

Strategic Attractiveness in Mergers and Acquisitions

Hjalmar Lindholm och Markus Hökfelt©

Division of Packaging Logistics, Department of Design Sciences, Lund University

Examensarbeten i Technology Management - Nr 131/2006

ISSN 1651-0100

ISRN LUTVDG/TVTM--06/5131--/SE

KFS i Lund AB

Lund 2006

Printed in Sweden

Abstract

Title: Strategic Attractiveness in Mergers and Acquisitions: A case study of theoretical factors to consider when assessing a candidate.

Authors: Hjalmar Lindholm & Markus Hökfelt

Tutors: Anders Bodin, General Manager, Belts, Sandvik Process Systems

Carl-Johan Asplund, Lecturer, Department of Industrial Management and Logistics, Lund Institute of Technology

Rikard Larsson, Professor, Department of Business Administration, Lund University School of Economics and Management

Research Question: What theoretical factors are useful to consider when assessing the strategic attractiveness of a M&A candidate before the decision to engage in due diligence?

Purpose: The objective of this paper is to reach an understanding of what factors to consider before a due diligence decision in order to ensure a strategic fit between target and acquirer. The case study of SPS will provide the qualitative examination of how practical these factors are in a business perspective.

Research Method: A theoretical model of factors important to the success of a merger deal was derived from a study of literature related to M&A. The model was tested with the qualitative case study of Sandvik Process System's potential acquisition of Belt Technologies.

Conclusions: Our research enabled us to redefine the theoretical model of what factors to consider before a decision to engage in due diligence. The enhanced model of the strategic attractiveness consists of the four factors of *Corporate Acquisition Strategy*, *Strategic Fit*, *Synergy Potential* and *Value Creation Potential*.

We found the first factor of our model, the *corporate acquisition strategy*, to be important for the future M&A process but not to be the operational starting point in our case study. Our conclusion is that this factor is set before the

operational work of acquisitions starts and that it covers general criteria's that can apply to several companies.

The second factor, *strategic fit*, refers to how well a specific company fits to the acquirer's strategy. This factor is company specific for a candidate at division level of a corporation. By separating the corporate acquisition strategy from the strategic fit, we have created a clearer view of what separates general strategy of acquisitions and growth from market specific characteristics between two companies.

The third factor of *synergy potential* provided a qualitative assessment of the synergies that needs to be realized in order to strategically justify an acquisition. These three factors form an operational framework of what is needed to consider and understand before a decision to engage into a due diligence process.

The fourth factor of *value creation potential* was supposed to estimate the intrinsic value of the company and determine the value creation potential by quantitative estimating synergies in our case study. The value creation potential could not be conducted without the mutual sharing of information in a due diligence process. However, understanding the fundamentals of value creation potential in M&A is important to increase the chances of actually creating value when integrating the two companies. Therefore this factor is included in our model but cannot be estimated before a due diligence process.

Furthermore our comparison of two five forces frameworks for two different companies provided a useful tool when assessing the strategic attractiveness in M&A. We indirectly covered a lot of the perspectives that alternative frameworks like SWOT, Value chain analysis and VRIO might have addressed but we do believe these frameworks would provide complementary perspectives. Our comparison between two five forces analyses is one of the major generic contributions of this paper as it highlights a conceptual way of working with acquisitions. This means that we present a new approach towards strategic fit and the assessment of the same.

Key Words: Mergers, Acquisitions, Strategic Fit, Strategic Attractiveness, Value Creation, M&A

Preface

We would like to take the opportunity to express our gratitude to numerous people that have helped us during the course of this project. First off we would like to send a special thanks to our tutor and guide at Sandvik, Mr. Anders Bodin whose great commitment and generosity has been essential to the progress of this thesis. When visiting Sandvik Process Systems in the US we had a very warm welcome of the employees there and we especially would like to thank Mr. Craig Bartsch for taking so good care of us.

Employees at Sandvik Process Systems in both Sandviken and in the US have been very kind and open minded to our work and we hope you will continue to give students such a warm welcome as we got, thank you all very much and we wish you the best of luck.

From Lund University we would like to thank our tutors Prof. Rikard Larsson and Mr. Carl-Johan Asplund. They have provided us with the academic, methodological and theoretical discussions needed in order for us to finish this project. Furthermore they have encouraged us as well as sometimes given us the necessary kick in the right direction.

Finally this is our opportunity to show appreciations to friends and families, none mentioned, none forgotten.

The Stockholm archipelago, 23rd of May 2006

Hjalmar Lindholm and Markus Hökfelt

List of Contents

1	Background.....	1
1.1	Introduction	1
1.2	Research Question	5
1.3	Objectives	5
1.4	Demarcations	5
1.5	Disposition.....	6
2	Methodology	7
2.1	General paradigm	7
2.2	Hermeneutic and Abduction of Theory	9
2.3	Research Method	10
2.4	Practical method	13
3	Theoretical review.....	17
3.1	Introduction to Mergers and Acquisitions	17
3.2	Value Creation in M&A	24
3.3	Synergy.....	28
3.4	Strategic Fit between merging companies	32
3.5	Best Practices in M&A	36
3.6	Discussion of literature	39
3.7	Theoretical model.....	44
4	Empirical Study	49
4.1	Sandvik AB	49
4.2	Sandvik Process Systems.....	51
4.3	Belt Technologies	59
5	Analysis.....	73
5.1	Corporate Acquisition Strategy	73
5.2	Strategic fit	75
5.3	Synergy Potential.....	82
5.4	Value Creation Potential.....	87
5.5	Development and progress of our theoretical model.....	88
6	Conclusions.....	93
	Reference List.....	96
	Appendix A.....	100

1 Background

1.1 Introduction

Extensive research is each year published on the subject of Mergers and Acquisitions (M&A). Even though there are thousands of books and articles on the subject some recent empirical evidence point to the fact that it is hard for a company to create shareholder value through M&A¹. We believe this fact makes the theoretical subject on M&A one of the toughest in business related research. This is also one of the reasons why we find it so very interesting.

In 2005 Sandvik Process Systems (SPS) looked at alternative ways to achieve growth in their mature core market of steel belts. One of the alternatives was an acquisition of the American-based company Belt Technologies (BT). BT showed great financial results but, tormented by previous unsuccessful acquisitions, SPS needed more information on the company and its market in order to continue the M&A-process. In discussions with SPS in January 2006 we were presented with the possibility to study the suggested acquisition and thus aid the company in their decision making process.

M&A are in the theoretical world frequently divided into several phases. One of the most common categorizations is dividing them into the following three phases². 1) *The planning phase*, where the acquirer evaluates and creates their own strategies as well as screens the marketplace for possible acquisition candidates. 2) *The combination phase* that usually starts with approaching the target and then goes through the signing of a non-disclosure agreement, a initial bidding process, a due diligence³ phase, contract negotiations and finally the deal closure. 3) *The post merger integration phase*, which basically contains the design of the integration phase and the actual integration process. We will at this stage settle with stating that SPS have gone beyond the first phase of planning and are in the middle of the second phase. A non-disclosure agreement have been signed and some initial information have been shared between the two companies but they have not yet reached the due diligence stage. We will in our theoretical review elaborate further on the theoretical definitions of the different stages as well as making a more thorough run-through of the past events of the possible BT acquisition in our empirical chapter.

