

Strategic orientation of management accounting - A case study

Abstract

This thesis aims to study the use of management accounting in a strategic context. How management accounting was used to accentuate strategic aspects in an evaluation process was studied through a qualitative case study. A global pharmaceutical company that evaluated the future of a number of its local products, constituted the object of study. A theoretical framework based on Strategic Management Accounting (SMA) has been developed. Previous normative research and practical studies provided inspiration for the identification of five perspectives seen as prominent when management accounting is used to evaluate strategic aspects (external, long-term, collaborative, improvement and selective). Using this theoretical framework in an abductive manner, it was found that management accounting was used to accentuate strategic aspects in some situations. Strategic aspects were accentuated mainly through the application of external, long-term and collaborative perspectives by making adjustments to traditional management accounting practices. The generated management accounting information was used to communicate and report strategic aspects in the corporate hierarchy. It was, however, also found that strategic aspects were, in some situations, evaluated without the use of formal accounting analysis; strategic aspects were then discussed separately. Nevertheless, management accounting was, in these situations, occasionally used to initiate strategic discussions.

Key words: Case study, Divestment, Evaluation, Management accounting, Outsourcing, Pharmaceutical industry, SMA, Strategic aspects

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List of abbreviations

ABC	Activity Based Costing
CFO	Chief Financial Officer
DCF	Discounted Cash Flow
MC	Market Company
NPV	Net Present Value
OTC	Over-the-counter
R&D	Research & Development
Rx	Prescribed (pharmaceuticals)
SCM	Strategic Cost Management
SMA	Strategic Management Accounting
SWOT	Strengths, Weaknesses, Opportunities, Threats

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1 Introduction

In 2009 AstraZeneca closed the last of four consecutive divestments of strong local pharmaceutical brands, many of which were said to be found in the medicine cabinet of the average Swedish household, e.g. Alvedon¹. The majority of the divested products had experienced more than 50 years on the market. Nevertheless, both internal and external voices questioned why AstraZeneca divested products that delivered steady cash flows, especially in a time when the company was soon going to face expiring patents on other important products. In response to this criticism it was argued that a strategic evaluation had shown that the future of these products within AstraZeneca was not in line with the corporate strategy. These products were neither protected by patents nor in the forefront of pharmaceutical development as AstraZeneca's core products were, and still are. This evaluation process can be seen as strategic since it was a response to changing internal and external strategic conditions. The use of management accounting within this evaluation process is studied in this thesis.

Simmonds accentuated the use of management accounting in a strategic context as an interesting research topic in 1981 when he introduced the concept Strategic Management Accounting (SMA) (Langfield-Smith, 2008). This concept suggests that management accounting should incorporate information that is relevant for strategic considerations. As AstraZeneca's evaluation process was of a strategic nature, it is interesting to study how management accounting was used in that process. Thus, the aim of this thesis is to understand how management accounting is used in a strategic context. In order to fulfill this aim, the following research question was formed:

How was management accounting used to accentuate strategic aspects in AstraZeneca's evaluation process?

The field of SMA has attracted interest in the academic community during recent years. This interest has been expressed through initial normative research followed by empirical studies. Much of the empirical research has been concentrated on which accounting techniques are used and in what circumstances (Tillmann & Goddard, 2008). Criticism has been directed towards the practical applicability of SMA and SMA has been called a figment of academic imagination (Lord, 1996). It has been pointed out that future research should study the principles underlying SMA techniques rather than their practical application (Langfield-Smith, 2008; Tillmann & Goddard, 2008). This thesis applies a case study method based on an abductive approach. In this approach, data collected through in-depth interviews and document studies are used in interaction with

¹ Awarded by the Superbrands Council Sverige, 2004.

theory regarding underlying principles of SMA in order to generate results. The main contribution of this thesis is thus to provide a description of how underlying principles of SMA can diffuse into management accounting in practice.

The thesis is organized as follows. Firstly, a theoretical framework based on underlying principles of SMA is developed. This framework accounts for five perspectives (external, long-term, collaborative, improvement and selective) identified as prominent when management accounting is used to evaluate strategic aspects. Thereafter, the method and the methodology used in this study are presented as well as the study's limitations. Subsequently, a chronological description of the case is presented along with an empirical analysis of how management accounting was used to accentuate strategic aspects. Thereafter, this analysis is continued in a thematic manner providing the case findings. Finally, a discussion on the results and topics for future research are presented.

2 Literature review

In this section literature concerning the use of management accounting in a strategic context is presented. The literature review is founded in the theoretical field of SMA and leads up to the formation of a theoretical framework covering perspectives that can be applied when management accounting is used to evaluate strategic aspects. This literature review is structured according to the five perspectives identified; external perspective, long-term perspective, collaborative perspective, improvement perspective and selective perspective.

The aim of this paper is to understand how management accounting is used in a strategic context. This is done through the study of how management accounting is used to accentuate strategic aspects in an evaluation process. Management accounting can be described as “the provision of information to people within the organization to help them make better decisions and improve the efficiency and effectiveness of existing operations” (Drury, 2008, p. 7). In this thesis, strategic aspects are defined as factors stemming from or being directly connected to strategic considerations. Examples of strategic considerations include the pursuit of a competitive advantage, the focus on core competencies and the identification of internal strengths and weaknesses matched with market opportunities or threats (Anthony & Govindarajan, 2007; Barney & Hesterly, 2008; Hamel & Prahalad, 1994).

The connection between management accounting and its strategic context has been of interest to researchers during almost thirty years (Langfield-Smith, 2008). As a result, SMA, that explores the use of management accounting in strategic settings, has evolved. There is no agreed definition of SMA (Drury, 2008; Langfield-Smith, 2008; Lord, 1996; Roslender & Hart, 2003). Bromwich (1990), however, has presented an influential definition:

The provision and analysis of financial information on the firm’s product market and competitors’ costs and cost structures and the monitoring of the enterprise’s strategies and those of its competitors in these markets over a number of periods (p.28).

In relation to management accounting, SMA could be defined as the provision of information to people within the organization to help them make better *strategic* decisions and improve the efficiency and effectiveness of existing operations *to attain strategic goals*.

The field has been characterized by an initial emphasis on normative research followed by empirical studies on the practical application of the normative framework (Langfield-Smith, 2008; Tillmann & Goddard, 2008). Empirical studies have shown limited practical usage of SMA techniques, e.g. attribute costing, strategic cost management and formalized value chain analysis

(Guilding et al, 2000; Langfield-Smith, 2008). Nevertheless, elements or underlying principles of SMA have been observed in practice (Carr & Tomkins, 1996; Lord, 1996). Drawing inspiration from SMA elements, five perspectives have been identified for the use in this thesis; (1) external, (2) long-term, (3) collaborative, (4) improvement and (5) selective. This identification is based on how SMA suggests that management accounting could be used when evaluating strategic aspects. These perspectives of SMA have been discussed by a number of researchers, some have mentioned them explicitly and others implicitly. The main sources of inspiration for this identification are summarized in *Figure 1*.

	External	Long-term	Collaborative	Improvement	Selective
Bromwich (1990)	x	x			x
Carlsson-Wall et al (2009)	x	Implicit	x	x	x
Carr & Tomkins (1996)	Implicit			Implicit	
Dixon (1998)	x		Implicit	Implicit	Implicit
Drury (2008)	x	x		x	x
Govindarajan & Shank (1992)	Implicit	Implicit		Implicit	x
Guilding et al (2000)	x	x			Implicit
Langfield-Smith (2008)	x	Implicit	Implicit	Implicit	Implicit
Lord (1996)	x	Implicit		x	x
Roslender & Hart (2003)	x	x	x	x	Implicit
Shank (1989)	Implicit	Implicit	Implicit	x	x
Tillmann & Goddard (2008)	Implicit	Implicit			

Figure 1: Sources of inspiration for the identification of perspectives on how management accounting could be used when evaluating strategic aspects. X stands for explicit mentioning by the researchers.

2.1 External perspective

In accordance to Bromwich's (1990) definition, presented above, collecting information relative to competitors is a central element of SMA. Including information about competitors was one of Simmonds' fundamental ideas when he first introduced SMA in 1981 (Langfield-Smith, 2008). Since then, the external perspective has been extended to incorporate other external actors. Bromwich (1990) highlights the importance of customer analysis and Shank (1989) suggests that information regarding the value chain should be incorporated. Thereby information about *competitors, customers and suppliers* is included in the external perspective of SMA.

SMA advocates the analysis of the internal information in relation to the external information to support strategy formulation and implementation (Govindarajan & Shank, 1992; Langfield-Smith, 2008). The strategy formulation process (illustrated in *Figure 2*) has been described as the analysis of a company's internal and external conditions, identification of internal strengths and weaknesses as well as external opportunities and threats (SWOT), followed by the matching of core competencies with environmental opportunities to decide on strategies (Anthony &

Govindarajan, 2007). Researchers have related this SWOT analysis to SMA (Guilding et al, 2000). In this thesis, this framework is moreover used to identify strategic aspects.

