create Financial performance, the average of following performance areas was calculated: Sales growth, Operating profit, Profit margin and Market share. Cronbach's alpha test was performed and resulted in 0,794, which is a satisfactory result. Both performance measures refer to the discussion in 2.6.3, and aim to reflect the firm's performance in relation to competitors. Since a Likert scale constitutes the measures of the variable Financial performance, you have to be cautious since the answers can be regarded as subjective. Size is another factor with possible connection to a certain cost driver approach. Number of employees was collected from Business Retriever as a size measure. However, to accurately reflect the size differences, the logarithm of number of employees was used as a measure for size. The name of the size variable is LOG Size.

The other mentioned factors were uncertainty of external environment, customer-, product- and production complexity (survey – part I). All these factors were represented by a variable. External environment was the computed by the average of reported predictability and number of changes of customers, suppliers, competitors, technology. Both number of changes and predictability was aimed to stand for the turbulence, diversity and complexity of the environment. The variable Customer

complexity was formed by the average of all reported customer questions. The customers where characterized by, the extent customers are predictable, irregular and by the extent of which certain customer characteristics differed between customers. Altogether they were perceived as a comprehensive measure for Customer complexity. The variable Product complexity was quite similar in construction but the average computation consisted of how certain characteristics fitted the firm's products and how the characteristics differed among the products. As a final representation of the factors, Production complexity represented the complication and development of the plants. The variable consisted of the average of 5 statements about the manufacturing plant which aimed to accurately predict production complexity.

The identification question in the survey asked the respondent to report all identification methods they used. A summation of each firm's noted identification methods would therefore reflect the identification usage. Hence, the variable Total identification was created and represents the amount of identification methods used for each firm. As there are several motives to consider cost drivers different from their impact it is interesting to know how large these differences are and if manufacturing firms systematically consider a cost driver less or more than its impact. Consequently, a variable, Total difference, was created through several steps. The difference between cost driver impact and cost driver consideration was created for each and one of the individual cost drivers. The inverse elements were neutralized and the total differences were computed. Equation 1 was used to compute Total difference:

Equation 1 – Total difference

$$Totaldifference_{Firm\ A} = \sum \sqrt{\left(x_{cons} - x_{imp}\right)^2}$$

Where x_{imp} stands for the manufacturing firm's x cost driver impact and x_{cons} stands for the manufacturing firm's cost x driver consideration.

Total consideration and Total impact were created to represent the general consideration and impact for each firm. The variables consist of the average value of all cost drivers' consideration and impact respectively. Furthermore, Structural, Executional and Operational were also created for both the impact and consideration to increase understanding of the data material. Structural, Executional and Operational impact and consideration were created as an average of all structural, executional and operational cost driver answers. See the survey in Appendix 5 for further understanding of how the classification of cost driver types were made.

The application areas were constructed into two variables. Firstly, Total application represents the total usage of all cost driver application areas. Hence, average of the firm's usage of all application areas was

computed to form this variable. Secondly, Strategic application was computed by the average of the firm's usage of the application areas: Expansion Investments, In Partnership with Customers and Suppliers, Human Resources Usage, Customer Segmentation and Procurement. Hence, the variable only includes the total usage of application areas reported in Table 4 as having no usage within traditional cost management. Cronbach's alpha test was performed for both Total application and Strategic application, the satisfactory results were 0,819 and 0,828.

Finally, to conduct the Mann-Whitney test, the factors affecting the cost driver approach had to be divided into three groups. The groups ranged from small, medium and large in terms of complexity, size and performance respectively. Since the groups were subjectively divided, some sort of bias is present. However, since Mann-Whitney test only was performed to confirm or deny relationships from the Spearman's correlation analysis, the bias can be disregarded to some extent.

4.0 Results and Analysis

The following chapter will go through relevant findings from our SPSS analysis, the order of which will be the same as the theory chapter with one exception. The factors from 2.5 (theory chapter) will be incorporated to analyze differences in all the forthcoming sections. Out of the 21 firms, merely three identified themselves as cost leaders. Rest of the firms were either differentiators or a combination of the two. The most common production method was Batch-production (17) and all of the respondents working titles were either controller (7) or CFO (14). Table 5 displays further descriptive statistics of the responding manufacturing firms.

Table 5 - Means and Standard Deviation of Sample

	N	Minimum	Maximum	Median	Mean	Std. Deviation
Number of manufacturing plants	21	1	27	1	3,19	5,600
Number of countries	21	1	70	4	11,38	17,526
Number of employees	21	102	435	182	213,14	90,409
Number of Employees/Plant	21	8	350	100	126,19	85,476

4.1 Cost Drivers and Their Taxonomies

Table 6 presents that the largest impact of operational cost driver are Unit-level, Batch-level, Customer-sustaining and Product-sustaining as predicted by Cooper & Kaplan (1999). Both Plant size and Production-input are among the five mostly considered cost drivers and the cost drivers with lowest standard deviations. Both of which are related to Scale and are therefore volume-based. As researchers acknowledge volumes low specificity for strategic purposes (Shank & Govindarajan, 1993), Scale is associated with traditional cost management. Furthermore, structural cost drivers with large strategic advocacy from Shank & Govindarajan (1993) and Porter (1985) (Interrelationships, Value chain and Product variety/portfolio breadth) are all considered less than cost drivers which can be regarded as belonging to strict manufacturing (For instance: Plant size, Production input and Technology). El Kelety's (2006) argument, cost driver concept tends to remain at the plant, seems to be applicable, although all of the respondents are manufacturing firms with emphasis on their facilities. Consequently, Table 6 shows tendencies of traditional cost management.

As seen by Table 6, although differently, all of the cost drivers were stated to have an impact and were all considered by the manufacturing firms. The three cost drivers with greatest considerations are represented by the respective type of cost drivers (Structural, Operational and Executional). However, executional cost drivers have largest averages with regards to both impact and consideration. Operational cost drivers are least considered and have least impact within manufacturing firms. Still, Shank & Govindarajan (1993) fall short on their own argument, arguing for firm's acknowledgement of

all cost drivers while disregarding the importance of operational cost drivers. When manufacturing firms evidently regards operational cost drivers in practice. Furthermore, Porter (1985) only regard structural and executional cost drivers while Cooper & Kaplan (1999) only regard operational cost drivers, which cannot be justified in practice as manufacturing firms consider all type of cost drivers.

As displayed by Table 6, variance of averages between individual cost drivers' impact on cost and level of consideration exists. Only Batch-level has the same mean for both cost driver impact and consideration and 14 of the 21 cost drivers are generally considered less than their impact. However, the differences between cost driver's impact and consideration is merely significant for two cases from the Exact sign test. Both product-level and product portfolio breadth are considered significantly less than their impact. Furthermore, Kaizen, Location, Product variety and structural cost drivers shows tendencies of differences between cost driver impact and consideration. The motives of the differences between cost driver impact and consideration could be either strategic importance or access to data. To know what type of motive there is behind each difference in cost driver impact and consideration you need to analyze it case by case, since there are two motives. However, the general tendencies for cost driver consideration will be walked through later in this chapter (See section 4.3).

Table 6 – Differences between Impact and Consideration of cost drivers

Cost driver	Impact Mean	Impact Std. Deviation	Consideration Mean	Consideration Std. Deviation	Wilcoxon signed ranks test	
					Z	Exact Sig. (1-tailed)
Product-sustaining	3,1	1,338	2,95	1,431	-,516[b]	0,344
Interrelationships	3,67	1,354	3,62	1,658	-,093[b]	0,473
Institutional factors	3,9	1,64	4,05	1,884	-,423[c]	0,365
Facility-sustaining	3,95	1,359	4	1,304	-,105[c]	0,499
Kaizen	4,14	1,797	4,71	1,454	-1,415[c]	0,087
Customer-sustaining	4,19	1,365	3,9	1,3	-,709[b]	0,26
Location	4,33	1,683	3,76	1,338	-1,663[b]	0,058
Value chain	4,48	1,289	4,52	1,25	-,209[c]	0,433
Product-level	4,62	1,396	4,1	1,67	**-2,138[b]**	**0,022**
Product portfolio breadth	4,62	1,627	3,95	1,499	**-2,203[b]**	**0,02**
Product configuration	4,67	1,39	4,62	1,658	-,080[b]	0,473
Experience	4,71	1,488	4,38	1,774	-1,165[b]	0,141
Batch-level	4,76	1,411	4,76	1,513	-,047[b]	0,5
Product variety	5,1	1,48	4,52	1,504	-1,679[b]	0,061
Quality	5,19	1,289	5,24	1,3	-,054[c]	0,5
Technology	5,24	1,446	5,1	1,546	-,504[b]	0,347
Production-process efficiency	5,43	1,076	4,86	1,652	-1,573[b]	0,067
Capacity-utilization	5,48	1,327	5,67	1,065	-,528[c]	0,318
Plant size	5,67	0,658	5,52	0,928	-1,000[b]	0,266
Unit-level	6,05	1,117	5,95	1,284	-,491[b]	0,375
Production input	6,19	0,75	6,05	0,74	-1,134[b]	0,227
Operational	4,44	0,822	4,28	,889	-,597[b]	0,285
Structural	4,79	,725	4,55	,685	-1,353[b]	0,092
Executional	4,98	,942	5,02	,986	-,037[c]	0,489
Total	4,74	,701	4,58	,708	-,452[b]	0,332
					b=Consideration < Impact c= Consideration > Impact	

Furthermore, we can see variances among the individual manufacturing firms when it comes to consideration and impact, since the standard deviation for each cost driver is quite large. Hence, variance between the respondent's employment of cost drivers is expected. The cost driver with largest standard

deviation regarding consideration is, Institutional factors. Which might be explained by differences in type of sold products, chemical products are for instance likely to be regulated by legislation which would influence the individual firm to consider legislation greater than the general manufacturing firm. However, the remaining 20 costs drivers' standard deviations are not as intuitively interpreted. Hence, the discussed factors were tested to investigate if any of the factors influenced differences of consideration for specific cost drivers.

Through a Spearman's correlation analysis (See Table 19), several significant relationships between factors and specific cost driver considerations were found. All significant relationships were positive. The relationships were also tested through a Mann-Whitney test and summarized in Table 7 (cost drivers with no significant relationship have been excluded). Table 7 displays the relationship between cost driver consideration and the factors, which are divided into three groups. External environment and Production complexity did not show any significant correlations and were therefore excluded from the table. Which means that External environment and Production complexity does not influence manufacturing firms to consider cost drivers differently. Furthermore, since all of the remaining significant relationships were positive, will increased product and customer complexity, size and performance be associated with greater consideration of certain cost drivers. The differences within the factors could be explained by either the existence of Cause and effect relationships, Strategic importance or Access to data. Further on, the different factors with significant correlations to specific cost drivers will be discussed and analyzed.

Manufacturing firms with greater Goal to market performance will in general consider Interrelationships, Product configuration and Technology at higher extent (Table 7). All of which, are also significantly positively correlated with Financial performance. The result indicates that by considering Interrelationships more, you can improve Goal to market or Financial performance. Interrelationship is connected to reconfiguration and management of the value chain, which is related to strategic alignment and financial benefits according to both Shank & Govindarajan (1993) and Porter (1985). Hence, strategic application of cost drivers might, in practice, be a source for improved financial performance. Furthermore, Product configuration concerns the product design, where cost drivers can assist to establish product specification and avoid hidden costs. It is plausible that Product configuration is one of the primary cost drivers to avoid the hidden cost discussed by Johnson & Kaplan (1987). Which is further recognized as Financial performance and Goal to Market are positively correlated with Product configuration consideration and improved accuracy of hidden costs can lead to increased selling prices and profit margins (Cokins & Capusneanu, 2010).

As seen in Table 7, both Product complexity and Customer complexity are significantly correlated with the cost driver Location. Hence, manufacturing firms will generally consider Location more as product

or customer complexity increases. As the Customer complexity consist of customers' demand on the firm, we can see indications of firms with greater demands from their customers need to emphasize the geographic distance to customers at greater extent. Further on, manufacturing firms with highly complex products might require collaboration with suppliers which also can explain the greater consideration of Location as a driver of cost. Furthermore, the size of the manufacturing firm is positively correlated with the cost driver Unit-level, which is partly related to volume. Hence, as the average manufacturing firm grows more consideration will be concentrated towards volume-based cost driver. Results that further helps to construct a general picture of how manufacturing firms approach cost driver analysis.

Shank & Govindarajan (1993) argue that all cost drivers are not equally important, but some are probably important all the time. Since only a few of the individual cost drivers are significantly related with the different factors, it appears like most of the cost drivers are equally important within the same industry. Still, some manufacturing firms generally consider cost drivers at greater extent. Table 7 display that Total consideration of certain cost drivers are positively related with Goal to market, Financial performance and Product complexity. Hence, manufacturing firms with greater Product complexity needs to consider cost driver at greater extent. As products forms the fundaments of a manufacturing firm's activities, will increased product complexity affect the firm as a whole. Increased Product complexity might require more information regarding the product´s attributes and according to Bromwich (1990) can management accounting play a vital role in monitoring the desirable cost of attributes. Therefore, higher product complexity might put demands on management accounting and consideration of cost drivers. Total consideration of cost drivers was also related to Goal to market and Financial performance. Johnston & Kaplan (1987), Porter (1985) and Shank & Govindarajan (1993) all advocate acknowledgement of the interplay between all cost drivers. Through considering cost drivers you can locate activities that are non-value adding. The results highlight the importance to consider cost drivers at greater extent.