Sandvik is a high technology, engineering group with advanced products and a world-leading position within selected areas. Worldwide business activities are conducted through representation in 138 countries. The Group has 38 000 employees and annual sales of approximately 64 billion SEK. The group is divided into three major areas of

¹ Koller et al. *Valuation*, 2005, p. 439.

² Picot, Gerhard. *Handbook of International Mergers and Acquisitions*, 2002, p. 271-277

³ A due diligence is an exhaustive process with information sharing from both companies under legal jurisdictions in order to find out and confirm the real status of the other business, further explained in chapter 3.2

business; Tooling, Mining and Construction (SMC) and Materials Technology (SMT).⁴ Sandvik Process Systems (SPS) represents one of SMT's five product areas and their expertise includes the manufacture of steel belts and press plates as well as the design, manufacture and installation of steel belt systems for chemical and food processing plants⁵. The total market for steel belts has decreased during the last decade, SPS sales have during this timeframe dropped from approximate 650 tons to 450 tons⁶. The drop in volume originates mainly from an aggressive expansion of cheaper substitute products primary made of plastic or rubber instead of steel. The plastic and rubber belts have different characteristics than the steel belts produced and sold by SPS. The implication of this is that the application in which the belts are used can be engineered in a more efficient way, however with a shorter average length of life of the belts.

SPS core competence lies in handling robust steel belts in which the company has a long experience. In an effort to gain more volume and expand, SPS has investigated several options for their core business of steel belts and related areas. SPS has during the past few years started to produce and sell thinner steel belts made from a new type of steel named 1700SA. With this new type of steel, SPS hopes to compete with the plastic and rubber alternatives and thus regain some of the lost market shares. Handling the new thinner steel belts demands a different area of expertise which SPS have meet problems in developing and thus has not been able to realize the expected sales figures for the new product.

Two companies can be said to be experts when it comes to thin steel belts according to SPS. The two companies, BT located in the US and Dymco, located in Japan, focuses mainly on more complex belts with much smaller dimensions than the belts manufactured by SPS. The belts sold by the two companies are mainly used for measuring, indexing and transmission, which would imply that they are not a direct competitor to SPS at the moment. SPS believes these are the two only companies on the worldwide market, valued to approximate 100 million SEK per year and divided equally between the two companies. Both companies possess great technological know-how in handling and manufacturing thin steel belts⁷.

SPS has for a couple of years been interested in the possibility of acquiring one or both of these companies. The main focus has been on collaborating with or acquiring BT. Dymco has merely been mentioned as an interesting possibility to gain a monopoly situation on the entire world market. The main focus, or possibilities, in acquiring BT is to obtain the mentioned technological know-how and hopefully synergy⁸ effects when combining the two companies. SPS believes that Sandvik's global presence and the strengths provided through their own size can help push the

⁴ www.sandvik.se, 2006-03-02

⁵ www.processsystems.sandvik.com, 2006-03-02

⁶ Internal SPS document, *Belt Technologies – An expansion opportunity for SPS*, 2006-03-06

⁷ Ibid

⁸ Synergy means that the whole is different from the parts, i.e. 2+2=5 in this case.

market expansion for the more complex products sold by BT forward since BT by no means can cover the world market to the same extent. This opinion is believed to be shared by BT. The two main areas of opportunities according to SPS are consequently; the possibility to regain some of the lost market shares for SPS and the possibility to expand BT's present operations into new markets and customer segments. SPS' management feels that further investigations needs to be made into the subject and that several questions needs to be straightened out.

What factors should SPS consider in assessing the strategic potential of the possible acquisition of BT? How can SPS handle this information in order to reach a decision on whether or not to proceed into a due diligence phase of the mentioned acquisition?

Corporate institutions of today face high demands of growth and value creation. A company operating in a declining industry and looking to grow their business has several different strategic options to choose from. One of these options is to redeploy its assets through diversification into alternative markets by acquisitions. By recombining its existing assets with assets of the acquired firm new potential markets can hopefully be served⁹. The basic assumption for such value creation is the potential of synergies between the merging firms where the whole is different from the separate parts put together. Value creation through M&A can however be a troublesome road to travel.

Since the beginning of last century until today there have been five major waves of mergers and acquisitions¹⁰. The most recent one, between 1993 and 2000 has been characterized by a large increase in international mergers thereby making it a driving force behind the increasing globalization¹¹. The third merger wave, during 1960-1969, led to a great interest by researchers on the causes, implications and effects of M&A. According to the management literature of industrial organization and strategic management M&A was supposed to provide benefits due to the "strategic fit" between merging companies¹². These benefits, also called synergies, however were not supported by empirical research. Several studies during 1971-1980, mainly within the field of finance, concluded that almost all the benefits from an acquisition go to the acquired firm¹³.

This almost created a paradigm saying that acquisitions destroy rather than create value for the buying firm. A shortcoming of these empirical studies was however that they treated M&A as a homogeneous phenomenon, not dealing with the differences and reasons to why some mergers succeeded and others failed¹⁴. Simultaneously

⁹ Anand & Singh, *Asset redeployment, Acquisitions and Corporate Strategy in Declining Industries*. 1997

¹⁰ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 372

¹¹ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 5-7

¹² Lubatkin, *Mergers and the Performance of the Acquiring Firm*, 1983

¹³ Ibid.

¹⁴ Ibid

different disciplines of economics and organizational management seemed to be finding explanations to why M&A performance where dissatisfying. The “Strategic fit” was a complement to valuation of M&A pure financial performance. The post-merger and integration problems of M&A was emphasized by different perspectives covering managerial greed, politics, cultural clashes, reluctance to change and the coordination aspects of the joining firms¹⁵. The synthesis was that M&A is one of the hardest tasks for managers to deal with in order to succeed, covering economic-, organizational-, social- and cultural aspects. A company pursuing growth through acquisitions should treat it as an individual genre that needs a comprehensive view and specialized knowledge. This created the classification of the M&A process into the three stages of; planning, combination and integration¹⁶. Recent empirical studies have tried to address the differences between those companies who fail and those who prevail in the game of M&A^{17,18,19}. Acquirers whose main focus were on cost reduction, e.g. horizontal or vertical integration, had a fair success rate, but figures of 50% failure rate was still predominant. For acquisitions of unrelated businesses trying to create revenues and attain new markets this figure was even worse^{20,21,22}.

In their latest study The Boston Consulting Group reveals that, somewhat contradictory to previous findings, companies attending a growth strategy by acquisitions perform far better than companies attending an organic growth strategy when measured over a ten years time period. But to succeed it requires for acquisitions to be an inherent and well understood part of the corporate strategy, only then can there be a realistic chance for a M&A to create shareholder value and attain positive synergies^{23,24}. Herd & Perry emphasizes that future M&A will become increasingly risky partly because they are expected to deliver growth²⁵. “Early on the buying company needs to fully understand what it’s getting and what it’s getting into”. Therefore Perry & Herd calls for an early qualitative assessment of the targeted firm in order to know what will be expected and if it’s a candidate for delivering shareholder value.²⁶

The focus, once again it seems, shift towards a better understanding of the “strategic fit” of the targeted firm to be acquired in order to get the synergy potential right. Tuite addresses the “strategic fit” as: “To determine whether an acquisition is a good

¹⁵ Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990

¹⁶ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 5

¹⁷ Herd & Perry, *Reducing M&A risk through improved due diligence*, 2004

¹⁸ McNish & Sias, *Mergers and acquisitions*, 2004

¹⁹ Picot, *Handbook of International Mergers and Acquisitions*, 2002.