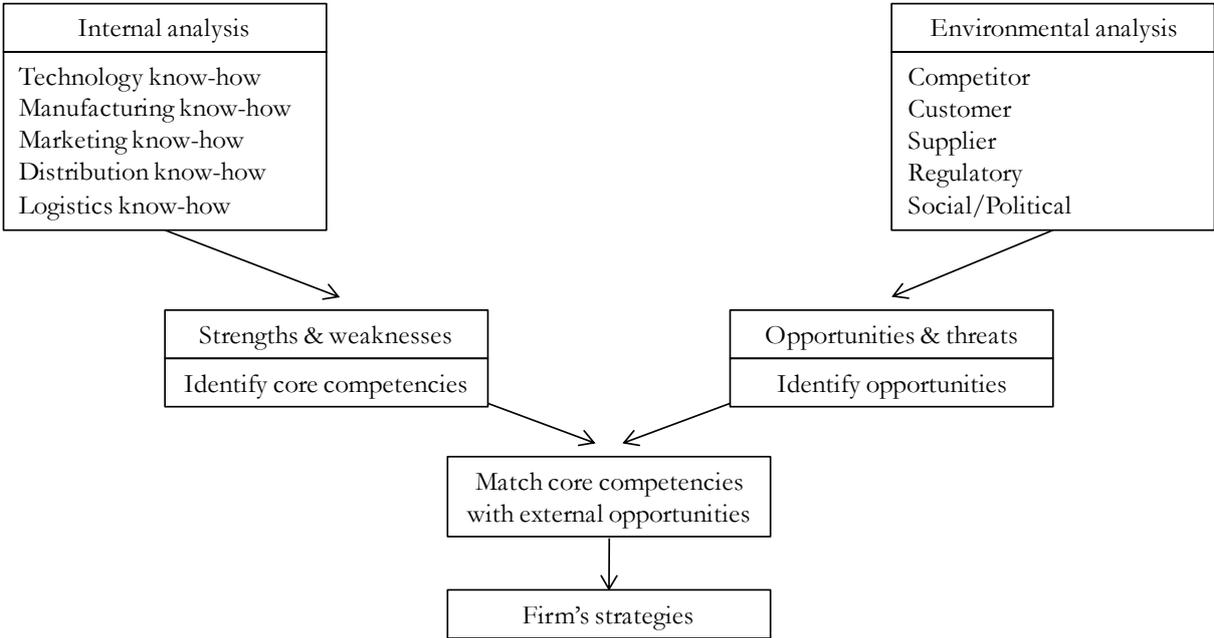


Figure 2: The strategy formulation process

The external perspective within SMA traditionally highlights competitors, customers and suppliers. However, when studying the strategy formulation process it becomes apparent that also regulatory and social/political (institutional) aspects are of importance in strategic evaluation. This could constitute external information that could be included within a SMA framework. Roslender and Hart (2003) refer to the incorporation of “market intelligence” and Dixon (1998) mentions political and economic factors, but no distinctive attention is devoted to a firm’s institutional environment within SMA to date.

In a practical study of SMA, Tillmann and Goddard (2008) found that this matching of internal and external information is used to anchor a phenomenon in its spatial context, i.e. by putting a single figure into a wider context. An example of this is market share analysis. Consider a company holding a 5 % market share in a market where competitors also hold small market shares, e.g. 2 - 6 %. The conditions faced by this firm would, however, be different if the market consisted of only one other player holding a 95 % market share. Tillmann and Goddard (2008) claim that management accounting as such is used in strategic processes to *contextualize information across space*. This is part of their developed Grounded Theory regarding SMA as part of a sense-making process.

Tillmann and Goddard (2008) further identified the process of *structuring and harmonizing information* in order to make external and internal information comparable. They found that, the higher the complexity of a strategic context, the larger the need for structuring of information. Simmonds went as far as suggesting that applying SMA would not only imply structuring information in a comparable way, but it would also require changes and additions to traditional management accounting. He claims that e.g. market share assessment could be incorporated into management accounts and budgets in order to compare the company's development to its competitors (Lord, 1996).

The collection of external information may however be problematic as external parties are not likely to share information, since it may threaten their competitive position (Carlsson-Wall et al, 2009; Lord, 1996). External information is consequently often estimated and represented by proxies in calculations (Lord, 1996). The fact that competitive information may be sensitive can make the cost of collecting information high (Dixon, 1998; Lord, 1996). Lord (1996) questions the practical applicability of SMA because of this inherent inadequacy of external information. She argues that it is difficult to prepare detailed financial information that is not speculative and therefore the comparability of internal figures to competitors' is low.

The application of an external perspective differentiates SMA from traditional management accounting, generally concerned with what happens within the boundaries of the firm (Lord, 1996; Drury, 2008). The external perspective foremost includes information about competitors, customers and suppliers. An external perspective in management accounting can be used to accentuate strategic aspects in an evaluation process.

2.2 Long-term perspective

Bromwich's (1990) definition of SMA further emphasizes the collection of information over several periods. This implies an extended time perspective compared to traditional management accounting. Guilding et al (2000) highlight that the border between tactic (operational) evaluation and strategic evaluation is not always evident. Especially not when "a tactical decision taken today turns into a strategic advantage tomorrow" (p. 115). A strategic evaluation needs to take into consideration a time period that is relevant for strategic purposes, i.e. that is "sufficiently long for strategic plans to come to fruition" (Bromwich, 1990, p. 28). Govindarajan and Shank (1992) quantify long-term as three to five years, based on the assumption that this is the time horizon usually used for strategic planning.

Tillmann and Goddard (2008) found that the long-term perspective is used in a similar manner as the external perspective, i.e. to anchor a phenomenon in its context, namely in its time-related context. This is a process that they call *bridging of information across time*. They highlight the fact that the future can only be projected in relation to the past and the present. By putting information into a time context, management accounting can be used to evaluate strategic aspects through forecasting and historical analysis.

However, in similarity to uncertainty of information about competitors, there are intrinsic uncertainties regarding information about the future. Lord (1996) highlights that there is a risk in quantifying uncertain aspect as it may risk creating a false impression of true figures. This risk is apparent in estimations regarding the future. Nevertheless, Van Cauwenbergh et al (1996) found that in relation to investment analysis the role of formal analysis increased when uncertainty² was high. No techniques of handling uncertainties are apparently discussed in SMA. The field of Integrated Risk Management, however, highlights the use of scenarios as a tool for handling uncertainties and strategic risks (Miller & Waller, 2003).

Since strategic decisions affect the future competitiveness of a company, a distinctive element of SMA is a long-term perspective. Traditional management accounting, on the other hand, is often concerned with evaluating the past. The long-term perspective used in SMA is one way in which management accounting could be used to evaluate strategic aspects.

2.3 Collaborative perspective

SMA advocates, e.g. Simmonds, Bromwich and Shank, have argued that the management accountant should play a central role in applying SMA (Langfield-Smith, 2008). However, practical studies (e.g. Lord, 1996) have shown that the involvement of the management accountant in practice is limited. Lord (1996) even found that the activities proposed by SMA may already be a part of the operational management of firms, and thus suggests that SMA is “a figment of academic imagination” (p. 364).

Roslender and Hart (2003) argue in favor of a collaborative perspective within SMA stating that “the pursuit of SMA requires that the two parties involved begin to dismantle traditional functional boundaries and to engage in cooperative activities” (p. 259). They mean that those with marketing insights and those with management accounting insights should collaborate on equal terms and argue that a collaborative perspective in SMA could enhance the strategic

² Van Cauwenbergh et al (1996) define uncertainty as lack of information or perceived changes that are hard to assess.

content in management accounting. Thus, cross-functional collection and analysis of information is a central element of SMA. This implies that even though the role of the management accountant in the strategic process has been questioned, research suggests that the management accountant may be important in the process.

Moreover, when adopting a network perspective, as proposed by Carlsson-Wall et al (2009), an extension of the collaborative perspective to include players in the firm's network, is evident. This is further emphasized by Shank (1989) who suggests collaboration within the value chain of a company.

The collaborative perspective can be understood through the fact that knowledge about the dynamic strategic aspects in a firm's environment requires inclusion of multiple aspects. Thereby, specialists are required. Such specialists can be found in different functions within a firm and in a firm's network. Collaboration in management accounting activities can thus be used to accentuate the dynamics of strategic aspects in an evaluation.

2.4 Improvement perspective

Another element or underlying principle of SMA is the pursuit of continuous improvement (Lord, 1996). As pointed out by Carlsson-Wall et al (2009), SMA strives to improve both the revenue and the cost side of an enterprise's activities. This improvement perspective is seen in SMA as a tool to gain competitive advantage, i.e. to decrease costs and/or enhance the differentiation of a firm's products (Dixon, 1998; Drury, 2008). Using the framework of strategy formulation, this can be achieved through the matching of core competencies with external opportunities (see *Figure 2*).

Bromwich (1990) argues that the SMA technique attribute costing assists in improving a firm's revenues. In this approach, a company values the attributes of its product in relation to competing products and from the customers' view. By doing this, the company can strategically price its products and develop those attributes that are valued by customers, and thereby improve revenues.

Even though improvement of both revenues and costs are included in this perspective, cost improvements have dominated SMA literature. This is e.g. represented by the widely accepted notion of Strategic Cost Management (SCM), developed by Shank (Langfield-Smith, 2008). Shank (1989) proposes the use of value chain analysis (exploitation of linkages in the value chain) and cost driver analysis (optimization of cost drivers) to achieve cost improvements. Also the Activity Based Costing (ABC) technique has been argued to belong under the SMA umbrella of

techniques striving to improve the cost structure of a company (Langfield-Smith, 2008). However, what is evident in SMA, but not in ABC, is the external perspective of finding improvements by contextualizing the internal cost structure in relation to competitors' cost structures.

Researchers have questioned the need for a formalized process to identify improvement opportunities. Both Lord (1996) and Carr and Tomkins (1996) observed in their practical studies that improvements were identified, e.g. through exploiting linkages in the value chain, without having performed a formal financial analysis. Carr and Tomkins (1996) studied the use of SMA and Discounted Cash Flow (DCF) analysis³ in strategic investment decisions. They found “that NPV analysis needs to be supported by more strategically oriented techniques of analysis” (p. 205) and that many strategic aspects were not included into the DCF. They note, however, that “no finance director would want to accept cash flow projections not predicated on sound business logic” (p. 200), meaning that strategic aspects to some extent could and should be included in the forecasts of cash flows. In this discussion, Carr and Tomkins (1996) highlight the use of intuition as a complement to formalized financial analysis. This is similar to the findings of Tillmann and Goddard (2008), who found that “a feel for the game” and “professional know-how” were auxiliary activities in the usage of management accounting in strategic contexts. Thereby, it has been found that the application of an improvement perspective is possible without its explicit inclusion in formal financial analysis.