Table 7 – Significant variation in cost driver consideration

Customer Complexity	**Low Customer Complexity N=5**		**Medium Customer Complexity N=12**		**High Customer Complexity N=4**		**Mann-Whitney Test (One-Tailed Sig)**
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	
Location	3,00	1,000	3,75	1,422	4,75	0,957	0,048
Firm Size	**Small Sized Firm N=8**		**Medium Sized Firm N=7**		**Large Sized Firm N=6**		**Mann-Whitney Test (One-Tailed Sig)** Std. Deviation
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Mean	
Unit-level	5,88	0,641	5,43	1,988	Unit-level	5,88	0,641
Product Complexity	**Low Product Complexity N=7**		**Medium Product Complexity N=9**		**High Product Complexity N=5**		**Mann-Whitney Test (One-Tailed Sig)**
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	
Location	3,14	1,676	3,56	0,882	5,00	0,707	0,025
Quality	4,86	1,069	5,00	1,581	6,20	0,447	0,019
Total consideration	4,37	0,776	4,4233	0,695	5,16	0,291	0,04
Customer Complexity	**Low Customer Complexity N=5**		**Medium Customer Complexity N=12**		**High Customer Complexity N=4**		**Mann-Whitney Test (One-Tailed Sig)**
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	
Interrelationships	2,00	1,000	4,09	1,375	4,20	1,924	0,04
Technology	3,20	0,837	5,36	1,206	6,40	0,894	0,004
Product configuration	2,60	0,894	5,09	1,375	5,60	1,140	0,008
Total Consideration	3,90	0,470	4,71	0,674	4,97	0,580	0,016
Customer Complexity	**Low Customer Complexity N=5**		**Medium Customer Complexity N=12**		**High Customer Complexity N=4**		**Mann-Whitney Test (One-Tailed Sig)**
Financial performance	**Low Financial Performance N=6**		**Medium Financial Performance N=9**		**High Financial Performance N=6**		**Mann-Whitney Test (One-Tailed Sig)** Std. Deviation
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Mean	
Batch-level	3,67	1,751	4,78	0,017	Batch-level	3,67	1,751
Customer-sustaining	3,00	0,894	3,89	0,035	Customer-sustaining	3,00	0,894
Interrelationships	2,33	1,211	3,78	1,641	Interrelationships	2,33	1,211
Technology	3,67	1,366	5,22	1,202	Technology	3,67	1,366
Quality	4,67	1,506	5,00	1,225	Quality	4,67	1,506
Product configuration	2,67	,816	5,33	1,225	Product configuration	2,67	,816
Total consideration	4,1429	,72343	4,9048	,67972	Total consideration	4,1429	,72343

4.2 Identifying Cost Drivers

On average, Swedish manufacturing firm´s use four methods to identify cost drivers (See Figure 1), and the four most common identification methods are Experience (90,5 %), Value chain analysis (80,1%), Observation of cost behavior over time (66,7%) and Comparison between units (61,9%). As seen in Figure 1, the most used identification method is Experience, which is interesting as it can be outlined as a cost driver. Experience could be a rather efficient method to identify cost drivers as learning increase within a firm, but it could also become costly if the firm requires new competence or if it leads to fixation of past opinions or decisions (Shank & Govindarajan, 1993).

The fact that manufacturing firms on average uses four specific identification methods is further explained by clear linkages between them. Value chain analysis is closely linked to Comparison of units since Porter (1985) includes comparisons between units as a part of his value chain package. Furthermore, Experience can be closely linked to all identification methods, but maybe most to Observation of cost behavior over time as experience is gained over time. No firm used Regression which implies that manufacturing firms tend to use less mathematical or statistical approaches to identify

cost drivers. The critique regarding regression analysis might be shared with practitioners. The difficulty (and cost) of properly quantifying and identifying cost drivers' cause and effect relationships with costs, might overweigh the proportional cost benefit of the drivers influence.

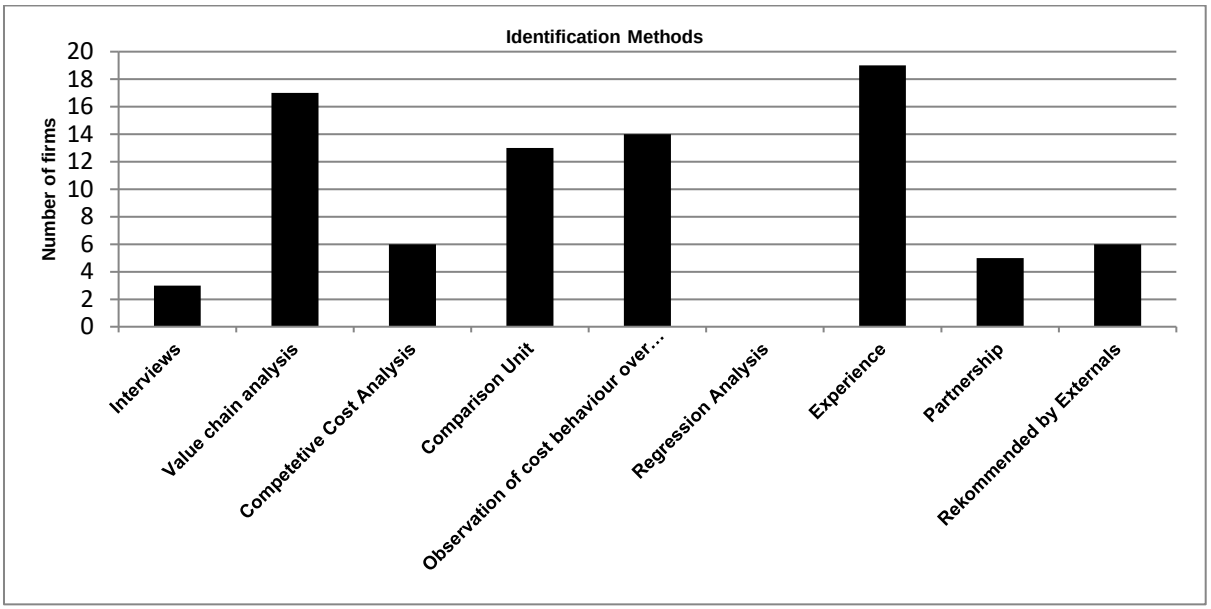

Figure 1 - Identification Methods of Cost Drivers

None of the different factors (Goal to market, Financial performance, External environment, LOG size, Customer complexity, Product complexity & Production complexity) could explain how many identification methods manufacturing firms used since the correlations with Total identification are insignificant (Table 8). The result is not completely surprising, since the majority of the manufacturing firms use the same four identification methods.

Table 8 – Correlation between Total identification and factors

Spearman's rho		External environment	Customer complexity	LOG size	Product complexity	Production complexity	Goal to market	Financial performance
Total identification	Correlation Coefficient	-,249	,166	,254	,149	,049	,249	,135
	Sig. (2-tailed)	,276	,471	,267	,518	,833	,277	,561

Since the identification methods aim to find cost driver relationships, it was deemed reasonable to see if the identification methods are related to cost driver impact. As the standard deviation of the individual cost driver impact was quite substantial (See Table 6). Table 9 aims to investigate the relationships between the identification methods and Total impact. The Spearman's correlation test exhibit that none of the identification methods indicates increased impact of cost drivers. Hence, no specific identification method seems to be better than the other to identify the underlying relationship between cost and driver.

Furthermore, the number of used identification methods did not show any a significant relationship with Total impact. Thusly, the manufacturing firm's used number of identification methods could not explain the total impact of the cost drivers either. There are two potential explanations for this. Firstly, the superiority of Value chain analysis and Experience could explain the insignificant relationships. Since 90,5 % and 80,1% of the respondents used these methods it is possible that the largest part of found impact is discovered and the rest of methods are merely supplementary with only small influence on discovered cause and effect relationships. Secondly, it is possible that the largest variance of impacts is explained by the economic structure of the firm, rather than the identification methods. Table 18 in Appendix 3 exhibits the correlations between the different factors and impact of cost drivers

Few correlations between impact and factors were to be found. The significant relationships are quite logical and can be explained by the economic structure of the firm. For instance, manufacturing firms with complex customer relationships might need to handle their customers at greater extent, which increases the importance of Customer-sustaining cost drivers. Furthermore, as the manufacturing firm grow in size, the difficulty of utilizing resources effectively will increase, hence, the increased impact of cost drivers like Capacity utilization and Production process efficiency for larger firms is rather self-evident. Thusly, both explanations for why the identification methods did not correlate with total impact can be reasonable, but the second is deemed to be most plausible.

Table 9 – Correlation between Total identification and factors

Spearman's rho		Interviews	Value chain analysis	Competitive cost analysis	Comparison Unit	Examining Internal Experience	Experience	Partnership	Recommended by externals	Total identification
Total impact	Correlation Coefficient	-,101	,221	,183	-,081	,067	,027	,139	-,044	,209
	Sig. (2-tailed)	,662	,336	,427	,727	,773	,908	,549	,851	,364

4.3 Motives for Cost Driver Consideration

Similar to Toompuu & Põlajeva's (2014) research, cause and effect relationship is also the largest motive for manufacturing firms cost driver consideration (See Table 10). If causal relationship between cost driver and cost is the motive for consideration, should both consideration and impact of the cost driver be equal. Table 4 exhibited that the differences between impact and consideration where only significant for Product-level and Product portfolio breadth. Thus, the cause and effect relationship explains the low variance between impact and consideration. However, Table 10 also displays both Strategical importance and Top management´s importance, thusly, there are more motives to consider cost drivers at a certain extent. Of course, strategical motives can also be derived from the underlying economic

edification where cost driver's impact reflect the consideration. Especially as strategic choices determine the underlying structure of the firm (Banker & Johnston, 2007). However, manufacturing firms might still disregard the cost drivers impact and instead consider cost drivers for their ability to achieve individual strategic objectives (Porter, 1985; Shank & Govindarajan, 1993).

Access to data showed, on average, to be of lowest influence for manufacturing firms motives for consideration (Table 4). Which indicates that the average manufacturing firm is not circumscribed by the interactions and counteractions between cost drivers which Porter (1985) predicted. Neither the issues with assumptions and endogeneity (Banker & Johnston, 2007; Dopuch, 1993) for mathematical models limits the organizations. Surprisingly, as no firm used regression analysis to find casual relationships (See Figure 1). For which there are two possible explanations. Either manufacturing firms does not know about the regression model's issues with proving causal relationships, or they consequently decided to neglect the method. Nevertheless, manufacturing firms seems to acknowledge that the main goal is not complete mathematical accuracy, as the cost increases in search for improved accuracy (Cooper & Kaplan, 1999).

As Table 10 exhibits, variation between individual manufacturing firms' motives for consideration exists. Since, the in section 2.5 discussed factors might affect manufacturing firms approach towards cost drivers, it is possible the variance of motives for consideration can be explained by the same factors. As for instance, smaller firm´s might be constrained by access to data as they have less resources for sophisticated management accounting (Gliaubicas & Kanapickiene, 2015). Another correlation analysis was therefore performed, but no significant relationship was found (See Table 20 in Appendix 3).

Table 10 – Motives for consideration

Motives for consideration	Minimum	Maximum	Mean	Std. Deviation
Recommended by externals	1	6	3,95	1,396
Practicality	1	7	4,14	1,526
Information access	1	6	4,67	1,461
Strategical importance	2	7	5,00	1,414
Top management	2	7	5,05	1,359
Cause and effect relationship	3	7	5,24	1,261

Shank & Govindarajan (1993) state that the importance for cost drivers varies from occasions and importance to strategically prioritize. Furthermore, the empirical research of causal relationships also found variations of significant and insignificant relationships between costs and cost drivers (Anderson, 1995; Banker, Potter & Schroeder, 1992; Datar, Kekre, Mukhopadhyay, & Srinivasan, 1993; Foster & Gupta, 1990; Ittner & McDuffie). However, no explanation of cost drivers' differences in consideration can be found from either our tested factors or the manufacturing firm's motives for consideration. Still,

variation in strategic importance could further result in variation of cost drivers shifting importance. Table 11 displays a significant positive correlation between Strategic application and Strategical importance. Hence, manufacturing firms, who have strategically applied their cost drivers tend to consider cost drivers because of their strategical importance. The results speak of a certain consistency of strategical motives for many decisions within cost driver considerations. Although not significant, Strategic application is negatively correlated with Total difference, implying that increasing strategic emphasis would decrease the difference between a cost drivers impact and consideration. Hence, differences in cost drivers' consideration and impact could be traced back to strategy.

Table 11 – Correlation between Strategic Application and motives for consideration

Spearman's rho		Total Difference	Cause and effect	Information Access	Practicality	Strategic importance	Top Management	Recommended by Externals
Strategic application	Correlation Coefficient	-,320	,126	,322	,139	,442*	,417	,091
	Sig. (2-tailed)	,158	,587	,154	,549	,045	,060	,694

4.4 Cost Drivers' Application Areas

The most common application areas are, as seen in Table 12, Pricing of products and services, Expansion investments and Cost dynamics. Strategic application is lower than Total application, and their standard deviations are smaller than the individual applications. As Table 12 exhibits, except for Expansion investments, the most common applications areas are both highly applicable in a strategic and a traditional usage of cost drivers (Cost/Revenue analysis, Cost dynamics, Replacement investments and Pricing of product and services). Consequently, we cannot distinguish if the cost driver has been applied strategically or traditionally. However, by reviewing averages of the other application areas, it is possible to see that the application areas with highest strategic association, are generally less used (Customer segmentation and Partnership for instance). Which is further distinguished as the variable Strategic application have a slightly lower average than Total application.

Still, a lot of strategic application within manufacturing firms has been found. The generally large usage of cost drivers for Expansion investments indicates that manufacturing firms have moved on from traditional capital budgeting techniques (Carr & Tomkins, 1996) and applied cost driver thinking for strategic purposes as Shank (1996) advocated. As a strong financial orientation tends to rule out elaborate strategic use (Carr, Tomkins & Babyliss, 1994), it seems like contemporary manufacturing firms generally have reduced their financial orientation for a more strategic one. Maybe manufacturing firms have listened to researchers in the hope of long term financial benefits, which cost driver for strategic investments offers (Carr & Tomkins, 1996). The same goes for Procurement, where cost drivers

are generally applied at a quite large extent. It is possible that manufacturing firm´s includes cost drivers to attain a long-term perspective on procurement and to control purchases impact on related business processes and activities (Ferrin & Plank, 2012). However, since cost drivers on average are used little for External benchmarking, the results indicate that manufacturing firms have not shifted perspective from internal to external.