²⁰ Young, *Aqcuisitions and Corporate Strategy*, 1989

²¹ Anand & Singh, *Asset redeployment, Acquisitions and Corporate Strategy in Declining Industries*, 1997

²² Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 376

²³ Cools et al. *Growing Through Acquisitions*, 2003

²⁴ McNish & Sias, *Mergers and acquisitions*, 2004

²⁵ Herd & Perry, *Reducing M&A risk through improved due diligence*, 2004, p. 12

²⁶ Herd & Perry, *Reducing M&A risk through improved due diligence*, 2004

strategic fit you should consider what the targets core competences are, the competitive advantages the acquisition delivers to the combined, or post-deal business, and the gaps the acquisition will address in your current product range, technology, skills or services.”²⁷

1.2 Research Question

With these, somewhat renaissance ideas of industrial organization’s ”strategic fit” between merging companies we have reached a research questions. The question is based on existing theories and best practices from management consultant firms and academic research on M&A.

- *What theoretical factors are useful to consider when assessing the strategic attractiveness of a M&A candidate before the decision to engage in due diligence?*

1.3 Objectives

The objective of this paper is to reach an understanding of what factors to consider before a due diligence decision in order to ensure a strategic fit between target and acquirer. The case study of SPS will provide the qualitative examination of how practical these factors are in a business perspective.

If a due diligence process is engaged, we believe that a prior evaluation of the strategic fit will assist companies on where to focus their attention and resources in the later M&A process. Finally our thesis will present SPS and other interested parties with a comprehensive theoretical guide that can be used to discuss future M&A activity.

1.4 Demarcations

In addition to our focus on the preceding actions to a due diligence process several aspects are commented as critical in the later part of the M&A process. This paper will not cover M&A issues taking place after a mutual sharing of information when the due diligence process between the companies occur. In a customary due diligence process two companies share information in an openly fashion and both parties should be able to confirm previously stated facts about each other’s businesses. We are during this master thesis project not in a position to receive such deep going information about Belt Technologies. This sets our focus on the important analysis of strategic fit to be carried out before a company goes into a due diligence process as stated in the objective. This does not mean that we consider other factors like legal factors, integration planning, organization culture, management skills, or coordination of actions irrelevant to future success. Instead they provide another dimension that needs to be covered with another research perspective than ours.

²⁷ Tuite, *How to capture and convert real value*, 2005

SPS has an outspoken interest in acquiring BT. The Japan based competitor Dymco is also considered to be an interesting possible acquisition but SPS primarily focus at this stage however lies in the possibilities concerning BT. However intriguing the possibility of acquiring both companies and thus moving towards a monopoly situation on the worldwide market are, we consider this to be outside the focus of this paper. Therefore Dymco will be treated as a competitor to BT and not a possible acquisition candidate.

1.5 Disposition

This paper is divided into six major chapters as shown in Figure 1. In the first chapter we have presented the background of this study and our research question. We will in the next chapter present the methodological approach we have chosen for this thesis and our own criticism on aspects such as sources, methodology and the empirical findings. Chapter three will present the reader with an extensive theoretical review. In subchapters 3.1 – 3.5 we will present five theoretical aspects on M&A in order to have a theoretical discussion 3.6. We will then in 3.7 reach a theoretical model on what factors to consider when assessing the strategic attractiveness in M&A before a due diligence decision. After reaching this model it is time to test it through our case study. We will therefore present empirical data on SPS and BT in chapter four before presenting our analysis in chapter 5. Our analysis is based on the theoretical model we presented in 3.7 and our empirical findings. Our analysis will end in a new and improved model presented in subchapter 5.5. In chapter six we will finally present our conclusions and answer our research question. The figure presented below will be recurring throughout this paper and guide the reader through this paper.

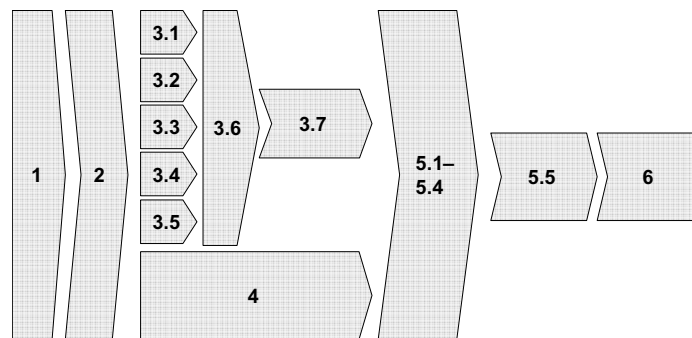
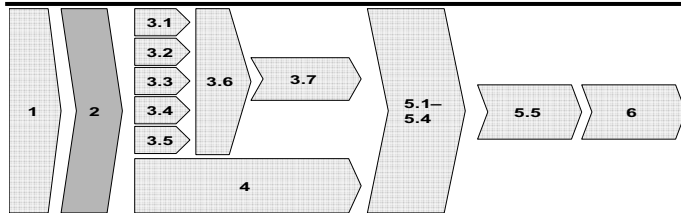


Figure 1: The disposition of this paper

2 Methodology



In this chapter the research method and the underlying assumptions and paradigm of the authors are described.

The purpose of methodology is not only to describe the research method itself but also to clarify the basic assumptions, previous knowledge and views on reality with which research is conducted. This is important as it helps the researcher to understand how the choice of research approach affects the study itself and will assist him/her to arrive at the most appropriate research method.¹ It furthermore guides the reader in his/her judgments of how this paper is positioned according to related literature, what has been conducted, why the results look like they do and what the implications for further research will be.² “Better understanding of methodological issues may encourage improved research practices by fostering consistency between the underlying assumptions, theories and knowledge production activities of management and organizational researchers.”³

We will therefore discuss the general paradigms fundamental to our research, how this creates a research method for the specific problem and what benefits and drawbacks is associated with this approach.