In spite of limited empirical findings with regards to the need for formal improvement evaluation, the normative framework of SMA holds that an improvement perspective in gathering, analyzing and using management accounting information is essential in the strategic process of a firm. Thus, SMA suggests that management accounting could be used to evaluate strategic aspects by applying an improvement perspective.

2.5 Selective perspective

The last perspective of SMA accounted for in this framework is its emphasis on selecting management accounting information and techniques that support the firm-specific strategies. This process is supposed to support a firm's strategy by translating it into an accounting language by the use of accounting techniques, indicators and reports (Dixon, 1998). This is often referred to as “accounting for strategic positioning” (Lord, 1996; Roslender & Hart, 2003). In this framework it is referred to as a selective perspective.

³ Also referred to as Net Present Value (NPV) analysis found through discounting of cash flows, i.e. DCF.

Govindarajan and Shank (1992) emphasize SMA's role for strategy formulation and implementation and they claim that accounting should be chosen to match a company's selected strategic position. They write that since different organizations carry different strategies; management accounting should be tailored to the requirements of those specific strategies. Drury (2008) agrees, and explains that SMA proposes a relationship between the strategic position chosen by a firm and the expected emphasis within management accounting.

Shank (1989) explains, using Porter's taxonomy, that a selective perspective for a company with a cost leadership strategy implies the use of standard cost to assess performance, product cost as an input to pricing decisions, and flexible budgeting for manufacturing cost control. Companies differentiating their products, as a way of achieving competitive advantage, would consider marketing cost analysis to be critical to their success (Shank, 1989). This concept has also been emphasized by Bromwich (1990), who suggested that attribute costing is important for differentiating companies and that monitoring of rivals' cost structure is important for companies pursuing a cost leadership strategy.

SMA provides guidance to which management accounting techniques to use, as opposed to traditional management accounting. SMA suggests that management accounting can be used to accentuate strategic aspects in a process by selecting information and techniques that are relevant to the firm's specific strategy. By selecting external and long-term information and techniques that are connected to the firm's strategy the firm can identify ways of supporting and developing its existing strategy. The selective perspective within SMA can, in other words, contribute to the use of management accounting when evaluating strategic aspects by providing guidance on what type of management accounting information that should be emphasized.

2.6 Summary of literature review

The five perspectives identified in this literature review (see *Figure 3*) – (1) an external perspective, (2) a long-term perspective, (3) a collaborative perspective, (4) an improvement perspective and (5) a selective perspective – are intrinsically interlinked and consequently not mutually exclusive. All perspectives do, however, provide guidance on how management accounting could be used to accentuate strategic aspects in evaluation. In the empirical study the diffusion of these perspectives into management accounting in a practical setting is studied.

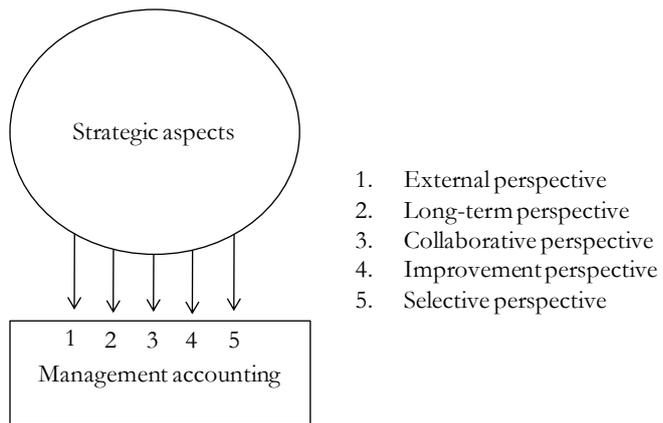


Figure 3: Perspectives applied when management accounting is used to evaluate strategic aspects

3 Method

This section provides a description of the research process (see Figure 4) and the method used. The methodology permeating this study as well as this study's limitations are furthermore presented.

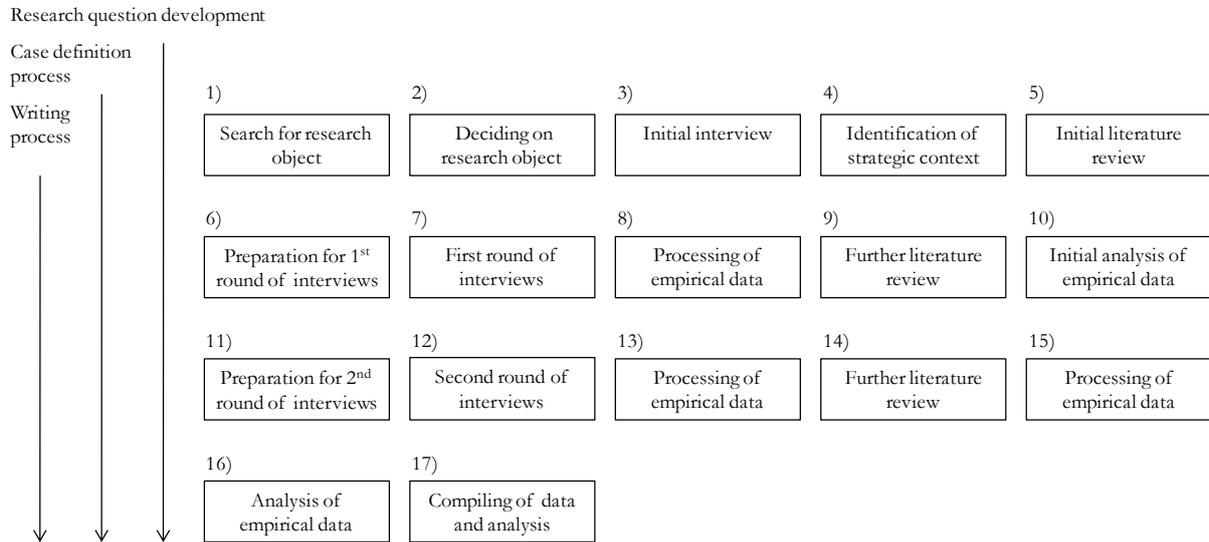


Figure 4: Illustration of the study's research process

3.1 The emergence of a qualitative study

This study originates from the authors' interest in how management accounting is used in practice and was initiated with a search for a practical research object. Numerous large-sized companies located in Sweden, e.g. Scania, Lantmännen, Kraft Foods and AstraZeneca, were contacted. At a career fair the authors were able to present their research interest and to learn about what each company had to offer. One of the companies, AstraZeneca, showed accessibility and the authors chose to pursue this candidate. The authors were offered access in exchange for the acceptance of the mission to document a specific process. This process included an evaluation of the future of certain products. When the process was described, it became evident that the evaluation process was undertaken as a response to changes in the external and internal environment and that the decision to divest was strategically motivated. The strategic nature of the process was identified as an interesting area of study from the viewpoint of how management accounting is used in practice.

As the nature of the topic of study was complex, a qualitative study method was chosen. A qualitative study should be used when the aim is to "understand the underlying patterns" (Patel & Davidson, 2003, p. 14). A quantitative method (based on measurable data) requires variables to be decided in advance. As pointed out by Guilding et al (2000), who conducted a study within the

field of SMA, this would risk limiting findings to those variables. This is inappropriate when it is the complex nature of the study that is deemed as interesting, as in this case. Accordingly, a qualitative method was found appropriate for this study.

3.2 Abductive research approach

Conducting a study with pre-defined variables or a hypothesis is consistent with a deductive approach, where conclusions on specific cases are drawn from theory. This approach is associated with the risk of finding only what is sought for and the risk of only confirming developed and accepted theory (Patel & Davidson, 2003). However, if no pre-defined variables are used this limitation can be avoided. Conducting a study with no pre-defined hypothesis is consistent with an inductive approach, where theory is formulated from empirical data. This approach is, however, associated with the risk of less objectivity and lower generalizability (Patel & Davidson, 2003). In order to avoid the risk of finding what is sought for, and to capture the complexity of the case, but with objectivity through support in literature, this study adopted an abductive approach, i.e. a combination of deduction and induction (Patel & Davidson, 2003).

As illustrated in *Figure 4*, this abductive method took a starting point in an initial interview that was conducted with the aim of gaining an overview of the process in question. The strategic nature of the process was identified and an initial literature review of management accounting in a strategic context, where SMA is evident, was carried out. Preparation for the first round of interviews was made. The first round of interviews aimed at learning about the specific process in question with emphasis on the strategic context. Subsequently, the empirical data collected at this point was studied with inspiration of SMA. Additional understanding of the strategic context and the management accounting used was gained. Preparation for further interviews was conducted with guidance from SMA and collected empirical data. The second round of interviews aimed at learning about how management accounting was used in the process. Before drawing conclusions from the case, a final literature review was conducted in which understanding was sought also outside the scope of the SMA framework. This was done in an attempt to achieve triangulation of sources, albeit no distinctive field of study was identified as explanatory.

As empirical data was collected and previous research was studied, the focus of this study was defined. It was found that there could be a value in studying the complex connection between management accounting and strategy without directly searching for SMA. Previous practical research has focused on testing the applicability of SMA and/or specific SMA techniques (see *Figure 5*). However, in similarity to Roslender and Hart (2003) as well as Tillmann and Goddard (2008), this study employed a more open-minded approach to the issue. These researchers have,

however, concentrated on developing theory, in contrast to this study that focuses on describing contemporary practice. By applying an abductive approach when studying management accounting in a strategic context this study contributes with practical insights on how management accounting can be used to evaluate strategic aspects.