Table 12 – Cost Drivers' Application Areas

Application areas	Minimum	Maximum	Mean	Std. Deviation
Customer segmentation	1	6	3,52	1,167
External benchmarking	2	7	3,95	1,359
Product development	1	7	4,10	1,446
Partnership	1	6	4,14	1,558
Internal benchmarking	1	7	4,19	1,504
Human resource	2	7	4,29	1,554
New business establishment	1	7	4,67	1,528
Value-chain scrutinization	2	7	4,71	1,309
Procurement	2	6	4,71	1,189
Replacement investments	3	7	4,76	1,300
Revenue analysis	2	7	4,86	1,652
Cost analysis	3	7	5,00	1,449
Cost dynamics	3	7	5,24	1,044
Expansion investments	3	7	5,24	1,338
Pricing of products and services	2	7	5,24	1,261
Strategic application	2	5,60	4,38	0,9714
Total application	2,73	5,60	4,57	,7374

As seen in Table 13, many of the application methods correlate with each other. The significant relationships are all positive with a correlation coefficient between 0,458 and 0,658. In total, 26 significant correlations have been found and 9 of the relationships are less than 1 percent significant, which speaks of the substantial impact they have on each other. By using one application method, the average manufacturing firm tends to increase usage of other application methods as well. For instance, Human resources usage, Procurement, Partnership with customers/suppliers and Customer segmentation are all significantly positively correlated. This means, strategic usage often comes in a package as all named application areas are used in the variable Strategic application. Therefore, it is possible to assume that the strategic usage varies among the manufacturing firms and some of the firms take it further than others.

Table 13 - Correlation Matrix between the Application Methods

Spearman's rho		Value Chain	Cost dynamics	Cost Analysis	Expansionlnve stment	Replacement investment	Internal benchmarking	Revenue Analysis	New Business Establishment	External Benchmarking	Pricing	Product Development	Procurement	Humane Resources	Partnership
Cost Dynamics	Correlation Coefficient	0,396	1												
	Sig. (2-tailed)	0,076	.												
Cost Analysis	Correlation Coefficient	0,046	-0,026	1											
	Sig. (2-tailed)	0,843	0,912	.											
Expansion investments	Correlation Coefficient	-0,161	-0,147	**,658"**	1										
	Sig. (2-tailed)	0,485	0,524	**0,001**	.										
Replacement investments	Correlation Coefficient	0,046	-0,201	**,554"**	0,354	1									
	Sig. (2-tailed)	0,844	0,383	**0,009**	0,115	.									
Internal Benchmarking	Correlation Coefficient	-0,011	0,063	**,458'**	0,348	0,13	1								
	Sig. (2-tailed)	0,964	0,787	**0,037**	0,122	0,575	.								
Revenue Analysis	Correlation Coefficient	-0,154	0,032	**,651"**	**,465'**	0,178	**,545'**	1							
	Sig. (2-tailed)	0,504	0,891	**0,001**	**0,034**	0,441	**0,011**	.							
New Business Establishment	Correlation Coefficient	0,12	0,092	**,612"**	**,612"**	0,288	0,267	**,532'**	1						
	Sig. (2-tailed)	0,603	0,69	**0,003**	**0,003**	0,205	0,243	**0,013**	.						
External Benchmarking	Correlation Coefficient	**,439'**	0,073	0,139	-0,018	0,31	0,201	-0,188	0,125	1					
	Sig. (2-tailed)	**0,047**	0,752	0,548	0,937	0,172	0,381	0,416	0,589	.					
Pricing	Correlation Coefficient	0,105	0,015	0,394	0,207	0,301	0,195	**,452'**	0,374	0,078	1				
	Sig. (2-tailed)	0,65	0,949	0,077	0,368	0,185	0,397	**0,04**	0,095	0,735	.				
Product Development	Correlation Coefficient	**,653"**	0,139	0,082	0,061	0,173	0,088	-0,232	0,082	**,514'**	-0,107	1			
	Sig. (2-tailed)	**0,001**	0,547	0,725	0,793	0,454	0,704	0,312	0,723	**0,017**	0,646	.			
Procurement	Correlation Coefficient	0,286	**,545'**	0,13	0,031	0,149	-0,207	0,012	0,335	0,217	-0,158	**,468'**	1		
	Sig. (2-tailed)	0,208	**0,011**	0,575	0,894	0,52	0,368	0,957	0,137	0,346	0,494	**0,033**	.		
Human Resource	Correlation Coefficient	-0,099	0,295	0,242	0,171	-0,065	0,042	0,373	**,528'**	-0,021	0,281	0,09	**,520'**	1	
	Sig. (2-tailed)	0,67	0,195	0,291	0,459	0,779	0,857	0,096	**0,014**	0,928	0,218	0,697	**0,016**	.	
Partnership	Correlation Coefficient	**,479'**	**,488'**	-0,058	-0,138	0,089	-0,039	-0,249	0,042	**,538'**	0,161	**,656"**	**,554"**	0,336	1
	Sig. (2-tailed)	**0,028**	**0,025**	0,801	0,551	0,7	0,867	0,276	0,856	**0,012**	0,486	**0,001**	**0,009**	0,137	.
Customer Segmentation	Correlation Coefficient	0,254	0,395	0,365	0,273	0,028	0,279	0,233	**,457'**	0,342	-0,137	0,373	**,630"**	**,505'**	**,507'**
	Sig. (2-tailed)	0,267	0,076	0,104	0,231	0,904	0,221	0,31	**0,037**	0,129	0,555	0,096	**0,002**	**0,02**	**0,019**

Further on, Table 12 displays that the standard deviation for individual application areas is rather large. For instance, Strategic application has larger standard deviation than Total application. Hence, there are differences among the manufacturing firm's strategic application. To investigate if any of the factors can explain the variation of application areas among the firms, a Spearman's correlation analysis was conducted which is exhibited in Table 14. A few significant relationships between cost driver application areas and the various factors were found. All of the relationships are positively correlated. Hence, as discussed in section 2.6, increased; performance, size, complexity and environmental uncertainty are associated with increased usage of cost driver application areas.

Porter (1985) explains that by reconfiguring the value chain, a firm may increase its competitive position. Value chain scrutinization is positively correlated with both Goal to market and Financial performance. Hence, manufacturing firms who successfully achieve their goals use Value chain scrutinization more often than less successful counterparts. Consequently, it is possible that manufacturing firms are successfully achieving their goals partly because of their use of cost driver within value chain analysis. The successful firms might use value chain analysis to direct focus towards specific goals and reduce non-value adding activities to the achieve those goals. The large flexibility in value chain analysis have benefits. Regardless of Porter's (1985) stated pitfalls with value chain scrutinization, manufacturing firms seems to have overcome them. As the significant positive relationship displays increased usage of cost drivers for value chain scrutinization improve both financial and goal performance.

Furthermore, as displayed by Table 14, increased application of cost drivers within Product development is also positively correlated with increased Product complexity. It is rather self-explanatory that manufacturing firms with higher Product complexity also would use more Product development. Both, Ittner & McDuffie (1995) and Datar et al (1993) found complexity related cost drivers to be of significant importance in their empirical researches. Developing products to reduce production complexity could thusly be an explanation for the positive correlation. The level of product development and the difficulty to develop products is part of product complexity. Hence, increased use of cost drivers in product development for manufacturing firms with increased product complexity is not revolutionary. However, it is possible that it is the other way around, firms who intensify their usage of cost driver in product development can reach substantial cost savings which enables them to increase their product complexity. This is reasonable since the application area, Product development, also is positively related with increased Financial performance and Goal to market. The result indicates that manufacturing firms can improve their performance by using cost drivers within product development.

Table 14 – Correlation Matrix between Cost driver applications and factors

Spearman's rho	**External environment**		**Customer complexity**		**LOG size**		**Product complexity**		**Production complexity**		**Goal to market**		**Financial performance**	
	Correlation	Sig(2-tiled)	Correlation	Sig(2-tiled)	Correlation	Sig(2-tiled)	Correlation	Sig(2-tiled)	Correlation	Sig(2-tiled)	Correlation	Sig(2-tiled)	Correlation	Sig(2-tiled)
Value-chain scrutinization	0,363	0,106	0,368	0,101	0,426	0,054	0,422	0,057	0,223	0,332	**,482***	**0,027**	**,637****	**0,002**
Cost dynamics	0,147	0,524	0,104	0,654	0,22	0,338	-0,025	0,915	-0,154	0,504	0,095	0,684	0,185	0,422
Cost analysis	-0,235	0,305	0,211	0,359	,519*	0,016	-0,03	0,899	-0,046	0,844	0,057	0,806	0,099	0,669
Expansion investment	-0,232	0,311	,476*	0,029	0,102	0,659	0,091	0,695	0,003	0,99	-0,008	0,971	-0,073	0,754
Replacement investments	-0,155	0,503	0,068	0,769	0,131	0,571	0,048	0,835	0,101	0,664	0,274	0,229	0,26	0,256
Internal benchmarking	-0,149	0,518	0,3	0,187	0,189	0,412	0,054	0,817	0,062	0,79	0,187	0,416	0,119	0,608
Revenue analysis	-0,384	0,086	0,034	0,884	0,305	0,179	0,061	0,793	0,01	0,967	0,075	0,746	0,084	0,717
New business establishment	-0,076	0,742	**,519***	**0,016**	0,113	0,625	**,434***	**0,049**	0,074	0,749	0,259	0,256	0,338	0,134
External benchmarking	0,047	0,841	0,32	0,157	0,09	0,7	0,254	0,267	-0,254	0,267	0,18	0,436	0,201	0,382
Pricing of products and services	0,148	0,522	0,38	0,09	0,356	0,114	0,315	0,164	0,081	0,728	0,168	0,466	0,186	0,419
Product development	0,308	0,175	0,353	0,116	0,1	0,668	**0,486***	**0,025**	0,319	0,159	**,627****	**0,002**	**,564****	**0,008**
Procurement	0,027	0,907	0,023	0,92	-0,075	0,746	0,171	0,458	-0,029	0,939	0,257	0,26	0,306	0,177
Human resource usage	-0,139	0,549	0,083	0,721	-0,207	0,369	0,291	0,2	-0,115	0,619	0,053	0,819	0,102	0,659
Partnership	0,228	0,319	0,256	0,263	0,156	0,498	0,21	0,361	0,069	0,766	0,421	0,057	0,424	0,055
Customer segmentation	-0,309	0,172	0,115	0,62	0,184	0,424	-0,006	0,979	-0,248	0,279	0,06	0,797	0,179	0,438
Total application	0,022	0,926	0,422	0,057	0,293	0,198	0,404	0,069	0,033	0,888	0,342	0,129	**0,487***	**0,025**

As seen previously in Table 14, Financial performance positively correlates with Total application. Hence, increased overall usage of cost drivers through the application areas leads to financial benefits. As it appears, previously mentioned benefits of cost driver's usage relate to financial performance, which is further proved by a regression analysis. The explanatory value of 23,9%, exhibited in Table 15.1, tells us that application of cost drivers explains a rather large part of the financial performance.

Although no significant intercept, the equation as a whole (See Table 15.2) and the coefficient TotalApplication is (See Table 15.3). The whole equation is expressed below:

Equation 2 – Regression analysis

$$FinancialPerformance_{Firm\ A} = 1{,}178 + 0{,}802 * TotalApplication_{Firm\ A}$$

As TotalApplication of cost drivers increases one step FinancialPerformance increases with 0,802 steps. Hence, an increased usage of application areas can lead to financial benefits. Shank & Govindarajan (1993) and Porter (1985) predicted that appropriate usage of cost drivers would imply greater overall performance, however, many factors could affect firm's overall performance. Still the following result indicates that broad usage of cost driver application areas is one part of the puzzle to achieve competitive advantage. By implementing cost driver analysis broadly firms can improve their decision-making and strategic alignment of their entire value chain. The results indicate a positive correlation between cost driver usage and Financial performance, similar to previous research within strategic management accounting (Cadez & Guilding, 2008).

Table 15.1 – Regression summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,489[a]	,239	,199	1,08086
a. Predictors: (Constant), TotalApplication				
b. Dependent Variable: FinancialPerformance				

Table 15.2 – ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6,988	1	6,988	5,981	,024[b]
	Residual	22,197	19	1,168		
	Total	29,185	20			
a. Dependent Variable: FinancialPerformance						
b. Predictors: (Constant), TotalApplication						

Table 15.3– Coefficient details

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,178	1,518		,776	,447
	TotalApplication	,802	,328	,489	2,446	,024
a. Dependent Variable: FinancialPerformance						

Furthermore, a significant positive relationship between Total application and Total consideration was found (Table 16). Which indicates that increased number of application areas also lead to increased overall consideration of cost drivers. This is further enlightened by the insignificant relationship between Total application and Total impact. Consequently, increased usage of application areas will not lead to a changed impact of cost drivers, but consideration of cost drivers will alternate. Logical results, since greater Total application means that manufacturing firms use application areas comprehensively. If the comprehensiveness increases you should consider cost drivers at higher extent, but the impact of the cost drivers remain since the underlying relationship between cost and structural and executional cost drivers are rather fixed in short term. The consistency is improved since Table 7 exhibited the factor Financial performance significant correlation with Total consideration. Hence, ultimately consideration of cost drivers has financial impact on manufacturing firms.

Table 16 – Correlation between Total application, Total consideration and Total impact

Spearman's rho		Total consideration	Total impact
Total application	Correlation Coefficient	,501*	,340
	Sig. (2-tailed)	,021	,131
	N	21	21
*. Correlation is significant at the 0.05 level (2-tailed).			

5.0 Discussion and Conclusion

The discussion and conclusion will be structured according to the previously stated research questions, as the research questions aims to collectively fulfil the thesis' purpose.

Does manufacturing firms consider individual cost drivers differently?

Within the small context of mid-sized Swedish manufacturing firms, both individual cost drivers, and cost drivers in general are considered differently among firms. However, some cost drivers are more important than others as predicted by Shank & Govindarajan (1993). For Swedish manufacturing firms, it appears like the most important cost drivers are traditional cost drivers. As cost drivers related to volume generally have lower variance and they are also considered at greater extent. Traditional cost drivers are criticized for explaining too little of cost behaviour, but evidently, they are very useful as both high and low performers consider them at great extent.

Cooper & Kaplan's (1999), Shank & Govindarajan's (1993) and Porter's (1985) arguments of the necessity for complete information to improve cost driver usage can be questioned as none of them recognize the importance of all three cost driver types. Which, although differently, Swedish manufacturing firms consistently does. Hence, there is no all-encompassing framework for cost drivers, which might obstruct manufacturing firms in the hunt for comprehensive cost driver information to reduce activities and improve decision-making. Furthermore, as we encountered during our research, large generalizability exists within cost driver theories to fit all organizations, in all industries. Which further constitutes a problem for academia as manufacturing firms differs in consideration of cost drivers, practitioners might need tailored frameworks or taxonomies. Tailored frameworks or not, to better fit firms, all cost driver types must be included and advocated.

How does manufacturing firms identify cost drivers?