2.1 General paradigm

Bjerke (1981) propose three methodological approaches, or harmony groups, where the researcher should strive towards a fit between problem, solution techniques and basic assumptions.⁴ As pointed out by Nilsson these paradigms need not to be mutually exclusive. By making one approach with its assumptions the basic approach, it is possible to use other paradigms within the chosen one.⁵

As Sandvik confronted us with the practical problem of what factors to consider in an assessment of BT two distinctive characteristics became obvious. After a one-week, pre-phase study of our research object and some of the literature concerning mergers and acquisitions it was clear to us that *synergy*, as we will later discuss, was to be a

¹ Cross-reference; Nissen & Särnstrand; 2003; p. 13; from Halvorsen, K

² Nilsson, *Methodological Reflections, Extended Version*, 2004

³ Gephert, *Research Methods Forum*, 1999, p. 2

⁴ Bjerke, *Studies in the Economics and Organization of Action*, 1981

⁵ Nilsson, *Methodological Reflections, Extended Version*, 2004

key factor. Also the complex and comprehensive nature of the subject and the *relationships between factors* became apparent. Acquiring another company encompasses strategy and planning, corporate valuation, legal processes, anti-trust laws, human management, organizational and cultural differences, etc. It is not hard to imagine that even though almost every aspect is described, valued and managed separately, there still can be differences in lets say culture that might endanger the whole deal. As the *systems approach* address those issues it seemed relevant to close in on the research question with the acceptance of this paradigm.

In the *systems approach* scientists believes in an objective reality and the intentions of scientists are to describe, determine connections, forecast and guide. The systems approach assumes reality to be arranged so that the whole is different than the sum of the individual parts e.g. *synergy*. Because a system means “a set of components and the relations between these”⁶, the assumption of systems is that one “cause” may have alternative “effects” i.e. *multifinality*, and that alternative “causes” may have the same “effect” i.e. *equifinality*. This means that cause and effect is viewed upon with a greater complexity than in the analytical approach. Experiences from earlier studies using the systems approach only aids in thinking in analogies when a similar system is being studied.⁷

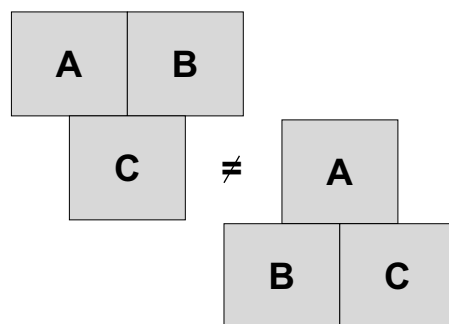


Figure 2: The systems approach views the combination of parts in different constellations that will have alternative results.⁸

In the systems approach the researcher has to distinguish between the objective system in reality and pictures of this reality, i.e. a systems model. The content of the model is best decided according to its purpose. A *descriptive* model will be able to include more components while a *guiding* model must rule out some or many of those components in order to be useful.⁹ In a *self-organizing systems model*, an open system has the ability to perform both routine responses to environmental interactions and to

⁶ Bjerke, *Studies in the Economics and Organization of Action*, 1981

⁷ Bjerke, *Studies in the Economics and Organization of Action*, 1981

⁸ Own figure from interpretation of: Bjerke, *Studies in the Economics and Organization of Action*, 1981, p. 3-4

⁹ Bjerke, *Studies in the Economics and Organization of Action*, 1981

change its component structure to better suite or explore changes in this environment. In management literature organizations are often regarded as self-organizing systems.¹⁰

To set the boundaries of what components to include in a systems model of SPS that *describes* and *determines connections* in acquisitions, will to some extent answer our research question. This means that BT will be the case study where the appropriate factors and their connections of such a system are identified and discussed.

2.2 Hermanueptic and Abduction of Theory

In the *hermanueptic* thinking the mindset of the researcher is constantly evolving as new impressions are interpreted and enhances the researcher's knowledge. This makes the researcher subjective to some extent but at the same time helps him/her to focus the research conducted.¹¹

The hermanueptic view is closely related to *abduction* of theory that strikes the golden mean between *inductive* and *deductive* theory creation. While induction develops theory from empirical findings, deduction develops conceptual theories from existing theory.¹² The systems approach implies that quantitative analytical measurements have little success in studies of self-organizing systems. Instead it is necessary to use qualitative techniques to interact and give a more holistic and nuanced view in order to understand the reality¹³. We believe that *abduction* of theory and *hermanueptic* will help us focus our study of the comprehensive and complex subject of M&A.

As mentioned above part of our study is to determine boundaries and what factors to include in a system so that it will be suitable when assessing mergers and acquisitions for SPS. Therefore we argue that the journey is part of the goal and will to some extent answer the research question. Conceptualization of theory along with empirical findings will help us identify which factors to incorporate and which to exclude. The iterative process will also guide us where to dig deeper in order to achieve the right level of information needed. This will create an *abductive* process based on mainly qualitative data and this process will be reproduced, in a sorted manner, through the authors in the empirical chapter of the paper.

We have now described the fundamental tools needed to construct our system of research design. From the literature of M&A we will analyze and deduct a model of factors relevant to the strategic fit of M&A. This theoretical literature will be reviewed and critically discussed further in chapter 3.6 when relevant factors have been made clear to the reader. The model will be verified by implementing it on our

¹⁰ Bjerke, *Studies in the Economics and Organization of Action*, 1981

¹¹ Patel & Tibelius, *Grundbok i forskningsmetodik*, 1987, p. 25

¹² Nilsson, *Methodological Reflections, Extended Version*, 2004

¹³ Bjerke, *Studies in the Economics and Organization of Action*, 1981

case study of SPS and BT. The confrontation of our deductive model and the case study will be the topic of our analysis. This approach is presented in Figure 3.

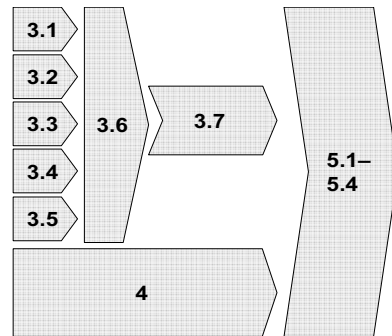


Figure 3: Our fundamental research approach

2.3 Research Method

2.3.1 Case Study instead of Survey?

Our paper will be conducted as a case study of SPS. A case study is...“a strategy which focuses on understanding the dynamics present within single settings.”¹⁴ Yin (1984) states that, “the links in real-life interventions is too complex for the survey or experimental strategies to handle.”¹⁵ The case study explains the particular case with the possibility of coming to broader conclusions and analytical generalization. Our conclusion is that this is coherent with the systems approach where theory aids the thinking in analogies when studying similar systems.

When we were contacted by Sandvik Process System, they were in the actual process of determining whether or not to move on with the acquisition of BT. Contrary to much of the academic research on mergers and acquisitions we got the opportunity to study this process up front. Since it is a delicate matter most academic research we have found is conducted after the deal is signed. Management consulting firms however has access both pre- and post deal but much is carried out as aggregated quantitative analytical findings, probably because there is secrecy deals involved. The result is that the nuances and importance of relations between components is lost just like Lubatkin’s criticism about the M&A literature of the seventies being too homogenous.¹⁶ One way of solving this problem is to do a case study with a *systems approach* instead of an *analytical approach*. We have the opportunity to try and unfold what factors of the system that is important, their interactions and how to deal with them in a qualitative way before there is a mutual agreement from the two companies. Coherent with the opinion of Stuart et al. (2002)

¹⁴ Cross-reference; Yin (1984) in Eisenhart, *Building Theories from Case Study Research*, 1989

¹⁵ Eisenhart, *Building Theories from Case Study Research*, 1989

¹⁶ Lubatkin, *Mergers and the Performance of the Acquiring Firm*, 1983

case studies should be chosen so that it fills theoretical niches rather than representative random samples.¹⁷

2.3.2 Criticism to case

Case studies typically combine data collection such as archives, interviews, questionnaires, and observations¹⁸. This might be both qualitative and quantitative data. Two criticisms on case study are the massive qualitative data that is difficult to represent in a convenient format and that the empirics are just anecdotal.¹⁹

During a period of 20 weeks we will be participant observers in our case study of SPS. By using *abduction* of theory as discussed in earlier passages we hope to be able to focus our gatherings where they make the most impact on our model. It is crucial however that we maintain our objective view of the system.