Study	Type of study	Qualitative/Quantitative	Research focus
Carr & Tomkins (1996)	Multiple case study	Quantitative	Testing for SCM techniques
Dixon (1998)	Single case study	Qualitative	Testing practical applicability of SMA
Guilding et al (2000)	Multiple case study	Quantitative	Testing for SMA techniques
Lord (1996)	Single case study	Qualitative	Testing practical applicability of SMA
Roslender & Hart (2003)	Multiple case study	Qualitative	Study of the interaction between the marketing and the accounting function
Tillmann & Goddard (2008)	Single case study	Qualitative	Development of Grounded Theory regarding SMA as a sense-making process

Figure 5: Summary of research focus and methods applied in previous practical studies

3.3 Case study method

Since the aim of this study is to understand the phenomenon management accounting in the practical setting of a strategic process, a case study method was found motivated. Yin (2003) defines a case study as: “an empirical inquiry that investigates a contemporary⁴ phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p. 13). The case study method has been frequently employed when studying SMA, as illustrated in *Figure 5*. As the field of SMA is still under formation (Langfield-Smith, 2008) practical examples of how management accounting is used in organizations through case studies can provide contributions to the future development of SMA. This is in coherence with what is suggested by Patel and Davidson (2003), namely that practical case studies should follow normative research and proceed hypothesis testing when theory is developed.

To fulfill the aim of understanding how management accounting is used in a practical strategic context, a case study with characteristics from both descriptive and explanatory case studies has been conducted. As pointed out by Ryan et al (2002), a descriptive case study is “useful in providing information concerning the nature and form of current accounting practices” (p.143), i.e. to see *how* management accounting is used. However, this case study further draws parallels to

⁴ The evaluation process is defined as contemporary since primary sources were available, even though the process had already taken place when it was studied (Merriam, 1994; Yin, 2003).

previous literature trying to *understand* such practices. Thereby, the descriptive case study holds characteristics of an explanatory case study in which “theory is used in order to understand and explain the specific, rather than to produce generalizations” (Ryan et al., 2002, p. 144).

In order to facilitate the description and explanation of the case, key phases in the evaluation process were identified and studied separately. Thereby, the design of this study is similar to an embedded single-case where the chronological phases constitute units of analysis. By dividing a case into units of analysis, distinguishing specific data is facilitated (Yin, 2003). However, it is also associated with the risk of disregarding interesting holistic aspects (Yin, 2003). Therefore, the case description is complemented by a holistic thematic discussion found in the section “Case findings”.

3.4 Generalizability of the study

Case studies facilitate the assertion of traits, qualities and attitudes in a practical setting, as pointed out by Dixon (1998). There are however questions about its validity. A frequent criticism directed towards the case study method is that it is representative of nothing but itself, leading to conclusions that cannot be confirmed or generalized (Dixon, 1998). Yin (2003) refers to this problem as “the external validity problem”⁵ and notes that it is “a major barrier in doing case studies” (p. 37). However, since this research is directed towards studying a practical application, the authors believe that the case study method is the most appropriate method of research for achieving this study’s research aim: to understand the specific, rather than to build theoretical super structures.

The aim to understand the specific rather than to create theoretical super structures has been highlighted by hermeneutic researchers⁶ and advocates of Grounded Theory⁷ (Patel & Davidson, 2003). Hermeneutic researchers argue that not all knowledge is observable and additional understanding can be gained through interpretation. This is in contrast to a positivistic direction, holding that knowledge should be based on actual sense experiences such as measurement and logic (Wallén, 2006). As highlighted by Morgan and Smirich (1980) there is a continuum between strict objectivism (positivism) and strict subjectivism (hermeneutic). In order to capture the complexity of the studied case, this thesis applies a scientific direction that is located on the positivistic side of the spectrum but closer to the border to a subjective perspective, not claiming to create valid theory for all cases.

⁵ Validity is a more relevant term than reliability in case studies since both touch upon the entire research process (Patel & Davidson, 2003), wherefore only validity is discussed.

⁶ Known as interpreting researchers.

⁷ An empirical approach that strives to formulate theory valid for the unique case.

The fact that this study describes only one case, when the case study method allows for multiple case studies, limits the external validity and generalizability of this study (Merriam 1994; Yin, 2003). The external validity of a case study can be improved with the use of replication logic by conducting multiple case studies (Yin, 2003). Multiple case studies have been performed within management accounting (Ryan et al, 2002) and within SMA (see *Figure 5*). However, given the time limits of this thesis a multiple in-depth case study is not feasible, as it would affect the quality of the research.

Yin (2003) suggests the use of a theoretical framework in case studies to increase the validity, which is the tactic used in this study. Ryan et al (2002) highlight that even though a single case cannot create theory it can reject, modify or confirm theory and thereby contribute. In this case study, theory is not tested, but rather used to understand the case and increase the objectivity and generalizability of the findings.

3.5 Delimitations

Ryan et al (2002) point out that one of the weaknesses of case studies is the possibility of limiting the area of study. This thesis is delimited to the study of an evaluation process that has been separated from the on-going business by the company. This study can, thus, not provide conclusions regarding the studied company's general management accounting practices. This thesis is further delimited to the study of strategic aspects, which is why certain *operational* aspects of the case have been disregarded. Moreover, this study does not make any distinction between strategy formation, strategy formulation and strategy implementation. It must, therefore, be understood that the case description is limited to information relevant only to the research question.

3.6 Data collection and analysis

In line with the scientific direction inspired by positivism, the collection of data is grounded in the assumption that knowledge is based on observable facts. The authors have assumed that the information used in the evaluation process studied is concrete and can be observed. Research data was collected mainly by in-depth interviews, as recommended for qualitative studies (Trost, 2002). Since the process had already taken place when the study was conducted, direct observations could not be made. This study has, rather, depended on information passed on from primary sources, i.e. personnel involved in the process. As highlighted by Lind (2001), "there is a risk of retrospective rationalization and the shaping of an ideal image of previous times" (p. 52) when interviewees are talking about the past. In order to overcome this issue

documents used in the process (primary sources, but historical documents) have been studied. This was done to achieve triangulation of sources, as highlighted by Patel and Davidson (2003) to increase the validity of the study. However, since the interviewees provided the documents, subjectivity cannot be completely disregarded.

Access was granted to personnel identified as key by AstraZeneca, namely the Vice President (VP) of Mature Brands, a Controller/Market Analyst, a Company Lawyer, the Director of Business Support and Licensing as well as the Chief Financial Officer (CFO), all working for the Swedish Market Company (MC). These people constituted key personnel in the last phase. Only the VP of Mature Brands and the Director of Business Support and Licensing were involved in the first two phases of the process. The CFO of the Swedish MC was involved only in the later phase of the evaluation process (from late 2006 and onwards). He has, nevertheless, contributed with understanding of AstraZeneca's corporate strategy and the company's general planning and budgeting process. As a limited number of the interviewees were involved in the first two phases, it was more difficult to access information from earlier years. Access to other personnel involved in the earlier phases could not be granted, which constitutes a limitation to this study.

In-depth interviews (presented in *Appendix A*) were conducted in a gradually increasing structured and focused manner. The interviews lasted between one and three hours and took place at AstraZeneca Sweden's head quarter. These were tape-recorded and transcribed. In order not to affect the answers, the theoretical framework of SMA was not mentioned to the interviewees until after the interviews. As described, the first round of interviews enabled the gaining of an overview of the process as well as of the internal and external conditions. Guidance from theoretical insights and the empirical data at that point in time was used to narrow down interview questions (customized for each interviewee) for the second round of interviews. Material was sent to the respondents before the second round to enable the interviewees to refresh their memory and to collect appropriate written material. During the second round of interviews access was given to written data under surveillance of the interviewees, as the information was classified as confidential. Written information included calculations, presentations, internal memos and one board paper (presented in *Appendix B*). The written sources dated from 2004 to 2008, which constitutes almost the entire period studied. Written material compensates for the limited access to personnel involved in the first two phases.

The collected material was processed and analyzed throughout the collection process. The transcribed interviews, represented by more than 200 pages, and notes from the written material were scrutinized for implications on 1) strategic aspects, 2) management accounting used, 3)

connection between management accounting and strategic aspects and 4) other information used. This classification of information was conducted by structuring the information from the transcribed interviews as well as notes from written material into tables using these categories. This procedure was repeated to narrow down the empirical data to identify key findings. Identified key findings are based on information that at least two interviewees have presented and that has at least partially been validated by written sources. Throughout the data collection process emergent ideas, explanations and conclusions were validated in the interviews or through studying written material. At the same time as the empirical collection and the analysis, a writing process was undertaken and different thesis drafts were created. Descriptive texts were written and rewritten continuously.

4 Case description

In this section, a chronological case description is provided. The course of events has been divided into four phases: (1) initiation of evaluation, (2) cost reduction evaluation, (3) evaluation of future options and (4) final evaluation of divestment option (see Figure 6). In the description of each phase the following is presented: (a) the strategic aspects in question, (b) the type of management accounting used and (c) an empirical analysis of how the five perspectives have diffused into management accounting as they are used to consider strategic aspects during the evaluation process.