Generally, Swedish manufacturing firm´s uses the same four methods for identification of cost drivers. Methods which have been defined as less statistically exact and more intuitive especially as Experience was mostly used and Regression analysis was left unused. Manufacturing firm´s seems to rely on less mathematical exact information to identify cost driver´s relationship and impact on costs. Obviously, identification of cost drivers matter as the information needs to be correct to improve decisions, however the need for complete accuracy is questioned by practitioners. This is further proved by the insignificant relationships between the cost drivers' impact and chosen identification methods. Cost drivers' impact was instead affected by the different factors. Which could mean that the intuitive identification methods are accurate enough to discover the most substantial cost drivers' impacts. Porter (1985) himself mention the pitfall off getting stuck in too much detail and only achieve small, incremental cost savings. In

practice the benefit of finding complete and significant cost driver relationships will not compensate the costs of proving it. Still, empirical research using regression analysis discovered causal relationships, although many variables were insignificant, as the regression model is constrained by the complex interplay and endogeneity of cost drivers. Shank & Govindarajan (1993) advocated regression analysis for firms, but it seems to be more useful for researchers than practitioners. Since manufacturing firm's intuitive method to identify cost drivers is probably cheaper, simpler and faster than the statistical models. Although, information gained by intuitive methods might be harder to manage than statistical data, as for instance experience takes time to gain and is hard to transfer.

What motivates manufacturing firms to consider cost drivers?

Existence of cause and effect relationship between costs and cost driver is the largest motive for Swedish manufacturing firms to consider a cost driver. Hence, manufacturing firms mostly consider drivers if they have an impact and are derived from the underlying economic structure. Which was further supported by the lack of significant differences between individual cost drivers impact and consideration. Nevertheless, tendencies of strategic consistency were found since Strategic importance as a motive for consideration was high and positively correlated with Strategic application of cost drivers. Thusly, differences in cost drivers' consideration can also be traced back to strategy. It is possible that Strategic importance does not have to rule out the importance of cause and effect relationship. Banker & Johnston (2007) argue that an examination of cost from strategic perspective will improve the understanding of cause-and-effect relationships between cost and cost drivers. Hence, it could be hard to separate the motives for cost driver consideration since strategic focus lead to an increased knowledge of the cause and effect relationship.

The fact that Access to data showed to be least influential on cost driver consideration is in alignment with previous discussion about intuitive cost driver identification. Our evidence supports Porter (1985) who argue that the interrelationships and counteractions among cost drivers are timid. However, while Porter (1985) argue for the importance of acknowledgment of the counteractions and interrelationships, our evidence suggest that firm does not. Because, despite the issues with accessibility to data, Access to data is a low motive for consideration as the counteractions and interrelationships are small and complete accuracy is undesirable. Still, our results are only indications, it would therefore be interesting to further investigate if firms know about the timid interrelationships and counteractions among cost drivers and if they know about the assumptions and endogeneity of regression models.

How and in which application areas does manufacturing firms use cost drivers?

Most often Swedish manufacturing firms uses cost drivers for Pricing of products and services, Expansion investments and Cost dynamics. Although our study fails to distinguish if the cost driver has been applied strategically or traditionally, indication of both usages exists. Although, it is possible to

see that the application areas with highest strategic association, are generally less used. However, some manufacturing firm´s seem to use cost drivers more strategically, and if so it often comes in a strategic package. Hence, manufacturing firm´s differs individually in strategic usage of cost drivers, but the ones who use cost drivers strategically does so extensively.

Does the external environment, size, product complexity, process complexity or performance (factors) influence manufacturing firms approach to cost drivers?

External Environment

Our results display significant relationship between customer complexity and the impact and consideration of the cost drivers Customer-sustaining and Location. Manufacturing firms with more demanding customers will direct more cost focus towards customer related areas. Furthermore, increased customer complexity is correlated with increased usage of the application area New business establishment which is also related to customers. Generally, the results only display the external environments marginal influence on manufacturing firms cost driver approach. As the external environment (External environment and Customer complexity) is consequently not associated with increased use of formal controls, refined accounting or statistical control as previously exhibited and suggested by researchers.

Size

The study reveals that size is not associated with increased sophistication of accounting practice. Still, size has effect on the manufacturing firm´s structure and will change consideration and impact of individual cost drivers. For instance, our research shows that as the manufacturing firm grows, each produced unit cost become more important. This could be explained by larger firms' relatedness to achievement of economies of scale. The remaining insignificant results could be an effect of our sample frame. It is possible that differences of resources and control problems were not significantly different within the group even though the sample ranged between 435 and 102 employees.

Product and process complexity

Manufacturing firms approach towards cost drivers varies as product complexity increases, since overall consideration of cost drivers increased with product complexity. Either increased complexity demands more sophisticated cost driver approach to avoid hidden costs. Or, greater product complexity significantly increases activities within product and process, hence, increases impact and as we previously learned, therefore also increase consideration. Process complexity did, on the other hand, not affect manufacturing firms approach to cost drivers. However, the impact of the cost drivers' technology and quality increased as process complexity grew. Hence, process complexity could change the economic structure of the firm but will not lead to a different cost driver usage for our respondents. To

find out why, further research is needed, as it is possible that more variables are required to accurately measure process complexity. It is also possible that process technology simply does not influence manufacturing firms cost driver approach.

Performance

Manufacturing firms who successfully achieve their organizational goals will generally consider cost drivers at greater extent. Hence, as both Porter (1985) and Shank & Govindarajan (1993) argue, cost drivers focus should be directed towards strategically important areas. Furthermore, greater use of the application areas value-chain scrutinization and product development have shown to be positively correlated with increased performance of organizational goals and financial performance. Finally, the result indicates that overall increased usage of cost driver application areas can increase financial performance. Although, it is not possible to conclude if the usage has been traditional or strategic since some of the application areas are used in both strategic and traditional usage. Strategic use of cost drivers partly means a broader usage of cost driver application areas and greater cost driver consideration, the firms with improved financial performance could be defined as strategic cost driver users.

5.1 Conclusions

Many researchers have argued for the failure of Strategic cost management and Strategic management accounting, including its founding fathers. We have found reasons to believe Strategic cost management is not dead. Contemporary manufacturing firm has highlighted the survival of cost driver approaches since increased cost driver usage and consideration enables possible financial and strategic rewards. Although, our study displays results which makes us wonder if firms have adopted or developed a more useful and pragmatic approach towards cost drivers. Researchers have had a shifting focus of both being too abstract, too detailed and too disunited. For one reason, the promoted identification methods are too complex for their own good and the complex interplay among cost drivers are overly exaggerated. Our study contributes with new insight from the “real” life, were all types of cost drivers, intuition, strategy and casual relationships coexists. The results indicate that, generally, firms should use and consider cost driver more. However, as our study finds tendencies of cost drivers differentiation from factor to factor and firm to firm, research should therefore develop general best practice for different industries and different situations. The key concept of strategic management accounting is to make management accounting strategically conscious. Our study indicate that some firms have taken these words further than others, but to stay relevant, management accountants need updated and improved tools.

5.2 Reflections and Future Research

The thesis indications of Swedish manufacturing firms use of cost driver´s will hopefully contribute to the existing literature within management accounting. Furthermore, our study could be a step in the right

direction to develop a framework of best practice. As previously discussed the study's findings should be generalized with caution, because of the sample size. Furthermore, the research was strictly designed to fit the context of manufacturing firms, hence, the study´s generalizability does not extend to organizations outside of the population. However, the study and findings could be inspiring for future research within strategic cost management and strategic management accounting.

As the thesis research questions set out to explore and compare manufacturing firms and ultimately find causal relationships, a discussion regarding the variables' causality is warranted. The, by now well-known, factors were derived from existing literature, however no previous research had empirically tested them. Which makes it hard to fully determine if the factors actually measure what they are intended to measure. Furthermore, all of the findings are based on a survey answered by individuals, hence answers might at some point be biased. This is especially important to consider regarding the study´s findings within Financial performance, as performance in this study is subjective. Moreover, our conclusions about cost drivers effect on performance might just be the contrary, as firms with greater performance have more resources for cost management. Although, due to the study´s high transparency, gained through a thorough review of how the study was performed, the study is easily replicable. Hence, our findings can be further validated through future research which could include more objective data. Furthermore, our findings can be validated by qualitative multiple case study, where researchers focus more on why manufacturing companies use cost drivers, our findings could then be used as inspiration for interview or research questions.

References

Anderson, S. (2007). Managing cost and cost structures throughout the value chain: research on strategic cost management, in C.S. Chapman, A.G. Hopwood & M.D Shields (eds), *Handbook of Management Accounting Research,* Vol. 1, Oxford: Elsevier, pp.481-506

Anderson, S.W. (1995) Measuring the Impact of Product Mix Heterogeneity on Manufacturing Overhead Cost, *The Accounting Review*, Vol. 70, No. 3, pp.363-387

Baines, A. & Langfield-Smith, K. (2003). Antecedents to Management Accounting Change: A Structural Equation Approach, *Accounting, Organizations and Society*, Vol. 28, No, 7-8, pp. 675-698

Banker, R.D. & Johnston, H.H. (1993). An Empirical Study of Cost Drivers in the U.S. Airline Industry, *The Accounting Review,* Vol. 68, No. 3, pp.576-601

Banker, R.D. & Johnston, H.H. (2007). Cost and Profit Driver Research, in C.S. Chapman, A.G. Hopwood & M.D Shields (eds), *Handbook of Management Accounting Research*, Vol. 2, Oxford: Elsevier, pp.531-556

Banker, R.D., Potter, S.G. & Schroeder, G.R. (1992). An Empirical Analysis of Manufacturing Overhead Cost Drivers, *Journal of Accounting & Economics,* Vol. 19, No. 1, pp.115-137

Banker, R.D., Ou, C. & Potter, G. (1997). The compensating impact of strategic cost drivers: Evidence from the U.S. Banking Industry. Working paper, April 15

Berlant, D., Browning, R. & Foster, G. (1990). How Hewlett-Packard Gets Numbers It Can Trust, *Harvard business review*, Vol. 68, No. 1, pp.178-183

Berliner, C. & Brimson, J.A. (1988). Cost Management for Today's Advanced Manufacturing: The Cam-I Conceptual Design (Book Review), *Journal of Accountancy*, Vol. 167, No. 3, pp.125-126

Bromwich, Michael. (1990). The Case for Strategic Management Accounting: The Role of Accounting Information for Strategy in Competitive Markets, *Accounting Organizations and Society*, Vol. 15, No. 1, pp.27-46.

Brooks, C. (2008). Introductory Economics for Finance, 2nd edn, Cambridge: Cambridge University Press

Bryman, A. & Bell, E. (2011). Business Research Methods, 3rd edn, Oxford: Oxford University Press

Byrne, S. & Pierce, B. (2007). Towards a more Comprehensive Understanding of the Roles of Management Accountants, *European Accounting Review*, Vol. 16, No. 3, pp.469-498

Bjørnenak, T. (2000). Understanding Cost Differences in the Public Sector - a Cost Drivers Approach, *Management Accounting Research*, Vol. 11, No. 2, pp.193-211

Cadez, S. & Guilding, C. (2008). An Exploratory Investigation of an Integrated Contingency Model of Strategic Management Accounting, *Accounting, Organizations and Society*, Vol. 33, No. 7-8, pp.836-863

Cape, E. & Moorhead, R. (2005). Demand Induced Supply? Identifying Cost Drivers in Criminal Defence Work, *The Legal Services Research Centre*

Carr, C. & Tomkins, C. (1996). Strategic Investment Decisions: The Importance of SCM. A Comparative Analysis of 51 Case Studies in U.K., U.S. and German Companies, *Management Accounting Research*, Vol. 7, No. 2, pp.199-217

Carr, C., Tomkins, C. & Babyliss, B. (1994) Financial or Strategic Controls? An Anglo-German Case Study, *European Management Journal*, Vol. 12, No. 1, pp.102-113

Chenhall, H.R. (2003). Management Control Systems Design within its Organizational Context: Findings from Contingency-Based Research and Directions for the Future, *Accounting, Organizations and Society*, Vol. 28, No. 2-3, pp.127-168

Cokins, G. & Capusneanu, S. (2010). Cost drivers. Evolutions and benefits, *Theoretical and Applied Economics*, Vol. 17, No. 8, pp.7-16

Cooper, R. & Kaplan, R.S. (1988). Measure Costs Right: Make the Right Decisions, *Harvard Business Review*, Vol. 88, No. 5, pp.96–103

Cooper, R. & Kaplan, R.S. (1999). The Design of Cost Management Systems: Texts and Cases, 2nd edn, Upper Saddle River, N.J: Pearson/Prentice Hall

Datar, S.M., Kekre, S., Mukhopadhyay, T. & Srinivasan, K. (1993). Simultaneous Estimation of Cost Drivers, *The Accounting Review*, Vol. 68, No. 3, pp.602–614

Degraeve, Z. & Roodhooft, F. (1998). Determining Sourcing Strategies: A Decision Model Based on Activity and Cost Driver Information, *Journal of the Operational Research Society,* Vol. 49, No. 8, pp.781-789

Dopuch, N. (1993). A Perspective on Cost Driver, *The Accounting Review,* Vol. 68, No. 3, pp.615-620

Drazin, R. & Van de Ven, A.H. (1985) Alternative Forms of Fit in Contingency Theory, *Administrative Science Quarterly,* Vol. 30, No. 4, pp. 514-539

Drury, C., eds (2000). Management and Cost Accounting, [e-book] Hong Kong: Chapman & Hall, Available at: Google Books: books.google.com [Accessed 10 May 2018]

El Kelety, I. (2006). Towards a Conceptual Framework for Strategic Cost Management - the Concept, Objectives and Instruments, PhD thesis, Technical University in Chemnitz

Ferrin, B. & Plank, R. (2002). Total Cost of Ownership Models: An Exploratory Study, *Journal of Supply Chain Management*, Vol. 38, No. 3, pp.18-29

Foster, G. & Gupta, M. (1990). Manufacturing Overhead Cost Driver Analysis, *Journal of Accounting & Economics*, Vol. 12, No. 1-3, pp.309-337

Giannetti, R., Risso, L. & Cinquini, L. (2016). Managing Costs by Business Model: Issues Emerging from the Case of E-Car, *Measuring Business Excellence*, Vol. 20, No. 4, pp.28-45

Gliaubicas, D. & Kanapickiene, K. (2015). Contingencies Impact on Strategic Cost Management Usage in Lithuanian Companies, *Procedia - Social and Behavioral Sciences,* Vol. 213, pp.254-260

Gosselin, M. (2007), A Review of Activity-Based Costing: Technique, Implementation, and Consequences, in C.S. Chapman, A.G. Hopwood & M.D Shields (eds), *Handbook of Management Accounting Research,* Vol. 2, Oxford: Elsevier, pp.641-671

Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. (2010) Multivariate Data Analysis, A Global Perspective, 7th edn, New Jersey: Pearson Education Inc.