In gathering data as participant observers we believe that it is impossible not to affect peoples' opinion of their own situation. First because they will interact with our work and make their own conclusions during the study; second, since interviewees will communicate with those who has not yet been interviewed and third since our *abductive* process means that we will come back to the same persons at later stages when we have found new information gaps to cover. Since the system to study is viewed as a self-organizing model it will respond to the information that is reflected from us.

However, by being participant observers, we obtain the important advantage to study a deal that has not yet been closed. We aim to discover the anticipations, beliefs and processes preceding a deal which has not yet been affected by the financial, cultural and organizational results following the merger. When the outcome of the merger is not yet known we get the chance to gather "fresh" data in opposite to memories. Hopefully this allows us to reproduce the actual premises at SPS so that the reader can make his own opinion on the case. By being aware of the risks of contaminating our case study with our own influence we can take on preventive actions to keep our neutrality.

We would also like to comment on the fact that we have been dependent on SPS in several ways during this study. They have first of all provided us with the relevant case and an openness regarding their own company and business situation. They have furthermore covered all of our expenses and in addition paid us a fee for conducting the thesis. Our dependences on SPS have the possibility to restrain us from drawing truly neutral conclusions. Sandvik and SPS have a long tradition of providing students with suitable master thesis projects and have a genuine interest in the academic world and research. They have encouraged us to come up with the conclusions we find most

¹⁷ Stuart et al. *Effective case research in operations management*. 2002

¹⁸ Eisenhart, *Building Theories from Case Study Research*, 1989

¹⁹ Stuart et al. *Effective case research in operations management*, 2002

appropriate in the specific case and not to be afraid to criticize their work or business model. Company contributing financially to the students for the studied performed is further very common in the Swedish business landscape why we don't see this as a problem. We are furthermore not in a position where we have to deliver a "good" or a "bad" opinion but merely "an" opinion. The procedure outlined above has given us a tremendous access into Sandvik and SPS and thus really given us the opportunity to study the case in detail. We also believe that we have been able to keep our neutrality to a respective level due to SPS attitude towards student and academic research and our own aspiration to reach an objective result. As a decision of going into due diligence involves a great deal of money our thesis is not to provide such a decision. Instead this paper is a presentation of what facts we have found and what we believe the implications for SPS are. The decision itself rests solely on the SPS board of management.

2.3.3 Single case study instead of multiple case studies?

How general and applicable will our findings be since we study just one case and since the results of a possible merger will not be known in this study? Eisenhart (1989) suggest cross-case comparison in order to identify *valid* patterns when inducing new theory from case studies.²⁰ Yet our goal is not to develop grounded theory but rather to *describe* and *identify connections* of the components in an M&A-system enhancing the knowledge of the reader. We turn once again to the systems approach paradigm, which means that descriptions and the connections between components can be used as analogies for similar systems or studies rather than proofs. A qualitative study should be analytically sophisticated rather than easily reproduced. The variables *validity* and *reliability* is not as dominant as the researcher's criterion of truth. In qualitative studies the scientist plays a dominant role meaning that his/her ethics and critical judgment must permeate the work conducted.²¹

Even though it would be desirable with cross-case comparisons the main reason why our research is conducted as a single case study are the limited resources of the project. This paper is conducted at master level in Sweden equivalent to 20 weeks of study. Conducting the study with these limited conditions is also relevant for SPS. In order to be relevant the paper must be conducted with acceptable resources for a company in its day-to-day work.

With the reasoning outlined above we wish to make clear that *validity* and *reliability* will be sought for by trying to make theoretical and the case study establish a chain of evidence so that any other reader could come to the same summary for the various constructs of the study.²² Along with the systems paradigm our conclusions should be seen as analogies for similar systems and studies rather than proofs.

²⁰ Eisenhart, *Building Theories from Case Study Research*, 1989

²¹ Patel & Tibelius, *Grundbok i forskningsmetodik*, 1987 p. 68,69,77.

²² Stuart et al. *Effective case research in operations management*. 2002

2.4 Practical method

2.4.1 Literature

Our study started with the gathering of literature on M&A in order to identify areas of expertise relevant to the subject. We focused mainly on literature within the field of Strategic Management, Mergers and Acquisitions and Synergy that proved often interwoven. These broad categories of research topics were initially discussed with our tutors at Lund University. The secondary sources of information, i.e. books and articles, were collected from the ELIN and the LOVISA search engine at the network of Lund University. Also the library of Sandviken was used through which we could access books and articles in many of the main libraries in Sweden. In finding publications from consultant management firms, each respective homepage provided articles and publications.²³ Furthermore our tutors at Lund University provided us with relevant theoretical work and discussions. The key search strings that were used in our search for relevant literature were: mergers and acquisitions, synergy, strategy, strategic fit, best practice, evaluation, due diligence, and valuation/value.

We have throughout this paper used and examined literature written by authors related to both consultant management firms as well as the academic world. We have tried taking this into account as well as if the literature in question is based on empirical quantitative data, qualitative case studies or conceptual studies. We are well familiar with the possibilities that primarily the management consultant literature could be biased but we still felt that they possess too much knowledge of M&A to be left outside this study. We will discuss this further in chapter 3.7 when a full theoretical foundation has been presented.

2.4.2 Mapping of SPS

Our first empirical step was to obtain deeper knowledge of SPS, their products, markets and core operations. As participant observers we collected primary data through observations and interviews at SPS in Sandviken, Sweden and at SPS in Totowa, NJ, USA. As discussed earlier the case study was based preliminary on qualitative data. At the beginning of our research, i.e. the first three weeks, we performed close to 30 interviews with Sandvik personal in Sandviken. These interviews were very informal and were of varied lengths. The interviewees were both office personal as well as blue-collar workers. Our main objective during this first period was to get a good understanding of both SPS and Sandvik AB. Several of the interviews were held at SPS production facilities in Sandviken in order for us to really understand the company's core activities as well as getting a chance to absorb the mentality of the company and its employees. We also held interviews with personal from other Sandvik divisions related to SPS business. Our observations were noted using pen and paper and summarized and transcribed to computer approximate once a week. In order to verify our findings we tried to get confirmation from multiple

²³ See literature reference in chapter 6

sources e.g. production personal, production managers, sales personal, sales management, local operational manager, CFO and CEO of SPS worldwide. During this initial period we were located at the office in Sandviken during office hours meaning that the personal also had the chance to approach us with information they thought would be of use to us. Through e-mail and a larger quarterly meeting the personal were made aware of our presence and area of study.