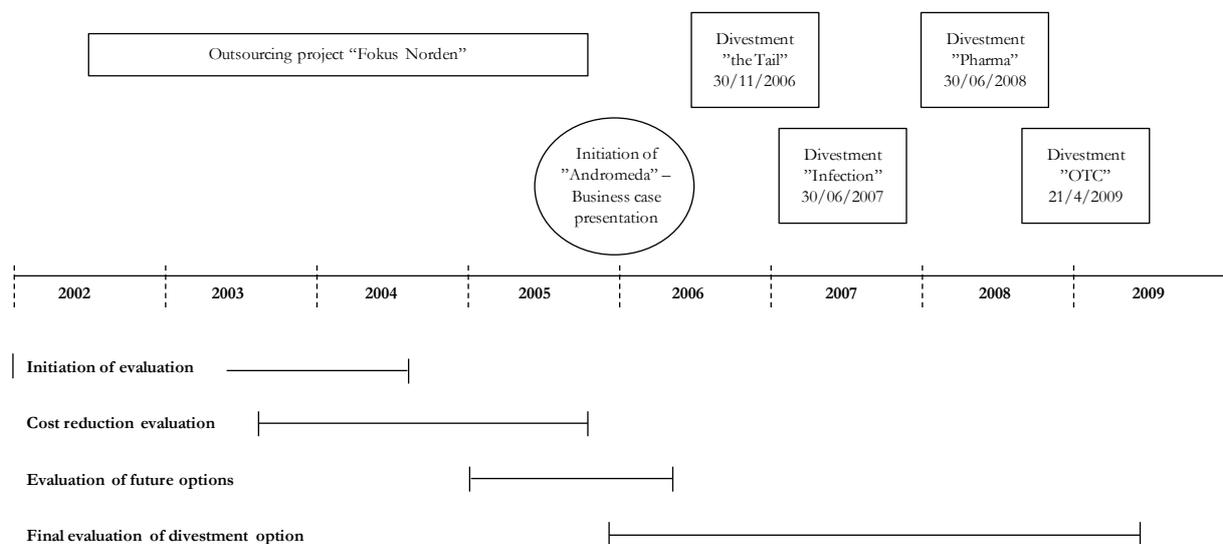


Figure 6: Illustration of key phases in AstraZeneca's strategic evaluation of certain local products

In 1999 AstraZeneca was formed through a merger between the Swedish pharmaceutical company Astra and the British pharmaceutical company Zeneca. The merger reflected a quest for size to efficiently pursue costly research into new drugs and to efficiently compete in the global pharmaceutical market. Astra, with a history on the Nordic market, brought into the merger numerous local products. A number of these local pharmaceuticals were managed and sold under a division at the Swedish MC called Mature Brands (see organizational chart in *Appendix C*). These products consisted of both prescribed pharmaceuticals, so called Rx-products, and non-prescribed pharmaceuticals, so called "over the counter" (OTC) products. These products had in common that they all were off-patent, so called generic products, in the later stages of their product life cycles (see *Figure 7*).

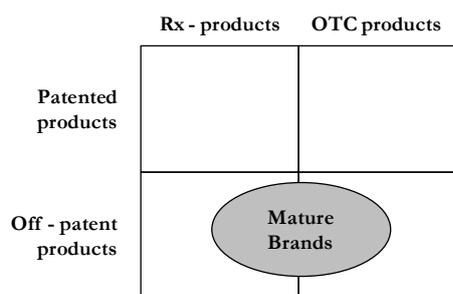


Figure 7: The products in Mature Brands

These products were evaluated over eight years through two projects; an outsourcing project called “Fokus Norden” and a divestment project called “Andromeda”. For the use in this thesis both projects have been divided into two phases each, one where evaluation was initiated and one where evaluation resulted in action. Firstly, a profitability problem was identified (Initiation of evaluation). Secondly, AstraZeneca attempted to solve this problem by initiating “Fokus Norden” (Cost reduction evaluation). Thirdly, AstraZeneca identified that these products’ future within the company still was uncertain and the “Andromeda” project was initiated (Evaluation of future options). Fourthly, the divestment option was pursued and a final evaluation took place (Final evaluation of divestment option).

4.1 Initiation of evaluation

At an ordinary planning meeting the future of these products were subject to analysis. This analysis was initiated due to an identification of changes in the institutional climate, perceived to constitute an anticipated threat. The changing institutional conditions included new laws on generic substitution⁸ and renewal of the pharmaceutical benefits system⁹. AstraZeneca expected these new laws to create incentives for lowering prices of Rx-products, forming a future price pressure on the market. The focus on price was projected to lead to an erosion of brand value and a lowering of entry barriers leading to increasing generic competition. In turn, this was expected to push the prices and volumes of the Rx-products within Mature Brands even further down.

In order to project, with the use of management accounting, how this threat would affect AstraZeneca, a profitability forecast was conducted. Sales and gross margin were forecasted over a three-year period and illustrated in a diagram by two curves. Two scenarios were presented; one based on historical trends and another taking into consideration changing market conditions by

⁸ Generic substitution implied that the Swedish pharmacies were obliged to exchange prescribed products for the least expensive generic alternative, i.e. product containing the same active substance.

⁹ This new act initiated a reviewing of reimbursement levels of pharmaceuticals products.

depressing future sales figures. The diagram showed moderate downward sloping curves for the scenario based on historical trends and sharper downward sloping curves for the scenario adjusted for changing market conditions.

In this phase, the changes in the institutional climate initiated a market analysis of future competition. This was accentuated by estimating and presenting the possible financial impact of such changes. Management accounting was used to evaluate the threat through the incorporation of an external as well as a long-term perspective in the adjustments of the projections in the second scenario. Even though the scenario based on historical trend did not take into account an external perspective, the analysis played a role in providing a point of reference for understanding the impact of the changing market conditions. Moreover, although management accounting did not include an explicit improvement perspective it initiated an improvement discussion:

We saw that the generic substitution would lead to price pressure and lower revenues. As we are a research based company and our business idea is to develop original pharmaceuticals we will not focus on being price leaders in such a process. This raised the question of what to do with these products (VP, Mature Brands, Swedish MC).

In this discussion it was concluded that the gross margin probably would be erased within five years and consequently the need to improve the margin was identified.

4.2 Cost reduction evaluation

The price pressure forced pharmaceutical companies to adopt elements of a cost leadership strategy in order to maintain their market positions. Therefore, AstraZeneca commenced a cost reduction evaluation. In terms of management accounting, this was done through a cost analysis similar to ABC. The products in question were produced internally in a plant recently scaled for global production. Global production was in line with the global strategy developed after the merger between Astra and Zeneca. As these products (both Rx and OTC) were local, they were produced in relatively small batches¹⁰. Therefore, since indirect costs were allocated based on time utilization (e.g. set times), high fixed costs¹¹ were allocated to these products:

It was no surprise that these local products had to uphold high overhead costs. Therefore the margins might have been lower than what they potentially could have been (Controller and Market Analyst, Swedish MC).

As capacity was limited, AstraZeneca was further faced with a tradeoff regarding resource allocation in production, namely between producing an extra batch of a global blockbuster, e.g.

¹⁰ With the exception of Alvedon.

¹¹ Represented by, e.g. quality analysis, cleaning in between production of different products and overhead-costs.

Nexium, or a local product. At this point in time, AstraZeneca was preparing for a global product launch for which production capacity would be needed, further decreasing the priority of the local products.

The cost analysis enabled AstraZeneca to identify a non-proportional use of resources of the local products and thereby identify its strength – globally scaled production – and its weakness – inflexible production. The Director of Business Support and Licensing at the Swedish MC highlighted:

If we are to participate in this game we have to be able to lower our prices and we cannot do that with our high manufacturing costs.

Thereby management accounting was used to highlight a weakness and thus to identify an improper strategic fit of manufacturing small volume products, which lead to the identification of an improvement opportunity. This could be in line with an improvement perspective. It also illustrates that emphasizing the strategically appropriate management accounting information and techniques, in this case in relation to cost leadership, can be helpful in supporting a specific strategy. This could be in line with a selective perspective. However, the improvement and selective perspective mentioned were not prominent in this phase.

As described above, AstraZeneca identified that it could not rival competitively with its internal manufacturing scaled for global production on the market of these local products. Therefore, the quest for cost reduction was pursued externally. The opportunity to outsource the production was identified and an outsourcing project called “Fokus Norden” was commenced. This project included a supplier analysis that aimed to exploit linkages in the value chain. One example of such exploitation was the search for the possibility to change to the supplier’s formulation¹²:

The possibility to change formulation to the supplier’s formed a win-win situation as producing one product instead of two offered opportunities for economies of scale (Director, Business Support and Licensing, Swedish MC).

Another strategic aspect included in the supplier analysis, was the search for a supplier that in the future potentially could be interested in acquiring the outsourced product. However, both the identification of the opportunity to outsource and the supplier analysis were conducted without an apparent use of formal accounting analysis.

The outsourcing project “Fokus Norden” was conducted between the years of 2002 and 2006. It resulted in the outsourcing of the majority of the local products, some products where

¹² A product’s form is e.g. effervescent tablet, spray or tablet. Changing to a supplier’s formulation would enable the supplier to produce larger quantities.

discontinued. The average gross margin of these local products was doubled as a result of the outsourcing.

4.3 Evaluation of future options

In spite of increased gross margins achieved through “Fokus Norden”, the products’ future within AstraZeneca remained subject to evaluation. In response to the question of why AstraZeneca chose to continue evaluating these products the Director of Business Support and Licensing at the Swedish MC answered:

For a non-researching company that doesn’t have to carry costs of R&D, the rate of return can be a lot lower than for a company with R&D. We have to be able to re-invest and that is not for free. (...) Then there was also the external environment. It is not our core business to work with [consumer marketing channels] and we did not really have the organization required to work with these products.

When referring to external environment she underlined the intensifying discourse at that time regarding the Swedish pharmacy monopoly¹³. It was uncertain whether the Swedish monopoly would be maintained. This uncertainty in the external environment, foremost applying to OTC products, issued a concern of how a possible change would affect these local products.