Hansen, D.R. & Mowen, M.M. (2006). Cost Management: Accounting and Control, 5th edn, Southbank, Vic: Thomson South-Western

Hassan, M.M.D. (1994). Machine Layout Problem in Modern Manufacturing Facilities. *International Journal of Production Research*, Vol. 32, No. 11, pp.2559-2584

Hinton, P.R., Brownlow, C., McMurray, I. & Cozens, B. (2004). SPSS Explained, Upper Saddle River: Routledge Inc

Hopper, T., Norhcott, D. & Scapens, R. (2007). Issues in Management Accounting, 3rd edn, Harlow: Pearson education

Homburg, C. (2001). A Note on Optimal Cost Driver Selection in ABC, *Management Accounting Research,* Vol. 12, No. 2, pp.197-205

Horngren, T. H., Bhimani, A., Datar, M. S., & Forster, G. (2005). Management and Cost Accounting, 3rd eds, Edinburgh Gate, Pearson Education Limited

Ittner, C. D. & MacDuffie, J. P. (1995). Explaining Plant Level Differences in Manufacturing Overhead: Structural and Executional Cost Drivers in the World Auto Industry, *Production and Operations Management*, Vol. 4, No. 4, pp.312–334

Ittner, C. D., Larcker, D. F. & Randall, T. (1997). The Activity-Based Cost Hierarchy, Production Policies and Firm Profitability, *Journal of Management Accounting Research*, Vol. 9, pp. 143–162

Jones, L. (1988). Competitor Cost Analysis at Caterpillar, *Management Accounting*, Vol. 70, No. 4, pp.32-38

Johnson, H. & Kaplan, R. (1987). Relevance Lost: The Rise and Fall of Management Accounting, Boston: Harvard Business School Press

Johanson, U. (1999). Why the Concept of Human Resource Costing and Accounting does not Work, *Personnel Review,* Vol. 28, No. ½, pp.91-107

Kaplan, R.S & Narayanan, V.G. (2001). Measuring and Managing Customer Profitability, *Journal of Cost Management*, Vol. 15, No. 5, pp.5-15

Kekre, FS. & Srinivasan, K. (1990). Broader Product Line: A Necessity to Achieve Success?, *Management Science*, Vol. 36, No. 10, pp.1216–1231

Khandwalla, P. (1972). The effects of different types of competition on the use of management controls, *Journal of Accounting Research*, Vol. 10, No. 2, pp.275-285

Langfield-Smith, Kim. (2008). Strategic Management Accounting: How Far Have We Come in 25 Years?, *Accounting, Auditing & Accountability Journal*, Vol. 21, No. 2, pp.204-228

MacArthur, B. J. & Stranahan, A. H. (1998). Cost Driver Analysis in Hospitals: A Simultaneous Equations Approach, *Journal of Management Accounting Research*, Vol. 10, pp.279-312

McDonald, M. & Dunbar, I. (2012). Market segmentation: How to do it and ow to Profit From it, 4th edn, Chichester: John Wiley & Sons Inc.

Merchant, K.A. & Shields, M.D. (1993). When and Why to Measure Costs Less Accurately to Improve Decision Making, *American Accounting Association*, Vol. 7, No. 2, pp.76-81

Messenböck, R., Pichler, H., Gossy, G., Mülenbein, C., & Wunderlich, D. (2015) Uncovering Cost Drivers to Achieve Sustained Improvements, *Boston Consulting Group* https://www.bcg.com/publications/2015/cost-efficiency-asset-optimization-excellence-nonpersonnel-costs.aspx [Accessed: 2018-04-01]

NPD Solutions. (2018). Achieving Target Cost/Design to Cost Objectives, Available Online: http://www.npd-solutions.com/dtc.html [Accessed 2018-05-02]

Naughton, J. P. (2001). Activity-Based Costing: The New Management Tool, *Behavioral Health Management*, Vol. 21, No. 2, pp.48-52

Otley, D. (2001). Extending the Boundaries of Management Accounting Research: Developing Systems for Performance Management, *The British Accounting Review*, Vol. 33, No. 3, pp.243-61

Porter, M.E. (1985). Competitive Advantage: Creating and Sustaining Superior Performance, New York: The Free Press

Retriever Business. (2018). Snabbval SME, Available Online: http://web.retriever-info.com/services/businessinfo?advSearch=true [Accessed 2018-05-08]

Roslender, R. (1996). Relevance Lost and Found: Critical Perspectives on the Promise of Management Accounting, *Critical Perspectives on Accounting.* Vol. 7, No. 5, pp.533-561

Roslender, R. & Hart, S.J. (2010). Strategic Management Accounting: Lots in a Name?, Accountancy Discussion Papers 1005, Heriot Watt University

Shank, J.K (1996). Analysing Technology Investments - from NPV to Strategic Cost Management (SCM), *Management Accounting Research*, Vol. 7, No. 2, pp. 185-197

Shank, J.K. (2007). Strategic Cost Management: Upsizing, Downsizing, and Right (?) Sizing, in A. Bhimani (eds), *Contemporary Issues in Management Accounting*, Oxford: Oxford University Press, pp.355-79

Shank, J.K. & Govindarajan, V. (1993). Strategic Cost Management: The New Tool for Competitive Advantage, New York: Free Press

Toompuu, K. & Põlajeva, T. (2014). Theoretical Framework and an Overview of the Cost Drivers that are Applied in Universities for Allocating Indirect Costs, *Procedia - Social and Behavioral Sciences*, Vol. 110. pp .1014-1022

Vaivio, J. & Kokko, T. (2006). Counting Big: Re-Examining the Concept of the Bean Counter Controller, *The Finnish Journal of Business Economics*, Vol. 55, No. 1, pp.49–7

Wahlgren, L. (2012). SPSS steg för steg, Lund: Studentlitteratur AB

Appendix 1 – Cost Drivers

1. Porter (1985)

Scale: Economies of scale occurs when you can perform activities with increased efficiency and differently because of larger volume or the ability to amortize costs of intangibles, for instance commercial and R&D, over a larger sales quantity. Diseconomies of scale can also occur if for instance professional service firms increase in scale where the professional thrive badly because of limited autonomy. The measure of economies of scale differs between industries and value activities (Porter, 1985).

Learning and spillovers: Learning increases the efficiency resulting in lower costs. Scheduling, employee efficiency and utilization of assets are just a few of all activities that can be improved by more experience. Learning is not fixed to the employees, the possibilities for learning in activities are greater than individual experience. Additionally, learning can spillover from e.g. consultants, other industries or suppliers. Types of measures in learning can also vary here between for instance cumulative volume in activities (machine speed), time in operation (work-flow layout) and cumulative investment (plant efficiency) (Porter, 1985).

Capacity utilization: The cost of an activity will be influenced by capacity utilization if the fixed costs are substantial. Increasing capacity utilization spread the cost of fixed cost over larger volume. Capacity utilization should be differentiated from economies of scale because otherwise it could lead to conclusions that the firm should expand capacity to reduce costs even though the capacity already is full. Economies of scale implies that activities operating at full capacity is more efficient at larger scale (Porter, 1985).

Linkages: Identifying linkages within the firm requires recognizing what other activities elsewhere within a firm impacted the cost of performing a certain activity. Reduced cost for one of the activities in the linkage can lead to reduction of them both. The linkages can also be external, vertical linkages indicate interdependencies between firms close in the value chain (suppliers or channels). Linkages with suppliers and channels is often related to the supplier's/firm's product design, service, quality assurance procedures, packaging and so on. Supplier/channel linkages also refers to activity allocation between firms. Increasing cost for the supplier/customer might lead to overall cost reduction. Exploiting vertical linkages can be highly advantageous if they are difficult to imitate (Porter, 1985).

Interrelationships: Activities can be shared between different business units, particularly effective if it is shared with a sister unit. More intangible interrelationships are also possible, like sharing expertise (Porter, 1985).

Integration: Chosen method way of sourcing affect the costs as well. Every activity could or already involves purchased inputs which means implicit or explicit integration choices. Economies of joint operation and avoiding suppliers with bargaining power are among the benefits of integrating some activities. However, it could also lead to inflexibility, larger costs and increased exit barriers for example (Porter, 1985).

Timing: Being a first-mover have both advantages (e.g. establishing a brand name cheaply) and disadvantages (e.g. high investment costs) as well as being a late mover has advantages (e.g. less educated personnel) and disadvantages (e.g. high market barriers). However, timing's role in cost position might be most dependent on business cycle or market conditions (Porter, 1985).

Policies: Discretionary policy choices refers to the strategy choices (cost leadership or differentiation). Policies are particularly important with differentiation strategy. Policy choices always independently decide cost of activities but also frequently affect or are affected by other cost drivers. Policies are the predominant driver for uniqueness as well, which further emphasize its importance (Porter, 1985). According to Porter (1985) there are several policy choices but some of them are: product configuration, performance, features, delivery time, employee motivation/training and large or small buyers for instance.

Location: Geographical location can directly affect an activity's cost but also other activities costs through its relative location. According to Porter (1985) firms does often not regard beyond the most obvious differences like taxes or wage rates when they decide location. Labor education, culture, preferences, raw material and energy are among factors that differs between geographic locations (Porter, 1985).

Institutional factors: Government regulation, tax holidays, union involvement and tariffs can mean the largest cost driver in some industries. Institutional factors work in both advantageous and disadvantageous ways (Porter, 1985).

2. Shank & Govindarajan (1993)

Structural drivers

Scale: Degree of horizontal integration. How large investment's and capabilities a firm has to facilitate, for instance, research and development, manufacturing, marketing (El Kelety, 2006). See the description of Porter's (1985) "scale" for further description.

Scope: Degree of vertical integration. Which is the degree of which a firm performs upstream and downstream activities. Through a value chain analysis can sourcing decisions be made (El Kelety, 2006).

Experience: How many times in the past have the firm done the same activity. Learning curve impacts whether more experience is beneficial or not in a dynamic environment. Just as increased experience can lead to efficient and effective decisions, can increased experience also lead to fixations of the past and outdated opinions (Shank & Govindarajan, 1993).

Technology: Type of technology used for each step in the value chain. Shank & Govindarajan (1993) say that technological change often is regarded as positive since it represents progress. However, from a business perspective it is not always beneficial if you cannot translate the technological progress into profit or reduced cost- products can be over-engineered. Technology is only useful if it leads to competitive advantage or if it leads to industry structure change (Shank & Govindarajan, 1993).

Complexity: Wideness of product line or services offered to customers. Some firms do not explicitly or implicitly agree to cross-subsidization across line. Managing the trade-off between cost of complexity while there is a value for variety is useful. ABC can be a useful strategic analysis tool for handling the complexity, according to Shank & Govindarajan (1993).

Executional drivers

Work force participation: which degree employees commit to Kaizen (Shank & Govindarajan, 1993). Continuous improvement is regarded as a strategic and contemporary means to improve processes

Quality: Beliefs and achievement with regards to product and process quality. Total quality management is advocated. According to Shank & Govindarajan (1993) there is no quality level that is too high. Thus, improvement of quality will always lead to reduced costs. This is against the traditional view of quality which according to Shank & Govindarajan (1993) many firms withhold where there is a u-shaped relationship translated to the costliness of zero-defects.

Capacity utilization: Same as Porter's (1985) cost driver "capacity utilization". Degree to which the usage of plant corresponds to scale of plant (Shank & Govindarajan, 1993).

Plant layout efficiency: How efficient the plant layout is, relative to current norms. Layout concerns areas like operation, maintenance and licensing, but also capital costs (Hassan, 1994). Therefore, plant layout deficiencies like low equipment utilization and poor material handlings systems will influence a firm's cost position. Hence, the efficiency and effectiveness in the plant layout will driver costs (El Kelety, 2006).

Product configuration: designing your product for ease the production rather than its functionality and appearance can lead to substantial cost savings. Particularly, when you do it together with an introduction of new process technology. Improved product configuration can be reached through, for instance, simplifying the design and reducing/standardizing the parts and materials (El Kelety, 2006).

Supplier and customer linkages: degree of exploiting linkages with customers and or suppliers in the value chain.

3. Cooper and Kaplan (1998)

Unit-level activities: activities that occur each time a unit is produced. *Proposed cost drivers*: units of product, labour hours, machine hours.

Batch-level activities: Activities happening every time a batch of goods is processed or handled. *Proposed cost drivers*: number of processed orders, number of machine setups.

Product-level activities: Activities performed to support the production of each type of product. *Proposed cost drivers*: number of tests, number of parts, hours of design time, number of inspections.

Customer-level activities: Activities, independent from volume and mix of products, occurring specifically to customers. *Proposed cost drivers*: Number of updated product specifications, number of special testing.

Brand/product line sustaining activities: Activities supporting a specific brand or product line. *Proposed cost drivers:* Number of radio-advertising hours, number of hours assigned to product development.

Order-related activities: Activities specific to a certain order but separate from content or volume of order. *Proposed cost drivers:* Number of invoices assigned to order, hours spent contracting.

Facility-sustaining activities: Activities assigned to general product manufacturing but distant from individual products, services or customers. *Proposed cost drivers:* number of administrative staff, hours spent to plant designing.

Channel-sustaining activities: Activities specifically to sales capability but distant from individual products, services or customers. *Proposed cost drivers:* number of produced catalogues, number of trade shows.