Initial observations often occurred as dialogue but as knowledge and understanding developed, more structural interviews were held (see separate chapter on interviews below). The SPS office in Sandviken was chosen as one of two locations for the thesis since many of the key stakeholders and management of SPS that had previously been involved in the possible acquisition of BT were located there. These people were also going to play a major role in any future acquisition made by SPS. SPS in Totowa, New Jersey was visited as it was the operating unit closest to BT in the U.S. and we were able to meet with several key stakeholders located there. SPS also had mentioned the possibility for Totowa to be the site, at which BT supposedly would be integrated. This was another important factor for visiting Totowa, the informational field trip was conducted during two weeks. During these weeks we held several interviews with key personal at the site and had group discussions on the subject of the thesis. Our findings were afterwards further complemented by email and telephone correspondence. Secondary data from Sandvik and SPS was gathered through the SPS Intranet and the Sandvik public homepage.

2.4.3 Mapping of Belt Technologies

Our second empirical step was to obtain deeper knowledge of BT, its products, markets and core operations. This task proved more difficult than first anticipated. BT is a privately held company of relative small size meaning that there were no official (e.g. government issued) data to study. It was furthermore quite hard to find data regarding the company on the Internet. Our data gathering of BT is based on several different sources, the first being the knowledge of SPS management and personal that had previously been in contact with the company's management directly or seen their products at exhibitions. This type of information was also obtained from minutes from meetings held between SPS and BT and various internal SPS documents and reports on the subject. This data was mainly presented to us during our field trip to the US site and through discussions with the former CEO of SPS US. We have as far as possible tried to confirm these findings through objective sources and in case that this was not possible at least kept in mind the origin of the data. Our second source of information came through existing customers to BT and potential customers that are using a different solution to meet their problems. These customers were interviewed by telephone or e-mail. Some of these customers were more understanding of our situation than others and thus more willing to share information regarding their relations with BT. As the subject discussed with these customers were delicate we were not in a position to push for information but merely noted what they were able to tell us. The third source of information was competitors to BT who were also interviewed through telephone and e-mail. These competitors were somewhat biased

as they obviously prefer their own solution or substitute product. Our fourth source was BT's agent in Sweden that was interviewed in person at his facilities in Stockholm. This provided us with the chance to physically examine some of BT's products. Secondary data was collected from the Internet, documentation at SPS, brochures from BT, its agents and competitors.

All documentation of data, both primary and secondary, was continuously evaluated against our theoretical framework in an abduction way to create order and to avoid information overload. This also helped us identify lack of information where further investigations were needed thereby providing the abductive process earlier discussed.

2.4.4 Interviews

Interviews were continuously carried out during the study. The interviews of the first three weeks were, as previously discussed, unstructured. As the study continued factors important to the acquisition of BT emerged and our conclusion was that management of SPS was one of the key informants of our study. A more structured interview was thus conducted with each of the following persons.

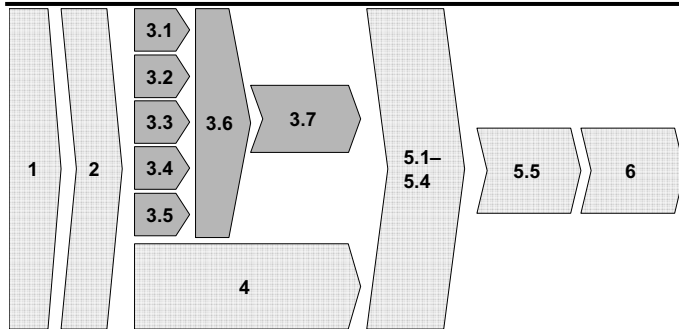
- Brian Spalding, General Manager USA - 2006-03-09
- Anders Bodin, General Manager, division belts, SPS - 2006-04-19
- Rolf Österholm, Vice President Marketing, SPS 2006-04-19
- Göran Berg, Vice President Finans, SPS Sandviken – 2006-04-20
- Mats Engblad, President SPS – 2006-05-02

These five persons were chosen based on their knowledge of BT. During our time at SPS we have had the chance to speak to all of these persons before conduction our actual interview meaning that we were well familiar with their importance to our case when choosing them as interviewees. This is also the reason why we chose not to perform any more structured interviews. We performed these interviews at a late stage in the process in order to be able to verify some of the data that we had previously found. The late stage also meant that we were more familiar with the specific case and thus could hold a more informed discussion on the case subject during the interviews.

The qualitative nature of our study implied for open questions where the respondent had the opportunity to elaborate on a given subject. Every interview was not with identical questions but a questionnaire form was used for guidance as opposed to as a rule, see appendix A for questionnaire form. The interviews were recorded in order for us to later recall all information. The data was again interpreted against the theoretical framework to structure our findings and to avoid information overload.

Strategic Attractiveness in Mergers and Acquisitions

3 Theoretical review



In this chapter we will present the theoretical foundation of this paper. In subchapters 3.1 – 3.5 we will first present five areas of M&A that we have found of value on our quest through the theoretical world. In 3.6 we will make a literature review and discuss our chosen literature with focus on our somewhat unusual combination of academic research and management consultant related literature. We will finally in 3.7 present our own theoretical model that we have extracted from the theoretical review.

3.1 Introduction to Mergers and Acquisitions

Even though value creation from Mergers and Acquisitions¹ has been proven difficult it has been a frequent strategy for managers to adopt. Since 1897 there have been five major waves where merger activity has boomed, the most recent one in 1993-2000². The comprehensive and difficult nature of M&A has led to a massive amount of research on the topic, covering areas such as business economics, strategy and law, etc. Management research on acquisitions can be divided into two quite distinct areas: the performance literature, explaining the variances in acquiring firm performance and the post-merger integration literature that focuses on describing potential problems in the acquisition process³. We will discuss both these topics further on.

¹ Mergers and Acquisitions (M&A) is commonly used synonymously but mainly differs in the degree of mutual understanding between the shareholders of the firms. A merger refers to “any transaction that forms one economic unit from two or more previous units” and the two firms respective shareholders agree to combine their equity capital to form a single new company. An acquisition refers to “The acquisition by one company of sufficient shares in another company to give the purchaser control of that company” and is typically addressed as friendly or hostile. We will further use the term M&A as a general term though there assumable will be differences for the different types, especially when it comes to post merger, integration and management actions.