In order to evaluate this uncertainty with the use of management accounting, AstraZeneca conducted NPV scenario analysis. The NPVs were estimated in a financial calculation model created by a controller. The strategic uncertainty was accentuated through the application of three scenarios of forecasted sales: 1) the current sales forecast in Sweden, 2) the forecasted sales in Sweden if the market would experience the same effect as in Denmark¹⁴, and 3) the forecasted sales in Sweden if the market would experience the same effect as in Norway¹⁵. When studying the effects of deregulation in other markets AstraZeneca identified an increase in distribution costs. Therefore, increasing distribution costs were anticipated by AstraZeneca also on the Swedish market and, consequently, included in the NPV analysis through increased forecasted costs.

The analysis firstly showed insufficient forecasted gross margins compared to internal requirements. As illustrated in the quote above, AstraZeneca aimed to re-invest into research and

¹³ Attention was directed towards the Bringwell case where Bringwell’s Krister Hanner was prosecuted for violation of the law on trade in medicinal preparations for selling nicotine chewing gums in a store external to the state monopoly. The EC court issued a statement on the case in May 2005. This, in combination with the fact that both Denmark and Norway had undergone this change, issued a debate on a reformation of the Swedish pharmacy monopoly.

¹⁴ In Denmark the deregulation implied a moderate change.

¹⁵ In Norway the deregulation implied an aggressive change.

development (R&D), which had led to a corporate focus on patented Rx-products (see *Figure 8*). There is no generic competition on patented products, which allows for higher margins. The margins of these core products constitute the point of reference for internal requirements on gross margin. This required margin was anticipated not to be attained by the local products in Mature Brands.

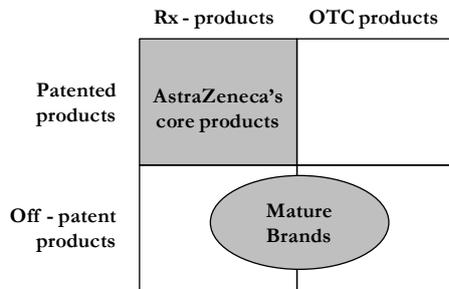


Figure 8: AstraZeneca's core products

The analysis secondly resulted in a range of values under the condition that AstraZeneca was in possession of the products. This range was compared to historical sales multiples from comparable transactions representing the value of a divestment alternative. The comparison showed a higher potential value for the divestment case, even when comparing with an optimistic hold scenario, making the divestment alternative interesting. AstraZeneca did, however, identify that the anticipated change in the institutional climate could be classified both as a threat and an opportunity. This uncertainty, whether this institutional change constituted a threat or an opportunity, motivated a continued evaluation of these products.

In this phase non-management accounting information was also presented. Examples of information that was not included in a formal accounting analysis are: these products' status as non-core products¹⁶ and necessary organizational capabilities in the case of a reformed Swedish pharmacy market¹⁷. As illustrated in the quote presented above, were these issues important in the evaluation.

The evaluation of external uncertainty was formalized through the application of NPV scenario analysis. This analysis demonstrated the incorporation of an external and long-term perspective. External information regarding effects of changes in the institutional climate in other markets was collected to lay the foundation for qualified estimations of possible outcomes. In similarity to

¹⁶ AstraZeneca's strategy is to focus on global research-intensive products, mainly patented Rx-products, and not local products marketed directly towards the consumer.

¹⁷ A deregulation was anticipated to increase focus on consumer marketing. Since AstraZeneca focus on patented Rx-products marketed mainly towards doctors, the competence in consumer marketing would have to be built or acquired.

the procedure in “initiation of evaluation” it could be observed that a change in the institutional climate initiated a market analysis that was included into management accounting in order to estimate and present the financial impact of such a change. However, in this case the market analysis did not only concern competitors but also suppliers and customers. Moreover, as described, it has been noted that market information and internal conditions of strategic nature were presented separately from the management accounting in some cases.

The information described above was presented to top-management (the European International Sales and Marketing Director and the global CFO) in a business case. They gave their permission for a commencement of a divestment process, internally called the “Andromeda” project.

4.4 Final evaluation of divestment option

After the alternative to divest had been identified as an opportunity, a project team¹⁸ and a steering committee¹⁹ were formed. The project team, reporting to the steering committee, was responsible for preparing data for corporate decision-making as well as executing the divestment process. In this phase elements of tactics (identifying potential buyers, negotiating etc.) were apparent. The final strategic decision to divest or hold did remain, as it was conditional upon the success of these tactical elements, specifically the attractiveness of the received bids. Management accounting data for this final decision included revaluations, in the form of NPV analysis, of the options to hold or divest. In the case of the OTC products an additional “invest” analysis was conducted, as the OTC segment offered investment opportunities in difference to the other products.

The cash flows for the hold and invest NPV analyses, of which the controller was responsible, were conducted by means of collaboration between different functions, which would be in line with a collaborative perspective. Prices and volume were estimated in collaboration with a price strategist and the sales and marketing function. Likely developments per product were discussed with respects to the competitive environment (e.g. market shares²⁰). An example of such a discussion was the effect of the intensifying marketing campaigns in the OTC segment, accentuated in management accounting by lowering marketing cost efficiency. Production costs were estimated in collaboration with the logistics function, taking into account anticipated future developments. Most of the other costs assumptions were based on historical trends.

¹⁸ The core members of the project team were all from the Swedish MC and included the VP of Mature Brands, a Controller and Market Analyst, a Director of Business Support & Licensing and Company Lawyer.

¹⁹ The authority to decide whether to make a divestment or not had been delegated to the steering committee.

²⁰ Such information is readily available through the monopoly player Apoteket’s computer system.

At the point in time when the OTC products were considered for divestment, and the invest analysis was conducted, the deregulation of the Swedish pharmacy monopoly was a fact. However, uncertainty remained as to its implications. Possible implications were the opening to new distribution channels for OTC products and an increased focus on consumer marketing. It had been observed that competitors had dedicated resources to the OTC segment, in contrast to AstraZeneca. Hence, AstraZeneca anticipated investment (e.g. building competencies for new distribution channels and consumer marketing) to be required in order to maintain its market position. In the invest analysis, conducted in collaboration with the sales and marketing function, expenditures for required investments and possible sales growth were considered in general terms; the effect of investment was not analyzed per opportunity, but rather in one piece. One example of how the effect of investment was estimated was through analyzing the sales effect of a competitor's product line extension.

The products in Mature Brands were, however, not prioritized in resource allocation for investments. Therefore the issue of whether sufficient funds were to be provided for required investments arose:

In our possession these products would never get funding for marketing etc partly because of our strategy. (...) In our possession the future of these products looked rather gloomy, and it was better trying to get rid of the products before the dip (Company Lawyer, Swedish MC).

There was also an evident long-term tradeoff between dedicating resources to these products and dedicating resources to global and strategically prioritized products:

It is evident that you will have a stronger scenario if you invest, but it also means that you have to be committed and dedicated in terms of resources and also committed to be willing to invest over a number of periods. (...) The question always comes up if it would have been better to invest this money elsewhere. And that question came up rather early given the amount of new products being launched within the coming three years, so it is better to spend resources there (CFO, Swedish MC).

The issue of resource allocation was however not subject to a formal accounting analysis but rather presented and discussed outside the scope of management accounting.

The "divest" analysis was represented by three different estimations before the final bid was to be considered: historical sales multiples in the industry, an external financial advisor's valuation and non-binding bids. These were compared to the NPV values generated through the hold and invest analyses. These NPV analyses were subject to sensitivity analysis where different

assumptions were changed and the result of these changes were noticed. As a result, the final decision to divest all products was made:

It was clear that already in the base case the alternative to divest was much more profitable, so even if you added sensitivity analysis the bids we had received were always a lot higher than our NPV of keeping the products (Controller and Market Analyst, Swedish MC).

The “Andromeda” project resulted in four divestment transactions. The CEO granted the divestment of the first three portfolios and the board granted the divestment of the last portfolio. The first transaction was closed on the 30th of November 2006 when BioPhausia AB acquired a portfolio of low volume products called “the Tail”. The second divestment was made on the 30th of June 2007 when Recip AB bought infection generic products. On the 30th of June 2008 BioPhausia AB acquired generic products included in a portfolio called “Pharma”. The last divestment was executed on the 21st of April 2009 when GlaxoSmithKlein acquired the products included in the “OTC” portfolio.

4.5 Summary of case description

In the described evaluation process changing internal conditions (e.g. expiring patents and products launches implying increased pressure to allocate resources to core activities) and external conditions (e.g. generic substitution, renewal of pharmaceutical benefit system and reformation of the Swedish pharmacy monopoly) were considered. In terms of management accounting, these strategic aspects were evaluated using profitability forecasting, cost analysis, scenario analysis and NPV analysis. The use of the five perspectives identified in the literature review (external, long-term, collaborative, improvement and selective) was distinguished in the evaluation process, although the first three perspectives were more prominently applied. In some situations, however, the perspectives could be discerned without having been accentuated with the use of management accounting. A summary of the case description is presented in the table below (see *Figure 9*).