Appendix 2

Table 17 – Empirical Research Manufacturing Industry

Cost driver	Taxonomy	Significant variable (5%)	Researcher	Name in survey
Structural cost drivers				
Scale	Porter (1985); Shank & Govindarajan (1993)	Total manufacturing space, headcount manufacturing, Installed machinery and equipment, direct labor dollars, direct material dollars, total ending inventory dollars	Foster & Gupta (1990)	Plant Size
		Square feet of shop floor area/part, Direct labor costs	Banker, Potter & Schroeder (1992)	Plant Output
		Direct labour hours, scale	Ittner & McDuffie (1995)	
Integration/Scope	Porter (1985); Shank & Govindarajan (1993)	-	-	Value Chain
Learning and spill overs /Experience	Porter (1985); Shank & Govindarajan (1993)	Experience of performing setups, Experience with raw material variety	Anderson (1995)	Experience
Technology	Shank & Govindarajan (1993)	Automation	Ittner & McDuffie (1995)	Technology
		Machine complexity (increased complexity decreases costs	Datar et al (1993)	
		Machine Setup (Major/minor)	Anderson (1995)	
Complexity	Shank & Govindarajan (1993)	Number of products in consumer price list. Options shipped/month, Accessories shipped/month, Total part numbers in average product, Number of part numbers on materials record file	Foster & Gupta (1990)	Product Portfolio Breadth

		Option complexity, parts complexity	Ittner & McDuffie (1995)	Product Variety
		Defect Tolerance, Raw material variety	Anderson (1995)	
Location	Porter (1985)	-	-	Geographic location
Institutional factors	Porter (1985)	-	-	Institutional factors
Policies	Porter (1985)	-	-	-
Timing	Porter (1985)	-	-	-
Interrelationships/ Supplier and customer linkages	Porter (1985); Shank & Govindarajan (1993)	Number of vendors, External subcontracting/direct material purchases,	Foster & Gupta (1990)	Interrelationships
Executional cost drivers				
Product configuration	Shank & Govindarajan (1993)	Design age (Marginally significant)	Ittner & McDuffie (1995)	Product configuration
Quality	Shank & Govindarajan (1993)	Use of buffers	Ittner & McDuffie (1995)	Quality
Linkages/ Plant-layout efficiency/ Supplier and customer linkages	Porter (1985); Shank & Govindarajan (1993)	Amount purchasing/production planning personnel, Engineering change orders	Banker, Potter & Schroeder (1992)	Production Process Efficiency
Work-force participation	Shank & Govindarajan (1993)	Work systems	Ittner & McDuffie (1995)	Kaizen
Capacity-utilization	Porter (1985); Shank & Govindarajan (1993)	Excess Capacity	Anderson (1995)	Capacity Utilization
Operational cost drivers				
Unit-level	Cooper & Kaplan (1999)	Products built to stock, rework dollars, scrap dollars,	Foster & Gupta (1990)	Unit-level

		Number of parts, axial insertions, raw PC boards, backload insertion, manual insertion, boards solder	Berlant, Browning & Foster (1990)	
Batch-level/ Order-related	Cooper & Kaplan (1999)	Purchase orders/month, Production cycle time/days, Material flow transactions/month,	Foster & Gupta (1990)	Batch-Level
		Defect analysis time, Dip insertions,	Berlant, Browning & Foster (1990)	
Product-Level	Cooper & Kaplan (1999)	Product change orders/month	Foster & Gupta (1990)	Product-level
		Standard test time	Berlant, Browning & Foster (1990)	
Customer-sustaining/ Channel-sustaining	Cooper & Kaplan (1999)	Consumer price listed products with 80% business	Foster & Gupta (1990)	Customer-sustaining
Brand/product-sustaining/	Cooper & Kaplan (1999)	-	-	Product-sustaining
Facility-sustaining	Cooper & Kaplan (1999)	-	-	Facility-sustaining

Appendix 3 – Correlations Tables

Table 18 – Correlations between factors and cost driver's impact

Spearman's rho		Unit-level	Batch-level	Product-level	Customer-sustaining	Product-sustaining	Facility-sustaining	Plant size	Prod uction input	Value chain	Interrelatio nships	Experience	Technolog y	Product Portfolio Breadth	Product Variety	Location	Institutiona l factors	Kaizen	Quality	Product configurati on	Capacity-utilization	Prod.-process efficiency	**Total impact**
External environme nt	Correlation Coefficient	0,037	0,048	0,191	-0,081	-0,073	-0,007	0,025	-0,193	-0,296	,472*	-0,013	0,417	0,17	0,255	0,236	0,046	0,075	0,327	0,398	0,012	0,109	0,379
	Sig. (2-tailed)	0,874	0,836	0,408	0,726	0,752	0,975	0,916	0,402	0,193	**0,031**	0,956	0,06	0,461	0,264	0,303	0,843	0,746	0,148	0,074	0,958	0,637	0,09
Customer complexity	Correlation Coefficient	0,353	0,258	0,207	,555**	0,115	0,37	0,063	-0,048	-0,25	0,167	0,389	0,149	0,161	0,383	0,226	0,016	0,074	0,417	0,196	0,219	,549**	0,297
	Sig. (2-tailed)	0,117	0,258	0,367	**0,009**	0,62	0,099	0,787	0,836	0,274	0,47	0,081	0,518	0,485	0,087	0,325	0,945	0,749	0,06	0,394	0,339	**0,01**	0,191
LOG size	Correlation Coefficient	,488*	-0,023	-0,045	0,048	-0,413	-0,314	0,395	0,375	-0,176	-0,115	-0,179	0,309	-0,34	-0,428	-0,312	-0,28	-0,198	0,34	0,218	,435*	,433*	-0,159
	Sig. (2-tailed)	**0,025**	0,922	0,847	0,837	0,063	0,165	0,076	0,094	0,445	0,618	0,438	0,173	0,131	0,053	0,169	0,218	0,391	0,132	0,343	**0,048**	**0,05**	0,49
Product complexity	Correlation Coefficient	0,117	0,348	0,357	0,305	0,166	0,198	-0,394	-0,329	-0,029	0,333	,519*	-0,002	0,095	0,307	,506*	0,055	0,141	0,306	0,165	-0,135	0,107	0,359
	Sig. (2-tailed)	0,614	0,122	0,113	0,178	0,471	0,39	0,077	0,146	0,899	0,14	**0,016**	0,992	0,684	0,176	**0,019**	0,811	0,543	0,177	0,475	0,559	0,643	0,11
Production complexity	Correlation Coefficient	0,096	-0,098	0,318	-0,119	-0,11	0,197	0,098	-0,005	-0,164	0,348	-0,076	,438*	-0,048	0,197	0,149	0,163	0,172	,609**	0,129	0,07	-0,172	0,35
	Sig. (2-tailed)	0,678	0,674	0,159	0,609	0,636	0,392	0,673	0,984	0,477	0,123	0,744	**0,047**	0,835	0,393	0,518	0,48	0,457	**0,003**	0,578	0,763	0,455	0,12
Goal to market	Correlation Coefficient	0,276	0,181	,504*	0,205	-0,167	0,143	-0,007	-0,158	0,033	,551**	0,185	,577**	-0,125	0,043	0,284	0,093	0,13	,646**	0,383	0,113	0,125	,487*
	Sig. (2-tailed)	0,226	0,432	**0,02**	0,374	0,47	0,536	0,975	0,495	0,886	**0,01**	0,421	**0,006**	0,59	0,852	0,213	0,69	0,573	**0,002**	0,087	0,625	0,591	**0,025**
Financial performan ce	Correlation Coefficient	0,288	0,295	0,341	0,153	-0,105	0,192	0,048	-0,067	0,002	,523*	0,281	,617**	-0,076	0,08	0,189	-0,027	0,234	,624**	0,274	0,268	0,26	,514*
	Sig. (2-tailed)	0,205	0,194	0,131	0,507	0,651	0,405	0,835	0,774	0,992	**0,015**	0,218	**0,003**	0,743	0,729	0,413	0,906	0,308	**0,003**	0,229	0,239	0,254	**0,017**

Table 19 – Correlations between factors and cost driver's consideration

Spearman's rho		Unit-level	Batch-level	Product-level	Customer-sustaining	Product-sustaining	Facility-sustaining	Plant size	Production input	Value chain	Interrelatio nships	Experience	Technolog y	Product portfolio breadth	Product variety	Location	Institutiona l Factors	Kaizen	Quality	Product configurati on	Capacity-utilization	Production process efficiency	**Total considera tion**
External environme nt	Correlation Coefficient	-0,127	0,155	0,093	0,207	0,026	0,127	0,131	-0,065	0,021	0,174	-0,114	0,428	0,398	0,244	0,203	-0,11	0,086	,483*	0,424	0,259	0,136	0,336
	Sig. (2-tailed)	0,583	0,501	0,689	0,367	0,91	0,583	0,571	0,781	0,929	0,451	0,623	0,053	0,074	0,286	0,379	0,635	0,71	**0,026**	0,056	0,257	0,556	0,136
Customer complexity	Correlation Coefficient	-0,008	0,122	0,241	0,262	0,423	0,169	0,13	0,076	-0,128	0,367	0,312	0,189	-0,252	-0,108	,450*	-0,058	-0,252	0,267	0,292	0,119	0,096	0,326
	Sig. (2-tailed)	0,971	0,6	0,292	0,25	0,056	0,464	0,574	0,744	0,579	0,101	0,168	0,413	0,27	0,64	**0,041**	0,801	0,27	0,242	0,199	0,606	0,68	0,15
LOG size	Correlation Coefficient	,450*	0,18	-0,042	0,207	-0,035	-0,198	0,376	0,377	0,065	0,209	-0,132	0,35	-0,107	-0,044	0,151	-0,022	0,188	0,36	0,226	0,377	0,41	0,259
	Sig. (2-tailed)	**0,041**	0,436	0,858	0,368	0,879	0,389	0,093	0,092	0,779	0,363	0,569	0,12	0,644	0,85	0,514	0,925	0,414	0,108	0,325	0,092	0,065	0,257
Product complexity	Correlation Coefficient	-0,165	0,431	0,386	0,135	0,403	0,105	-0,035	0,027	0,143	0,424	0,409	0,271	-0,166	-0,028	,647**	0,066	0,115	,473*	0,184	-0,043	0,142	,455*
	Sig. (2-tailed)	0,473	0,051	0,084	0,56	0,07	0,651	0,88	0,907	0,535	0,055	0,066	0,235	0,473	0,905	**0,002**	0,776	0,621	**0,03**	0,423	0,852	0,541	**0,038**
Production complexity	Correlation Coefficient	-0,03	-0,009	0,036	0,038	-0,141	,441*	0,141	-0,151	0,042	0,095	-0,306	0,384	0,219	0,428	0,217	0,23	-0,11	0,419	0,331	0,082	-0,054	0,289
	Sig. (2-tailed)	0,897	0,968	0,879	0,87	0,542	**0,045**	0,543	0,513	0,857	0,682	0,177	0,086	0,34	0,053	0,346	0,315	0,636	0,058	0,143	0,725	0,815	0,204
Goal to market	Correlation Coefficient	0,155	0,396	0,35	0,38	0,118	0,261	0,203	0,006	0,212	,461*	-0,014	,702**	0,072	0,24	,444*	0,146	0,196	,562**	,623**	0,076	0,184	,630**
	Sig. (2-tailed)	0,503	0,076	0,119	0,089	0,612	0,253	0,378	0,98	0,357	**0,035**	0,951	**0**	0,756	0,295	**0,044**	0,526	0,394	**0,008**	**0,003**	0,743	0,426	**0,002**
Financial performan ce	Correlation Coefficient	0,157	,561**	0,281	,477*	0,14	0,314	0,242	-0,046	0,2	,512*	0,059	,689**	0,16	0,233	0,404	0,08	0,243	,484*	,647**	0,13	0,311	,651**
	Sig. (2-tailed)	0,496	**0,008**	0,218	**0,029**	0,544	0,166	0,29	0,844	0,386	**0,018**	0,801	**0,001**	0,487	0,309	0,069	0,729	0,288	**0,026**	**0,002**	0,575	0,171	**0,001**

Table 20 – Correlations between factors and motives for cost driver consideration

Spearman's rho		Cause and effect	Information access	Practicality	Strategical importance	Top Management	Recommended by externals	Total difference
External environment	Correlation Coefficient	-0,007	-0,11	-0,278	-0,2	-0,086	0,025	0,344
	Sig. (2-tailed)	0,976	0,634	0,223	0,385	0,71	0,913	0,127
Customer complexity	Correlation Coefficient	0,094	-0,096	0,268	0,266	0,378	0,09	0,2
	Sig. (2-tailed)	0,684	0,68	0,24	0,243	0,091	0,697	0,386
LOG size	Correlation Coefficient	0,347	0,265	-0,062	0,145	0,077	-0,035	-0,27
	Sig. (2-tailed)	0,123	0,246	0,789	0,531	0,74	0,88	0,237
Product complexity	Correlation Coefficient	-0,208	-0,098	0,117	-0,003	0,395	0,255	0,135
	Sig. (2-tailed)	0,367	0,672	0,613	0,988	0,076	0,264	0,559
Production complexity	Correlation Coefficient	-0,28	0,042	0,16	-0,099	0,005	-0,042	0,149
	Sig. (2-tailed)	0,218	0,857	0,488	0,671	0,983	0,857	0,52
Goal to market	Correlation Coefficient	-0,313	0,167	0,148	-0,141	0,219	0,379	-0,023
	Sig. (2-tailed)	0,168	0,471	0,521	0,541	0,34	0,091	0,922
Financial performance	Correlation Coefficient	-0,26	0,222	0,075	-0,107	0,251	0,418	-0,047
	Sig. (2-tailed)	0,255	0,333	0,745	0,644	0,273	0,06	0,841

Appendix 4 - Swedish Survey

Del 1 av 3 Information om företaget

Första delen av enkäten avhandlar frågor gällande er organisation.

Företagsnamn och personuppgifter

Dessa uppgifter kommer inte delas i uppsatsen eller till allmänheten på annat sätt

Klicka eller tryck här för att ange text.

Ditt namn

Klicka eller tryck här för att ange text.

Yrkestitel

Klicka eller tryck här för att ange text.

År inom företaget

Klicka eller tryck här för att ange text.

Företagsnamn

Frågor om företaget

Hur många länder är ni verksamma i?
Klicka eller tryck här för att ange text.

Hur många försäljningsställen har ni?

Klicka eller tryck här för att ange text.

Hur många produktionsanläggningar har ni?

Klicka eller tryck här för att ange text.

Hur många arbetar i genomsnitt per produktionsanläggning?

Klicka eller tryck här för att ange text.

Vilken är er huvudsakliga produktionsmetod?

☐ Enhetsproduktion ☐ Orderproduktion ☐ Processproduktion ☐ Annan (Var god ange) Klicka eller tryck här för att ange text.

Vilket påstående identifierar ni er mest med?