² Weston & Weaver, *Mergers and Acquisitions*, 2001, p.3

³ Sirower, *The Synergy Trap*. 1997, p. 114

Strategic Attractiveness in Mergers and Acquisitions

Studies of M&A during the eighties found that realizing shareholder value through acquisitions was very hard to accomplish for the acquiring firm⁴. Even though industrial organization and strategic management literature concluded that there were potential synergies to be made from M&A the performance of the acquiring firm seemed to be negative in general. Michael Lubatkin however, imposed that the problem with these studies was that they treated M&A as a homogenous phenomenon, not being able to handle the complex outcomes of M&A⁵. During the nineties M&A studies expanded into several different areas of business and administration covering not only the pure financial and strategic sides, but also “softer” elements such as cultural clashes, the integration processes needed, coordination of activities, managerial greed, etc^{6,7}. This created a more step-wise approach into three phases following the natural sequences of M&A. Picot, among others, call these phases 1) planning, 2) implementation and 3) integration, each with different critical aspects to cover⁸. Others such as Parenteau and Weston⁹ divide M&A into four phases; 1) strategy planning, 2) candidate screening, 3) due diligence and deal execution, and 4) integration. Consulting firm KPMG has it own process with five steps that are of a more operational sense¹⁰; 1) Develop an overall strategy and identify an M&A target which fits this strategy, 2) Open negotiations and organize the finance, 3) Work out a post merger/acquisition plan, 4) Undertake due diligence work and complete the deal 5) Implement the post merger/acquisition plan. Irrespective of which definition that is used it is essential to systematize the acquisition process¹¹. As stated above there are some different names on the phases of M&A. Calling the middle phase for implementation such as Picot does can easily be a bit confusing as there is no actual implementation taking place. We will therefore call the three overall phases for 1) Planning, 2) Combination and 3) Integration. We have in discussions with our tutors found this labeling of the phases to be easy to understand and thus a good labeling of the different phases¹².

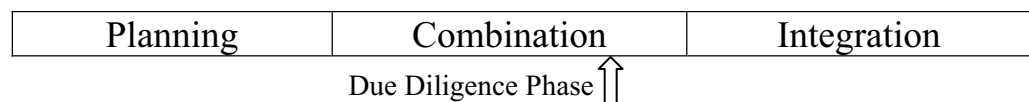


Table 1: General phases of M&A¹³

⁴ Lubatkin, *Mergers and the Performance of the Acquiring Firm*, 1983

⁵ Ibid

⁶ Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990

⁷ Picot, *Handbook of International Mergers and Acquisitions*, 2002

⁸ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 9

⁹ Parenteau & Weston, *It's Never Too Early to Think Integration*, 2003

¹⁰ Hussey, *Some Thoughts on Acquisition and Merger*, 1999

¹¹ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 153

¹² Discussion with tutors on 3rd of May by telephone.

¹³ Own figure

3.1.1 Planning

The planning phase is an interdisciplinary and comprehensive phase connected to the corporate objectives of the acquiring firm and how they relate respectively to organic growth and growth through M&A, alliances, or joint ventures. Several authors, for example Weston & Weaver, put a lot of emphasis on this phase¹⁴. The phase is conducted internally and independent of possible future acquisition candidates. All M&A policies and decisions should take place within the general framework of the firm's strategic planning processes¹⁵. After the strategy planning is done, a screening process of attractive industries, companies and their pros and cons should start. This is the same distinction made by Parenteau and Weston¹⁶ when they name the first two phases to be strategy and screening. The planning phase can say to relate primarily to the aspects of *Whether*, *When* and *How* the following two phases, namely combination and integration are to be executed.¹⁷

Terence E. Cooke divides the M&A process into ten steps and we believe his first four steps correspond with the strategy planning process. The four steps include the evaluation of the company's own corporate strengths and weaknesses, the development of a corporate plan and acquisition strategy and finally the elimination of inappropriate sectors. The fifth, sixth and seventh step, the screening for promising sectors, the selection of promising candidates and the evaluation of these candidates and the following selection can be compared to the screening process.¹⁸

The planning phase of M&A discussed above can, according to our findings, be divided into the two parts strategy and screening and then further subdivided into seven steps. It is first after this planning phase is done that the target company is approached. This means that in the first phase of M&A there is no mutual information flow between the two companies. This phase can also be called the *intelligence phase*¹⁹.

PLANNING						
Strategy				Screening		
Evaluate own Strengths and Weaknesses	Develop Corporate Plan	Develop Acquisition Strategy	Eliminate Inappropriate Sectors	Screen for Promising Sectors	Screen for Candidates	Evaluate and Select Target

Table 2: Breakdown of the planning phase of M&A.^{20,21,22} Middle level based on Parenteau & Weston and bottom level on Cooke.

¹⁴ Weston & Weaver, *Mergers and Acquisitions*, 2001, p. 39

¹⁵ Ibid

¹⁶ Parenteau & Weston, *It's Never Too Early to Think Integration*, 2003

¹⁷ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 16

¹⁸ Cooke, *Mergers and Acquisitions*, 1986, p. 248-250

¹⁹ Meeting with tutors in Lund 2006-04-24

²⁰ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 26

3.1.2 Combination

After a suitable candidate is chosen, it is time to approach the target. If a mutual interest is obtained in sharing information, some kind of non-disclosure agreement is often signed before any real information exchange takes place²³. When entering into an agreement or negotiation legal details of both national and international legal systems will come into play and the disclosure document is signed in order for both companies to feel secure that shared information will not become publicly known. If the buying party still is interested after the first exchange of information has taken place they submit a first non-binding bid. The information flow continues in preparation for a, under the premises stated in negotiations, binding bid. After this updated bid is presented, a new confidentiality agreement is usually signed by the potential buyer and by all employees and advisers assisting them. The purchase price presented in the bid is often stated as an interval in which both parties are interested in selling/buying the company. This is also a declaration that, under the circumstances that the information shared between the companies is correct and no major parts have been left out, both parties are willing to close to deal. If the bid is accepted the due diligence phase, which encompass one or many of the following aspects, is initiated.

- Commercial due diligence
- Financial due diligence
- Legal due diligence
- Tax due diligence
- Technical due diligence
- Scientific due diligence
- Environmental due diligence
- Human Resources due diligence
- Cultural due diligence

There are three main functions of the due diligence examination; 1) to provide an opportunity for the parties of the agreement to obtain information on the subject matter of the transaction and, 2) to reveal to the buyer the chances, risks and weaknesses of the target company, and 3) to reveal and document the target object for the purpose of evidence. The due diligence is also used to eliminate the information gap that exists between the seller and the buyer.²⁴ As put by one executive participating in a workshop with PriceWaterHouseCoopers²⁵;

“We always have to define due diligence because everybody has a different concept. To us it means to look under every rock and into every closet. But outside people might think of it as little more than an initial contact and exchange of information.”

²¹ Cooke, *Mergers and Acquisitions*, 1986, p. 248-250

²² Parenteau & Weston, *It's Never Too Early to Think Integration*, 2003

²³ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 16-28

²⁴ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 154

²⁵ Business Development Roundtable seminar, www.pwc.com 2006-04-18

After the due diligence process is done and all relevant data has been checked and transferred the contract negotiations begin. The negotiations will cover areas such as the subject matter of the agreement, the purchase price, the transfer date and the claims and legal relationships to be transferred.