Figure 9: Summary of case description

	Strategic aspects	Management accounting		Perspectives apparently used		
		Incorporation of strategic aspects	External	Long-term	Collaborative	Improvement
Initiation of evaluation	Changes in the institutional climate, anticipated to lead to future price pressure, forming a threat.	Profitability forecasting	x	x		
Cost reduction evaluation	Increasing competition and price pressure making cost more important, constituting a threat.	Cost analysis	x			x
	Inflexible production, leading to high manufacturing costs for small volume products, identified as a weakness.	Cost analysis			x	x
	Opportunity to outsource production identified along with the opportunity to exploit linkages in the value chain.	Not apparent	x	x	x	x
Evaluation of future options	External uncertainty relating to a possible reformation of the Swedish pharmacy monopoly identified, identified as possible threat and possible opportunity.	NPV scenario analysis	x	x		
Final evaluation of divestment option	The opportunity to divest the products was considered.	NPV analysis	x	x		x
	Opportunities to invest in the OTC products were considered.	NPV analysis	x	x		x
	The weakness of lack of appropriate capabilities for new distribution channels identified.	Not apparent	x			
	Products seen as non-core with low relation to the company's area of strength.	Not apparent				x

5 Case Findings

In this section this study's findings are presented with a holistic view upon the process described in the previous section. In this section the process is accounted for thematically rather than chronologically. With reference to previous literature, it is analyzed how management accounting was used to accentuate strategic aspects in AstraZeneca's evaluation of the products in Mature Brand, in accordance to the research question.

Demonstrated in the case description were a number of examples of how management accounting was used to accentuate strategic aspects in AstraZeneca's evaluation process. A connection between management accounting and the strategic context is advocated by SMA (Langfield-Smith, 2008). In this case, the use of management accounting to accentuate strategic aspects was foremost observed through the adjustments to traditional management accounting practices, such as forecasting and NPV analysis. This is in similarity to the findings of Dixon (1998), who found that "the Company's managers use management accounting techniques and forecasting techniques to analyse and interpret all the internal and external data" (p. 277). The findings can also be compared with the suggestion put forward by Simmonds, namely to make adjustments to traditional management accounting, e.g. budgets (Lord, 1996). These adjustments were made to estimate effects of strategic aspects to evaluate different alternatives and to communicate results internally. It was also used to make sense of the impact of strategic aspects, which supports the Grounded Theory developed by Tillmann and Goddard (2008).

These observations have been accentuated through the testimony of mainly the three perspectives: external, long-term and collaborative. The external and long-term perspectives were frequently applied in the examples when management accounting was used to accentuate strategic aspects. A collaborative perspective was apparent in the evaluation of some strategic aspects whereas the improvement and selective perspectives were not as prominent (see *Figure 9*). No conclusions relevant for the research question can be drawn from studying the application of improvement and selective perspectives in this case. Accordingly the following discussion concentrates on the three prominent perspectives.

5.1 External perspective

The external perspective has been demonstrated in the case mainly through the studied company's starting point in the institutional environment (i.e. regulatory and social/politic aspects). Regulatory changes and uncertainty were evaluated in terms of how these would affect competitors, suppliers and customers. Input from changes in the institutional climate was used to understand the effects on the competitive environment, in similarity to what Lord (1996)

observed in her empirical study. In coherence with what is suggested by Tillmann and Goddard's theory of sense making (2008), AstraZeneca could be said to have used an external perspective to contextualize information across space, i.e. to put internal performance in relation to its external context.

It should be noticed that the Swedish pharmaceutical industry is regulated, wherefore the importance of strategic aspects stemming from the institutional environment might be particularly high in this case. As seen in the case description this was done by taking into account its anticipated effects on future sales and costs. Strategic aspects regarding the competitive landscape were not, however, accentuated in the evaluation by the means of explicit comparison to competitors, as advocated by SMA (Bromwich, 1990; Langfield-Smith, 2008). The explicit comparison to competitors was rather done without the use of management accounting.

5.2 Long-term perspective

A long-term perspective has been demonstrated to assist in evaluating the implications of internal and external strategic aspects over time and their gradual effect. This is coherent with the inherent long-term nature of strategy highlighted by Bromwich (1990). Historical development has been used to provide a point of reference for the forecasts and the strategic aspects included therein. This can be compared to what Tillmann and Goddard (2008) refer to as bridging of information over time, also coherent with their theory of sense making.

The long-term nature of strategic aspects comes with uncertainty since no one knows what the future will bring. Taking into account strategic risks is important as it enables a firm to consider and prepare for the impact of different outcomes. Such strategic risks were in one situation accentuated in AstraZeneca's evaluation, through the application of management accounting, in the form of scenario analysis, as advocated by Miller and Waller (2003). It appeared as scenario analysis was particularly used when uncertainty was perceived as high (reformation of the Swedish pharmacy monopoly). The increased need for formal analysis when uncertainty is high is supported by Van Cauwenbergh et al (1996). In this case, input on possible implications of the outcome of the uncertainty could be collected and used (comparison to other geographical markets). There were, however, other situations entailing uncertainty where formal analysis was conducted to a lesser extent.

5.3 Collaborative perspective

A collaborative perspective to collection of information was demonstrated in the studied case. The personnel involved in the evaluation process perceived cross-functional collaboration as valuable:

The work in this process was especially fruitful because we worked over the silo-boundaries of functions (Company Lawyer, Swedish MC).

Working cross-functionally was perceived as valuable since information and knowledge were exchanged. It was observed that the controller chose to cooperate with other functions to make relevant estimations. Thereby, it can be assumed that the collaborative collection was conducted to enhance the strategic content in management accounting. In this context it is further interesting to note that the controller also worked as a market analyst. Even though the controller, to some extent, already possessed cross-functional knowledge, he found it important to collaborate, highlighting the importance of a collaborative perspective. Roslender and Hart (2003) argue that inter-functional cooperation enhances strategic content of management accounting, supporting this study's observation.

5.4 The role of formal accounting analysis

This study did not express the intent to test for the application of specific techniques advocated by SMA. Nevertheless, as an in-depth case study was carried out, it could be expected that if such techniques were applied, they would have been observed. Even though traits of such techniques (e.g. ABC and value chain analysis) were observed, no direct application of such techniques could be distinguished. However, it has been observed, in similarity to previous empirical studies (Lord, 1996; Carr & Tomkins, 1996) that even though these specific techniques were not directly applied, elements of SMA were present, mainly through external, long-term and collaborative perspectives. It was demonstrated that rather than using the SMA techniques, AstraZeneca made adjustments to traditional management accounting techniques, such as forecasting and NPV analysis, to encompass these perspectives.

It can further be questioned if the incorporation of strategic aspects into management accounting observed in this case was conducted by the studied company to become more strategically oriented, as suggested by SMA, or to make sound estimations. As emphasized by Carr and Tomkins (1996) there are inherent links between these two; cash flow projections need to be based on sound business logic. It is therefore reasonable to conclude that AstraZeneca used management accounting to accentuate strategic aspects in its evaluation process. It is, however, difficult to determine their aim in doing so.

It appeared as the project group, in some situations, used management accounting to report on strategic aspects that the group already had formed an opinion about. Given this observation, the question of why strategic aspects were accentuated through management accounting could be raised. The Controller and Market Analyst at the Swedish MC answered the question of why strategic aspects were included into financial models with the following:

It was important to show that we had taken these [strategic] aspects into consideration, either in the financial model or verbally so that those who did not know the portfolio would feel that it was the right decision [to divest] even though we [the project group] were satisfied.

It is therefore possible that one aim of accentuating strategic aspects through formal accounting analysis (e.g. NPV analysis) was to communicate and report those aspects. As such, management accounting could have been used as a language to present information, to create legitimacy of a recommendation and to initiate constructive discussions across hierarchical levels. Van Cauwenbergh et al (1996) present similar ideas in their study, namely that formal analysis facilitates the movement of information, and offers opportunities for confrontation, across the different hierarchical layers. It can be understood that apart from the sole purpose of evaluating strategic aspects, management accounting could also be used to communicate and report strategic aspects in the corporate hierarchy.

5.5 Non-apparent use of management accounting

As noted, strategic aspects were also evaluated without the use of management accounting. In order to provide a full description and explanation of the case, the non-apparent use of management accounting is also important to discuss. Reasons for not using management accounting when evaluating strategic aspects could be related to uncertainty of information as well as to the relationship between the cost of gathering information and its benefits. Below, examples from the case are discussed using these explanations. Another possible reason for not having observed the incorporation of strategic aspects through management accounting in certain situations, could be that techniques for doing so are not known by the organization. However, since the application of techniques is outside the scope of this study, no such conclusions can be drawn.

The NPV analysis, as described above, was used to accentuate strategic aspects in the evaluation process. However, the inputs to the evaluation often came from preceding non-management accounting analysis. This is in similarity to what was found by Carr and Tomkins (1996), namely that NPV analysis needs to be supported by more strategically oriented techniques of analysis. One explanation for this observation could be the inherent uncertainty in forecasting data, as

described in the literature review. This inherent uncertainty implies difficulties in estimating and quantifying strategic aspects, which is associated with the risk of creating a false impression of true figures. This is in coherence with what Lord (1996) writes in her paper, namely that printing strategic aspects in hard figures can give the impression that these are true figures rather than estimates and speculations. This could explain why AstraZeneca chose to additionally account for some strategic aspects without the use of management accounting.

As shown in the case description, neither value chain analysis nor the analysis of resource allocation was conducted in the formal manner suggested by SMA (see e.g. Shank, 1989). Complementing formal accounting analysis with professional know-how has been discussed (Tillmann & Goddard, 2008). In similarity, Carr and Tomkins (1996) show that intuition can play such a role. In addition to uncertainty, another explanation for not using management accounting in these situations, could be that the costs of such analysis exceeded the benefits (Lord, 1996). The majority of the personnel that participated in the evaluation process possessed extensive knowledge of the products and the market. Although the cost of gathering information might have been low, the benefits might have been lower as the knowledge already existed within the company. If this was the case, parallels could be drawn to the suggestion presented by Lord (1996), namely that strategic information and analysis may already be part of the operational management of firms, meaning that additional accounting analysis may not be necessary. This study did not search for the origin of such knowledge and it is possible that previous usage of management accounting enabled the personnel to gain such knowledge.