☐ Vi konkurrerar genom att särskilja oss inom t.ex. kundupplevelser, process- eller produktinnovationer

☐ Vi konkurrerar genom lägsta pris

☐ Varken eller

Kunder

Vänligen ange i vilken utsträckning följande faktorer är förutsägbara och i vilken utsträckning förändringar sker för dessa

	FÖRUTSÄGBARA							FÖRÄNDRINGAR						
	FÖRUTSÄGBARA						OFÖRUTSÄGBARA	FÅ						MÅNGA
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
KUNDER (T.EX. EFTERFRÅGENIVÅ, KRAV FRÅN KUNDER)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
LEVERANTÖRER (T.EX. KVALITET PÅ RESURSER)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
KONKURRENTER (T.EX. ANTAL KONKURRENTER PÅ MARKNADEN, STRATEGIER)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
TEKNOLOGISKA (PROCESSINNOVATIONER, FRAMSTEG)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Vänligen ange i vilken utsträckning kunder…

	INTE ALLS					HÖG UTSTRÄCKNING	
	1	2	3	4	5	6	7
BESTÄLLER I SMÅ KVANTITETER	☐	☐	☐	☐	☐	☐	☐
ÄR PRISKÄNSLIGA	☐	☐	☐	☐	☐	☐	☐
STÄLLER KRAV PÅ PRODUKTER	☐	☐	☐	☐	☐	☐	☐
STÄLLER KRAV PÅ SERVICE	☐	☐	☐	☐	☐	☐	☐
STÄLLER KRAV PÅ TILLGÄNGLIGHET	☐	☐	☐	☐	☐	☐	☐
FINNS PÅ STORA GEOGRAFISKA AVSTÅND FRÅN ER	☐	☐	☐	☐	☐	☐	☐

Vänligen ange i vilken utsträckning följande egenskaper skiljer sig åt mellan era kunder

	INTE ALLS					HÖG UTSTRÄCKNING	
	1	2	3	4	5	6	7
ORDERSTORLEK	☐	☐	☐	☐	☐	☐	☐
PRISKÄNSLIGHET	☐	☐	☐	☐	☐	☐	☐
KRAV PÅ PRODUKTER	☐	☐	☐	☐	☐	☐	☐
KRAV PÅ SERVICE	☐	☐	☐	☐	☐	☐	☐
KRAV PÅ TILLGÄNGLIGHET	☐	☐	☐	☐	☐	☐	☐
GEOGRAFISK SPRIDNING	☐	☐	☐	☐	☐	☐	☐

Produkter

Vänligen ange i vilken utsträckning följande påståenden stämmer in på era produkter

	INTE ALLS						HÖG UTSTRÄCKNING
	1	2	3	4	5	6	7
VI HAR MÅNGA PRODUKTKATEGORIER	☐	☐	☐	☐	☐	☐	☐
VI HAR MÅNGA PRODUKTATTRIBUT	☐	☐	☐	☐	☐	☐	☐
VI HAR MÅNGA KOMPONENTER	☐	☐	☐	☐	☐	☐	☐
VÅRA PRODUKTER ÄR SKRÄDDARSYDDA EFTER KUNDERNA	☐	☐	☐	☐	☐	☐	☐
VI HAR MYCKET PRODUKTUTVECKLING	☐	☐	☐	☐	☐	☐	☐
VÅRA PRODUKTER ÄR SVÅRA ATT PRODUCERA	☐	☐	☐	☐	☐	☐	☐

Vänligen ange i vilken utsträckning följande egenskaper skiljer sig åt mellan era produkter

	INTE ALLS						HÖG UTSTRÄCKNING
	1	2	3	4	5	6	7
PRODUKTKATEGORIER	☐	☐	☐	☐	☐	☐	☐
PRODUKTATTRIBUT	☐	☐	☐	☐	☐	☐	☐
KOMPONENTER	☐	☐	☐	☐	☐	☐	☐
KUNDANPASSNING (NIVÅ PRODUKTERNA ÄR SKRÄDDARSYDDA)	☐	☐	☐	☐	☐	☐	☐
PRODUKTUTVECKLING	☐	☐	☐	☐	☐	☐	☐
SVÅRIGHET I ATT PRODUKTUTVECKLA	☐	☐	☐	☐	☐	☐	☐

Produktion

Vänligen ange i vilken utsträckning följande påståenden stämmer in på ert företag

	INTE ALLS						HÖG UTSTRÄCKNING
	1	2	3	4	5	6	7
VI HAR AVANCERAD PRODUKTIONSTEKNOLOGI	☐	☐	☐	☐	☐	☐	☐
VI HAR FÖRUTSÄGBARA MATERIALKOSTNADER	☐	☐	☐	☐	☐	☐	☐
VI HAR MÅNGA PRODUKTIONSSTEG	☐	☐	☐	☐	☐	☐	☐
VÅR PRODUKTION KRÄVER HÖGUTBILDAD PERSONAL	☐	☐	☐	☐	☐	☐	☐
VI HAR SVÅRTILLGÄNGLIGA PRODUKTIONSRESURSER (UTRUSTNING, MATERIAL, KOMPETENS)	☐	☐	☐	☐	☐	☐	☐

Prestation i relation till konkurrenter

Hur väl presterar ert företag i relation till genomsnittet i er bransch och hur viktiga är faktorerna för att ni ska uppnå era organisatoriska mål?

	I RELATION TILL BRANSCHGENOMSNITT							BETYDELSE FÖR ATT UPPNÅ ORGANISATORISKA MÅL						
	SÄMRE						BÄTTRE	OVIKTIGT						MYCKET VIKTIGT
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
MARKNADSANDEL	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
FÖRSÄLJNINGSTILLVÄXT	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
RÖRELSERESULTAT	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
VINSTMARGINAL	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
KOSTNADSNIVÅ (LÄGRE KOSTNADER)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
KVALITET	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
SERVICE	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUKTUTVECKLING	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUKTIONSTEKNOLOGI	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Del 2 Kostnadsdrivare

Vänligen ange i vilken utsträckning följande faktorer driver kostnader i ert företag och i vilken utsträckning de tas hänsyn till vid beslut och uppföljningar

OPERATIONELLA KOSTNADSDRIVARE	DRIVER KOSTNADER							TAS HÄNSYN TILL						
	INTE ALLS						HÖG UTSTRÄCKNING	INTE ALLS						HÖG UTSTRÄCKNING
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
ENHETSNIVÅ (KOSTNADER SOM UPPSTÅR NÄR EN ENHET PRODUCERAS. T.EX. ANTALET TILLVERKADE ENHETER, ANTALET MASKINTIMMAR)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
ORDERNIVÅ (KOSTNADER SOM UPPSTÅR NÄR EN ORDER SKAPAS ELLER HANTERAS. T.EX. ANTALET ORDER, ANTALET MATERIALINKÖP)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUKTNIVÅ (KOSTNADER SOM UPPSTÅR FÖR EN SPECIFIK PRODUKT. T.EX. ANTALET TESTER, ANTALET INSPEKTIONER, DESIGNTID)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
KUNDNIVÅ (KOSTNADER SOM UPPSTÅR VID RELATIONEN TILL KUNDER, T.EX. ANTALET SERVICETIMMAR)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUKTSTÖD (KOSTNADER SOM UPPSTÅR GENERELLT FÖR PRODUKTER, T.EX. ANTAL PRODUKTKATALOGER, ANTALET MÄSSOR)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
FACILITETSSTÖD (KOSTNADER SOM UPPSTÅR I FABRIK MEN SKILT FRÅN INDIVIDUELLA PRODUKTER, SERVICE ELLER KUNDER, T.EX. TIMMAR FÖR UTVECKLING AV PRODUKTANLÄGGNING, ANTAL ADMINISTRERINGSTIMMAR)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	INTE ALLS						HÖG UTSTRÄCKNING	INTE ALLS						HÖG UTSTRÄCKNING

STRUKTURELLA KOSTNADSDRIVARE

	DRIVER KOSTNADER							TAS HÄNSYN TILL						
	INTE ALLS						HÖG UTSTRÄCKNING	INTE ALLS						HÖG UTSTRÄCKNING
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
PRODUKTIONSANLÄGGNINGSSTORLEK (T.EX. YTA, ANTAL MASKINER, ANTALET ANSTÄLLDA)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUKTIONSINPUT (T.EX. LÖNEKOSTNADER, MATERIALKOSTNADER)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUKTIONSLED (ANTALET HELÄGDA DELAR AV VÄRDEKEDJA)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
LÄNKAR (T.EX. DELANDE AV ARBETSKRAFT, INFORMATION, KUNSKAP MELLAN ENHETER)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
ERFARENHET (T.EX. ERFAREN PERSONAL, ERFARENHET SOM ”SITTER I VÄGGARNA”)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
TEKNOLOGI (T.EX. GRAD AV AUTOMATISERING)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUKTPORTFÖLJBREDD (ANTAL ERBJUDNA PRODUKTER)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUKTVARIATION (STORLEK PÅ SKILLNADER MELLAN PRODUCERADE PRODUKTER)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
GEOGRAFISKT LÄGE (T.EX. NÄRHET TILL KUNDER, LEVERANTÖRER, DISTRIBUTION, ARBETSKRAFT)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
INSTITUTIONELLA FAKTORER (T.EX. TULLAR, LAGAR OCH FÖRORDNINGAR)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	INTE ALLS						HÖG UTSTRÄCKNING	INTE ALLS						HÖG UTSTRÄCKNING

VERKSTÄLLANDE KOSTNADSDRIVARE

	DRIVER KOSTNADER							TAS HÄNSYN TILL						
	INTE ALLS						HÖG UTSTRÄCKNING	INTE ALLS						HÖG UTSTRÄCKNING
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
KAIZEN (MEDARBETARNAS DELAKTIGHET TILL STÄNDIG FÖRBÄTTRING)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
KVALITET (T.EX. KVALITETSKONTROLLER, UTBILDNING, OMARBETNINGSKOSTNAD)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUKTKONFIGURATION (PRODUKTDESIGN MED HÄNSYN TILL ATT UNDERLÄTTA TILLVERKNING)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
KAPACITETSUTNYTTJANDE (EFFEKTIV ANVÄNDNING AV T.EX. FABRIKSYTA, PERSONAL, KOMPETENS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUKTIONSLEDSEFFEKTIVITET (HUR EFFEKTIV PROCESSERNA/ÖVERGÅNGARNA ÄR MELLAN ENHETER, KUNDER OCH LEVERANTÖRER)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	INTE ALLS						HÖG UTSTRÄCKNING	INTE ALLS						HÖG UTSTRÄCKNING

Annan kostnadsdrivare

Vänligen ange om det finns det någon annan kostnadsdrivare som är särskilt viktigt som inte täcks in i föregående tabeller

Ni kan hoppa över frågan om ni tycker att allt har täckts in i de tidigare tabellerna. Ange annars typ av kostnadsdrivare i listan till vänster och kryssa i utsträckningen faktorn driver kostnader och i vilken utsträckning de tas hänsyn till höger.

ANNAN KOSTNADSDRIVARE	DRIVER KOSTNADER							TAS HÄNSYN TILL						
	INTE ALLS				HÖG UTSTRÄCKNING			INTE ALLS				HÖG UTSTRÄCKNING		
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
KLICKA ELLER TRYCK HÄR FÖR ATT ANGE TEXT.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
KLICKA ELLER TRYCK HÄR FÖR ATT ANGE TEXT.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
KLICKA ELLER TRYCK HÄR FÖR ATT ANGE TEXT.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Del 3 Arbetet med kostnadsdrivare

Den avslutande delen av enkäten handlar om hur er organisation arbetar med kostnadsdrivare.

Identifiering och praktiskt användande av kostnadsdrivare

Vänligen ange i vilken utsträckning följande faktorer har påverkat valet av de kostnadsdrivare ni tar mest hänsyn till

	INTE ALLS					HÖG UTSTRÄCKNING	
	1	2	3	4	5	6	7
IDENTIFIERAT SAMBAND MELLAN KOSTNADSDRIVARE OCH KOSTNADER	☐	☐	☐	☐	☐	☐	☐
INFORMATIONSTILLGÄNGLIGHET (MÖJLIGHET ATT SAMLA INFORMATION OM KOSTNADSDRIVARE)	☐	☐	☐	☐	☐	☐	☐
ANVÄNDBARHET (LÄTTHET ATT PRESENTERA, TOLKA OCH BERÄKNA)	☐	☐	☐	☐	☐	☐	☐
STRATEGISK BETYDELSE	☐	☐	☐	☐	☐	☐	☐
BESLUTAT AV LEDNING	☐	☐	☐	☐	☐	☐	☐
REKOMMENDERAT AV EXTERNA INTRESSENTER (KONSULTER, AKADEMIKER, BRANSCHORGANISATIONER)	☐	☐	☐	☐	☐	☐	☐
ANNAN (VAR GOD ANGE) KLICKA ELLER TRYCK HÄR FÖR ATT ANGE TEXT.	☐	☐	☐	☐	☐	☐	☐

Hur har ni identifierat att faktorerna driver kostnader? (Välj ett eller flera alternativ)

☐ Intervjuer med anställda

☐ Aktivitetsanalys av värdekedjan

☐ Jämförelse med konkurrenter

☐ Jämförelse av enheter inom företaget

☐ Observation av hur kostnader förändras över tid

☐ Regressionsanalys

☐ Uppbyggd förståelse genom erfarenhet

☐ I partnerskap med kunder/leverantörer

☐ Rekommenderat av externa intressenter (Revisorer, konsulter, akademiker)

☐ Annan (Var god ange) Klicka eller tryck här för att ange text.