Nevertheless, management accounting, including or not including certain strategic aspects, was in some situations used to lay a foundation for further strategic discussions. An example of such a discussion was conducted by AstraZeneca in the phase “initiation of evaluation”. In this situation management accounting was used to accentuate some strategic aspect (e.g. price pressure) and when this information was presented it initiated a strategic discussion regarding how to neutralize this threat. Thereby, an implicit improvement perspective was discerned. Management accounting’s role as a foundation for dialogue was emphasized by a Company Lawyer at the Swedish MC, exemplified by the following statement:

The financial information is what you are holding on to when you are discussing.

The CFO of the Swedish MC described management accounting as a tool for basing discussions on objective facts, which is demonstrated by the following statement:

The finance function plays an important role since financial information can lay a foundation for a constructive discussion, as the discussion then can be based on objective facts.

Even though management accounting was not apparently used when evaluating strategic aspects in some situations, it was used to form a foundation for strategic discussion and to communicate the inherent uncertainty in strategic issues, both within the project group and across hierarchical levels.

5.6 Summary of case findings

In this study it was found that management accounting in some situations were used to accentuate strategic aspects in the evaluation process. This was foremost done by making adjustments to traditional management accounting practices, such as forecasting and NPV analysis. The adjustments were made to estimate effects of strategic aspects in order to evaluate different alternatives and to “make sense” of the impact of such aspects. The strategic content in these situations were enhanced through the collaboration, between the controller and other functions. It was furthermore found that management accounting was used to communicate and report strategic aspects in the corporate hierarchy.

In some situations strategic aspects were not evaluated through the apparent use of management accounting. It was found that complementary strategic information was presented to fulfill that purpose. Management accounting was, however, in some situations used to lay a foundation for strategic discussions. Thereby, it was implicitly used to accentuate strategic aspects in the evaluation. In conclusion, it can be said that management accounting was used as a filter to better understand the impact of strategic aspects – some aspects were captured with the use of the filter and others were not.

6 Conclusion and discussion

In this section, firstly, the summary of the study and its main conclusions are provided. Secondly, the limitations of the study are discussed. Lastly, suggestions for future research within the area of SMA and the use of management accounting in a strategic context are presented.

In this thesis, a qualitative case study, with both descriptive and explanatory traits, has been employed to study the use of management accounting in a strategic context. The use of management accounting as a mean to accentuate strategic aspects in an evaluation process was studied within the global pharmaceutical company AstraZeneca. The evaluation of certain local products' future included two internal projects (one outsourcing project and one divestment project) and took place between 2002 and 2009. Theory has been used to understand the case by applying an abductive approach. Five perspectives prominent within SMA laid the foundation for the theoretical framework that provided guidance when studying the case.

6.1 Conclusion

When studying how management accounting was used to accentuate strategic aspects in AstraZeneca's evaluation process the following was found. It was found that management accounting in some situations was used to accentuate strategic aspects in the evaluation. This was done mainly by the application of external, long-term and collaborative perspectives included by making adjustments to traditional management accounting practices. It was also found that management accounting was used to communicate and report strategic aspects in the corporate hierarchy. Moreover, it was found that strategic aspects were evaluated without the use of formal accounting analysis, in some situations. In those situations, strategic aspects were discussed separately from management accounting. Nevertheless, management accounting was observed to lay a foundation for strategic discussions. Thus, it can be said that management accounting was used as a filter to better understand the impact of strategic aspects – some aspects were captured with the use of the filter and others were not. The main conclusions are summarized in *Figure 10*. Thereby this study has provided a practical example of how strategic aspects diffuse into management accounting, contributing to an understanding of how underlying principles of SMA could be used in practice.

- I. Management accounting was, in some situations, used to accentuate strategic aspects in the evaluation process.
- II. Adjustments were made to traditional management accounting practices in order to accentuate strategic aspects.
- III. Management accounting was also used to report and communicate strategic aspects in the corporate hierarchy.
- IV. In some situations, strategic aspects were evaluated without the apparent use of management accounting.
- V. In some situations, management accounting laid a foundation for strategic discussion.

Figure 10: Summary of conclusions

6.2 Limitations

One limitation to this thesis is the fact that the process in study could be seen as disconnected from the daily activities of the company. Thereby, conclusions cannot be drawn regarding the use of management accounting to evaluate strategic aspects within AstraZeneca in general. This has especially been noted where knowledge has been observed to already exist within the project group. Nevertheless, this limitation of the study object's scope has allowed for a distinctive boundary of the strategic context within which the process took place, decreasing the complexity of the case study. The limited involvement of personnel in the process has further made it possible to gain a rather full and profound understanding of the course of events in spite of having conducted interviews with only five individuals. Moreover, the fact that these individuals represent five different functions and roles, and that they dedicated a generous amount of time, has allowed for a deep understanding of the studied case.

A second limitation of this study is the fact that the studied process had already taken place when access was granted. The data collection was limited to interviews and written material. Thereby, the human interaction when the information was used could not be directly observed, although what was included in the formal accounting analysis could be observed. This fact could explain the limited possibility of drawing conclusions based on observations of the improvement and the selective perspectives, since these two could have been applied when the management accounting was used in human interaction. In the future it is, therefore, recommended that researchers who wish to conduct a similar case study observe the use of management accounting by studying discussions and meetings.

A third limitation is that, given the ambition to conduct an in-depth qualitative study, the time frame of this thesis (three months) has allowed for the study of only one case object. This, in turn, limits the generalizability of these findings. Nevertheless, practical studies previously conducted within the research area of SMA have reached similar conclusions (see e.g. Carr and Tomkins, 1996; Dixon, 1998; Lord, 1996; Tillmann & Goddard, 2008; Van Cauwenbergh et al, 1996), strengthening the validity of the results.

6.3 Suggestions for future research

This study has concentrated on how management accounting was used to accentuate strategic aspects in AstraZeneca's evaluation process. As previously presented, it was found that management accounting was used in some situations for this purpose. Therefore, it is interesting to understand if there could be a pattern to when management accounting is used to evaluate strategic aspects, and in that case, why. Why management accounting was used in only some situations was touched upon, but not explored, in this study. Other studies have discussed a number of reasons for why management accounting is not used to accentuate strategic aspects (e.g. uncertainty, costs outweighing benefits, techniques not being known). Even though no conclusions can be drawn, this study further suggests that if a company already possesses a certain level of knowledge there might not be a need for accentuating strategic aspects with the use of management accounting. It would therefore be interesting to further study why management accounting is used to evaluate strategic aspects and especially study the relationship between knowledge and the use of management accounting to evaluate strategic aspects.

Furthermore, it appeared as the project group in some situations used management accounting to report on strategic aspects that the group already had formed an opinion about. As highlighted in the case findings, this might indicate that management accounting was used to include strategic aspects also in order to report on these aspects over hierarchical levels. It could therefore be interesting to study the role of SMA for evaluating strategic aspects versus for reporting strategic aspects. This could be pursued through the study of whether the applicability of SMA differs between different organizational structures (vertical power structures versus horizontal power structures) and is therefore suggested as a topic for future research.

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Appendix

Appendix A: List of interviews

<i>Interview</i>	<i>Function at the time of the project</i>	<i>Location</i>	<i>Date</i>
Initial	Cheif Financial Officier, Swedish Market Company	Södertälje	08/04/09
Initial	Controller & Market Analyst, Swedish Market Company	Södertälje	08/04/09
1 st round	Company Lawyer, Swedish Market Company	Södertälje	09/21/09
1 st round	Vice President, Mature Brands, Swedish Market Company	Södertälje	09/21/09
1 st round	Cheif Financial Officier, Swedish Market Company	Södertälje	09/21/09
1 st round	Controller & Market Analyst, Swedish Market Company	Södertälje	09/22/09
1 st round	Director, Business Support and Licensing, Swedish Market Company	Södertälje	09/22/09
2 nd round	Cheif Financial Officier, Swedish Market Company	Södertälje	10/16/09
2 nd round	Controller & Market Analyst, Swedish Market Company	Södertälje	10/23/09
2 nd round	Company Lawyer, Swedish Market Company	Södertälje	10/23/09
2 nd round	Director, Business Support and Licensing, Swedish Market Company	Södertälje	10/23/09
2 nd round	Vice President, Mature Brands, Swedish Market Company	Södertälje	10/23/09
2 nd round	Vice President, Mature Brands, Swedish Market Company	Södertälje	10/28/09

Appendix B: List of written sources

Type of written material	Content	Year	Format
Presentation - Quarterly Business Review	Forecasted sales and contribution, two scenarios	2004	PowerPoint
Supplier evaluation template	The criteria used to evaluate potential suppliers	2004-2006	Excel
Executive summary	Description of the "Fokus Norden" project and its result	2007	Word
Financial model - NPV analyses calculations	The assumptions used in the NPV analyses in phase 3	2005	Excel
Presentation - Business case	Business case of the hold versus divestment alternative, presented to European ISMO Director	2005	PowerPoint
Presentation - Business case	Business case of the hold versus divestment alternative, presented to Global CFO	2006	PowerPoint
Presentation - Quarterly Business Review	Updated information on the "Andromeda" project	2007	PowerPoint
Presentation - Briefing before signing contract	Information concerning the "Pharma" portfolio transaction, handed to CEO	2008	PowerPoint
Presentation - Briefing before signing contract	Information concerning the OTC portfolio transaction, handed to CEO	2008	PowerPoint
Financial model - NPV analyses calculations	The assumptions used in the NPV analyses in phase 4 (all portfolios, emphasis on the OTC portfolio)	2006-2008	Excel
Board paper	Information concerning the OTC portfolio transaction, handed to the Board	2008	Word

Appendix C: Organizational chart