Vänligen ange i vilken utsträckning ni tar hänsyn till kostnadsdrivare i följande situationer

	INTE ALLS						**HÖG UTSTRÄCKNING**
	1	**2**	**3**	**4**	**5**	**6**	**7**
VÄRDEKEDJEANALYS (PRIORITERA OCH HANTERA AKTIVITETER)	☐	☐	☐	☐	☐	☐	☐
PROGNOSTISERING AV KOSTNADER	☐	☐	☐	☐	☐	☐	☐
KOSTNADSANALYS	☐	☐	☐	☐	☐	☐	☐
EXPANSIONSINVESTERINGAR	☐	☐	☐	☐	☐	☐	☐
ERSÄTTNINGSINVESTERINGAR	☐	☐	☐	☐	☐	☐	☐
INTERN BENCHMARKING	☐	☐	☐	☐	☐	☐	☐
INTÄKTSANALYS	☐	☐	☐	☐	☐	☐	☐
ETABLERING AV NYA AFFÄRER	☐	☐	☐	☐	☐	☐	☐
EXTERN BENCHMARKING	☐	☐	☐	☐	☐	☐	☐
PRISSÄTTNING AV PRODUKTER & TJÄNSTER	☐	☐	☐	☐	☐	☐	☐
PRODUKTUTVECKLING	☐	☐	☐	☐	☐	☐	☐
INKÖP AV PRODUKTIONSRESURSER	☐	☐	☐	☐	☐	☐	☐
PERSONALHANTERING (REKRYTERINGAR, ERSÄTTNINGAR)	☐	☐	☐	☐	☐	☐	☐
I PARTNERSKAP MED KUNDER/LEVERANTÖRER	☐	☐	☐	☐	☐	☐	☐
KUNDSEGMENTERING	☐	☐	☐	☐	☐	☐	☐

Appendix 5 – English Survey

Part 1 of 3 – Information about the Company

The first part of the survey concerns question regarding your organization.

Company Name & Personal Information

Klicka eller tryck här för att ange text.

Name

Klicka eller tryck här för att ange text.

Work Title

Klicka eller tryck här för att ange text.

Years of Employment

Klicka eller tryck här för att ange text.

Company Name

Questions regarding the company

How many countries are you active in?
Klicka eller tryck här för att ange text.

How many sales outlets do you have?

Klicka eller tryck här för att ange text.

How many production plants do you have?

Klicka eller tryck här för att ange text.

How many employees (in average) do you have per production plant?

Klicka eller tryck här för att ange text.

What is your main production method?

☐ Unit-Production ☐ Batch-Production ☐ Process-Production ☐ Other (Please State) Klicka eller tryck här för att ange text.

Which statement do you mostly identify your firm with?

☐ We compete by distinguishing ourselves in e.g. Customer experience, process- or product-innovations

☐ We compete by lowest price

☐ Neither

Customers and Market

Please state at what extent the following factors are predictable and the extent of which changes occur…

	PREDICTABLE							CHANGES						
	PREDICTABLE						UNPREDICTABLE	FEW						MANY
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
CUSTOMERS (E.G. DEMAND, CUSTOMER REQUIREMENTS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
SUPPLIER (E.G. RESOURCE QUALITY)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
COMPETITORS (E.G. NUMBER OF COMPETITORS ON THE MARKET)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
TECHNOLOGY (E.G. PROCESS INNOVATIONS, PROGRESS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Please state at what extent your customers…

	NOT AT ALL						HIGH EXTENT
	1	2	3	4	5	6	7
ORDER IN SMALL QUANTITIES	☐	☐	☐	☐	☐	☐	☐
ARE PRICE SENSITIVE	☐	☐	☐	☐	☐	☐	☐
MAKE DEMANDS ON PRODUCTS	☐	☐	☐	☐	☐	☐	☐
MAKE DEMANDS ON SERVICE	☐	☐	☐	☐	☐	☐	☐
MAKE DEMANDS ON ACCESSIBILITY	☐	☐	☐	☐	☐	☐	☐
ARE AT GREAT GEOGRAPHIC DISTANCE FROM YOU	☐	☐	☐	☐	☐	☐	☐

Please state at what extent the following characteristics differs between your customers

	NOT AT ALL						HIGH EXTENT
	1	2	3	4	5	6	7
ORDER SIZE	☐	☐	☐	☐	☐	☐	☐
PRICE SENSITIVITY	☐	☐	☐	☐	☐	☐	☐
DEMAND ON PRODUCTS	☐	☐	☐	☐	☐	☐	☐
DEMAND ON SERVICE	☐	☐	☐	☐	☐	☐	☐
DEMAND ON ACCESSIBILITY	☐	☐	☐	☐	☐	☐	☐
GEOGRAPHIC DISPERSION	☐	☐	☐	☐	☐	☐	☐

Products

Please state at what extent the following statements matches/fits your products

	NOT AT ALL						HIGH EXTENT
	1	2	3	4	5	6	7
WE HAVE MANY PRODUCT CATEGORIES	☐	☐	☐	☐	☐	☐	☐
WE HAVE MANY PRODUCT ATTRIBUTES	☐	☐	☐	☐	☐	☐	☐
WE HAVE MANY COMPONENTS	☐	☐	☐	☐	☐	☐	☐
OUR PRODUCTS ARE TAILORED FOR OUR CUSTOMERS	☐	☐	☐	☐	☐	☐	☐
WE FOCUS A LOT ON PRODUCT DEVELOPMENT	☐	☐	☐	☐	☐	☐	☐
OUR PRODUCTS ARE DIFFICULT TO PRODUCE	☐	☐	☐	☐	☐	☐	☐

Please state at what extent the following characteristics differs between your products

	NOT AT ALL						HIGH EXTENT
	1	2	3	4	5	6	7
PRODUCT CATEGORIES	☐	☐	☐	☐	☐	☐	☐
PRODUCT ATTRIBUTES	☐	☐	☐	☐	☐	☐	☐
COMPONENTS	☐	☐	☐	☐	☐	☐	☐
CUSTOMIZING (LEVEL PRODUCTS ARE TAILORED)	☐	☐	☐	☐	☐	☐	☐
PRODUCT DEVELOPMENT	☐	☐	☐	☐	☐	☐	☐
DIFFICULTY TO PRODUCT DEVELOP	☐	☐	☐	☐	☐	☐	☐

Production

Please state at what extent the following statements matches/fits your company

	NOT AT ALL						HIGH EXTENT
	1	2	3	4	5	6	7
WE HAVE ADVANCED PRODUCTION TECHNOLOGY	☐	☐	☐	☐	☐	☐	☐
WE HAVE PREDICTABLE MATERIAL COSTS	☐	☐	☐	☐	☐	☐	☐
WE HAVE MANY PRODUCTION STEPS	☐	☐	☐	☐	☐	☐	☐
OUR PRODUCTION REQUIRES HIGHLY EDUCATED STAFF	☐	☐	☐	☐	☐	☐	☐
WE HAVE HARD-TO-REACH PRODUCTION RESOURCES (EQUIPMENT, MATERIAL, COMPETENCE)	☐	☐	☐	☐	☐	☐	☐

Performance in relation to competitors

How well are your company performing in relation to industry average in the stated areas and how important are the stated factors for achieving your organizational goals?

	IN RELATION TO INDUSTRY AVERAGE							IMPORTANCE TO ACHIEVE ORGANIZATIONAL GOALS						
	Worse						Better	Unimportant						Very Important
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
MARKET SHARE	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
SALES GROWTH	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
OPERATING PROFIT	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PROFIT MARGIN	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
COSTS (LOWER COSTS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
QUALITY	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
SERVICE	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUCT DEVELOPMENT	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUCTION TECHNOLOGY	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Part 2 Cost Drivers

Please state, at what extent the following factors drives cost within your company and at what extent you consider the stated factors within decision-making and follow-ups

OPERATIONAL COST DRIVERS	DRIVES COST							CONSIDERATION						
	NOT AT ALL				High Extent			NOT AT ALL						HIGH EXTENT
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
UNIT-LEVEL (COST OCCURRING EACH TIME A UNIT IS PRODUCED, E.G. UNITS OF PRODUCTS, LABOR HOURS, MACHINE HOURS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
BATCH-LEVEL (COSTS OCCURRING EVERY TIME A BATCH IS PROCESSED OR HANDLED, E.G. NUMBER OF ORDERS OR MACHINE SETUPS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUCT-LEVEL (COSTS OCCURRING FOR A SPECIFIC PRODUCT, E.G. NUMBER OF TESTS, INSPECTIONS AND DESIGN TIME)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
CUSTOMER-SUSTAINING (COSTS OCCURRING IN RELATION WITH CUSTOMERS, E.G. NUMBER OF SERVICE HOURS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUCT-SUSTAINING (GENERAL PRODUCT COST, E.G. NUMBER PRODUCT CATALOGS, NUMBER OF JOB FAIRS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
FACILITY-SUSTAINING (COST OCCURRING WITHIN THE FACTORY BUT SEPARATE FROM INDIVIDUAL PRODUCTS, E.G. HOURS SPENT ON PLANT DESIGN, ADMINISTRATIVE HOURS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	NOT AT ALL				HIGH EXTENT			NOT AT ALL				HIGH EXTENT		

STRUCTURAL COST DRIVERS	DRIVES COST							CONSIDERATION						
	NOT AT ALL				HIGH EXTENT			NOT AT ALL						HIGH EXTENT4
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
PLANT SIZE (E.G. AREA, NUMBER OF MACHINES, NUMBER OF EMPLOYEES)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUCTION INPUT (E.G. SALARIES, MATERIAL COSTS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
VALUE CHAIN (NUMBER OF OWNED PARTS OF THE VALUE CHAIN)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
INTERRELATIONSHIPS (E.G. SHARED WORKFORCE, INFORMATION, KNOWLEDGE)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
EXPERIENCE (E.G. EXPERIENCED STAFF, EXPERIENCE IN THE WALLS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
TECHNOLOGY (E.G. DEGREE OF AUTOMATION)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUCT PORTFOLIO BREADTH (NUMBER OF OFFERED PRODUCTS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUCT VARIETY (SIZE OF VARIETY BETWEEN PRODUCED PRODUCTS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

GEOGRAPHIC LOCATION (E.G. CLOSENESS TO CUSTOMERS, DISTRIBUTION, SUPPLIERS, WORKFORCE)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
INSTITUTIONAL FACTORS (E.G. TARIFFS, LEGISLATION)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	NOT AT ALL				HIGH EXTET			NOT AT ALL				HIGH EXTENT		

EXECUTIONAL COST DRIVERS	DRIVES COST							CONSIDERATION						
	NOT AT ALL				HIGH EXTENT			NOT AT ALL					HIGH EXTENT	
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
KAIZEN (EMPLOYEES' COMMITMENT TO CONTINUOUS IMPROVEMENT)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
QUALITY (E.G. QUALITY CHECKS, EDUCATION, COST OF RE-WORK)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUCT CONFIGURATION (DESIGNING PRODUCT FOR EASE OF PRODUCTION)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
CAPACITY UTILIZATION (EFFICIENT USE OF E.G. PRODUCTION AREA, STAFF, COMPETENCE)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRODUCTION PROCESS EFFICIENCY (HOW EFFICIENT PROCESSES ARE BETWEEN E.G. UNITS, CUSTOMER & SUPPLIERS)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	NOT AT ALL				HIGH EXTENT			NOT AT ALL				HIGH EXTENT		

Other Cost Driver

Please enter your own driver of cost, if previous table missed any certain important factor

<u>You may skip this part if you feel that the previous tables covered all the most neccessary dirvers of cost.</u>

OTHER COST DRIVER	DRIVES COST							CONSIDERATION						
	NOT AT ALL				HIGH EXTENT			NOT AT ALL					HIGH EXTENT	
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
KLICKA ELLER TRYCK HÄR FÖR ATT ANGE TEXT.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
KLICKA ELLER TRYCK HÄR FÖR ATT ANGE TEXT.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
KLICKA ELLER TRYCK HÄR FÖR ATT ANGE TEXT.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Part 3 Application of cost drivers

The concluding part of the survey focuses on your organization´s management of cost drivers.

Identification and practical usage of cost drivers

Please state at what extent the following motives has influenced the choice of the cost drivers you consider mostly

	NOT AT ALL						HIGH EXTENT
	1	2	3	4	5	6	7
IDENTIFIED CAUSAL RELATIONSHIP BETWEEN COST DRIVER & COST	☐	☐	☐	☐	☐	☐	☐
INFORMATION ACCESSIBILITY (EASY ACCESS TO COLLECT INFO REGARDING THE COST DRIVER)	☐	☐	☐	☐	☐	☐	☐
PRACTICALITY/USABILITY (EASY TO INTERPRET, PRESENT & CALCULATE)	☐	☐	☐	☐	☐	☐	☐
STRATEGIC IMPORTANCE	☐	☐	☐	☐	☐	☐	☐
DECIDED BY MANAGEMENT	☐	☐	☐	☐	☐	☐	☐
RECOMMENDED BY EXTERNAL STAKEHOLDERS (CONSULTANTS, ACADEMICS)	☐	☐	☐	☐	☐	☐	☐
OTHER (PLEASE STATE) KLICKA ELLER TRYCK HÄR FÖR ATT ANGE TEXT.	☐	☐	☐	☐	☐	☐	☐

Which method have you used to identify to identify cost drivers? (Chose one or several options)

☐ Interviews with employees

☐ Value Chain Analysis

☐ Competitive Cost Analysis

☐ Comparison of internal units

☐ Observation of cost behavior over time

☐ Regression Analysis

☐ Internal Experience

☐ Partnership with customers/suppliers

☐ Recommended by external stakeholders (Consultants, academics)

☐ Other (Please state) Klicka eller tryck här för att ange text.

Please state at what extent cost drivers are applied in the following situations

	NOT AT ALL						HIGH EXTENT
	1	2	3	4	5	6	7
VALUE CHAIN SCRUTINIZATION (PRIORITIZATION)	☐	☐	☐	☐	☐	☐	☐
COST DYNAMIC ANALYSIS	☐	☐	☐	☐	☐	☐	☐
COST ANALYSIS	☐	☐	☐	☐	☐	☐	☐
EXPANSION INVESTMENTS	☐	☐	☐	☐	☐	☐	☐
REPLACEMENT INVESTMENTS	☐	☐	☐	☐	☐	☐	☐
INTERNAL BENCHMARKING	☐	☐	☐	☐	☐	☐	☐
REVENUE ANALYSIS	☐	☐	☐	☐	☐	☐	☐
ESTABLISHMENT OF NEW BUSINESS	☐	☐	☐	☐	☐	☐	☐
EXTERNAL BENCHMARKING	☐	☐	☐	☐	☐	☐	☐
PRICING OF PRODUCTS	☐	☐	☐	☐	☐	☐	☐
PRODUCT DEVELOPMENT	☐	☐	☐	☐	☐	☐	☐
PROCUREMENT	☐	☐	☐	☐	☐	☐	☐
HUMAN RESOURCES (RECRUITMENTS, REPLACEMENTS)	☐	☐	☐	☐	☐	☐	☐
PARTNERSHIP WITH CUSTOMERS/SUPPLIERS	☐	☐	☐	☐	☐	☐	☐
CUSTOMER SEGMENTATION	☐	☐	☐	☐	☐	☐	☐