When and if the parties reach a preliminary agreement in the first round of negotiations, a Letter of Intent (LOI) is signed in which both parties stipulate their negotiating position and their intention to conclude the agreement. Depending on the type of acquisition the LOI is sometimes signed before the due diligence gets under way. The LOI is not considered as a binding legal document but merely as a declaration of an intention to reach a particular (stated) legal result with the other party, i.e. the transfer of a company. The LOI is often made public with a press release and it is often very unfavorably to later back out of the transaction when a LOI is signed.²⁶ This is especially true for the target company since the increase in value the company often experiences due to the high acquisition premium paid by the acquirer is drawn back and the stock price plummets. Final negotiations regarding the details of the contract and acquisition then takes place before the final papers are signed. Cooke only sets aside one of his ten steps for this phase in the M&A process and calls it “approach, negotiate and close the deal” without going in too the separate parts in depth.²⁷

COMBINATION								
Due diligence & Deal Closure								
Approach target	Signing of Non-disclosure agreement	First non-binding bid submitted	Updated bid followed by new confidentiality agreement	Possible signing of LOI	Due diligence phase	Contract Negotiations	Signing Letter Of Intent	Deal Closure

Table 3: Own table of Combination phase of M&A, based mainly on Picot²⁸

3.1.3 Post Merger Integration

The Post Merger Integration (PMI) takes of when the final papers are signed. It should however have been planned right from the beginning of the M&A process. Many M&A fail at creating value because the combining companies’ starts planning the integration first after the deal closed rather then before²⁹. The PMI phase can be divided into two separate activities, namely the design of the integration and the actual execution of the integration. In many integration cases the first phase is not carried out at all or is handled superficially and companies start the actual integration right away. Earlier research shows that problems during the integration phase can be attributed to two causes; 1) a lack of a clear direction and 2) poorly defined

²⁶ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 28 & 63

²⁷ Cooke, *Mergers and Acquisitions*, 1986, p. 253

²⁸ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 271-277

²⁹ Parenteau & Weston, *It’s Never Too Early to Think Integration*, 2003

interaction mechanisms such as failure to assign responsibilities clearly. The PMI phase frequently takes between one and two years and the intended synergy effects must generally be realized during this period in order to be realized at all.³⁰

INTEGRATION	
Design phase	Practical Implementation

Table 4: Integration phase of M&A, based on Picot³¹.

A final note should be made on the post-integration tasks. Cooke calls this stage the post-acquisition audit and stresses the importance of fully evaluating the results of the integration and compares them to the stated target and goals of the acquisition. He believes this evaluation and reflection often is neglected and that putting more emphasis and effort in to this phase could save money for the company in future deals.³²

3.1.4 Typology of M&A

In the eighties the Federal Trade Committee (FTC) introduced a typology for systemizing M&A based on the relatedness of production and market. By reviewing the existing typologies Larson (1990) conceptualized the framework into the three main categories of overlapping, complementary and unrelated M&A shown in Table 5 and described below.

³⁰ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 271-277

³¹ Picot, *Handbook of International Mergers and Acquisitions*, 2002, p. 271-277

³² Cooke, *Mergers and Acquisitions*, 1986, p. 253

Production relationship	Market relationship		
	Same main country		Different main countries
	Same main customer group	Different main customer groups	
Same main production	Overlapping M&A		Market
Similar main input and/or process	Dual		
Long-linked	Vertical		
Unrelated	Product	Unrelated M&A	

Table 5: A competence base combination typology.³³

1. Overlapping M&A between firms with the same main production in the same main country, i.e. competitor;
2. Complementary M&A subdivided into:
 - a. Market complementary M&A between firms in different main countries with at least similar main production;
 - b. Product complementary M&A between firms with the same customer groups in the same country with unrelated main production;
 - c. Vertical complementary M&A between firms with long-linked main production;
 - d. Dual complementary M&A between firms with similar main production within the same main country;
3. Unrelated M&A between firms with unrelated production and at least different main customer groups.

As will be discussed later, different types of M&A are likely to provide different types of synergies and differences in shareholder return depending on current market

³³ Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990, p. 209

situation. Before the deal between two merging companies is signed only the potential for synergies or value creation can be discussed. Many of the post merger effects, such as coordination of actions as discussed by Larsson³⁴ can be seen as barriers to achieving this synergy potential. The actual creation of synergies and value cannot be determined before the post merger phase of M&A when the all the facts and effects of the deal is uncovered. In order to understand this we will present earlier research and studies on M&A.

3.2 Value Creation in M&A

In order for the acquirer in a M&A deal to create shareholder value he has to be able to realize more value than what he paid for, i.e. realize more synergies than premium paid for the target company. The net value of a deal for the acquirer is basically the sum of the value of the target company and the synergies subtracted by the purchase price as presented in Figure 4: Value Creation in M&A.

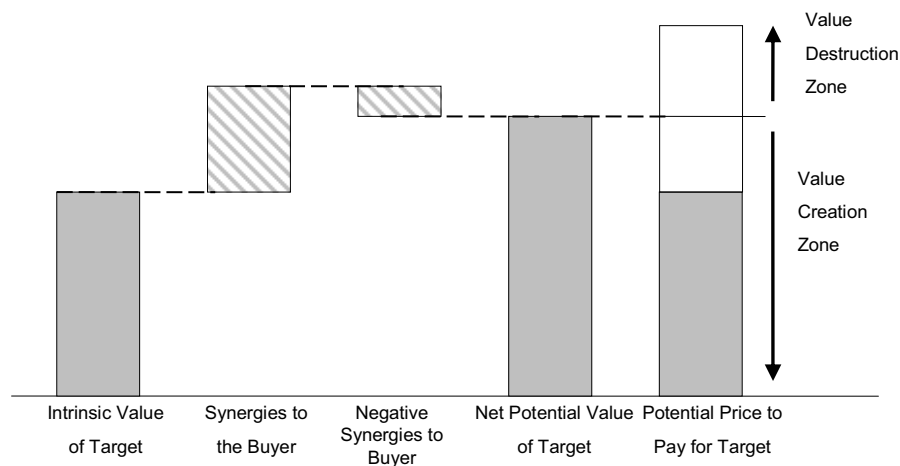


Figure 4: Value Creation in M&A³⁵

The basic value, also called the intrinsic value, of a company is often calculated as a function of the company's future free cash flow using methods such as the Discounted Cash Flow (DCF) model. A supplementary model often used is multiples analyses valuation where a target company is valued in reference to its industry peers. A Price over Earnings (P/E) valuation can also be used. To reach the net potential value of the target company the net synergies, that is both the positive and the negative ones, has to be considered. The concept of synergy will be elaborated on in the next chapter. When talking about valuation of a company it is important to separate the value of the target company from the price of the target that basically is the final amount paid after negotiations.³⁶ It is also in place to comment on the

³⁴ Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990

³⁵ Park, *Making the M&A Pay: Avoiding the "Winners Curse"*, 2002

³⁶ Ibid

question of market value versus intrinsic value of a company. Market value of companies can be said to revert back to intrinsic value over longer periods of time, there are however times when the two differ. Companies in cyclic industries are for example often undervalued (market value < intrinsic value) at the bottom of the cycle and overvalued (market value > intrinsic value) at the top. In the eyes of the acquirer, it is obviously beneficial to buy a company when the intrinsic value is higher than the market value. Although the present market valuation of a company is important, what really drives value creation in M&A deals is the value of the obtained synergies versus the premium paid for the target.³⁷

3.2.1 Earlier research and the potential for value creation

Extensive research has been done on the subject of where and to whom value is created in M&A activity. The findings are to some extent related and in correspondence with each other but there are also some contradicting findings. The typical view on the empirical findings throughout the last decades is that there is strong empirical evidence indicating that typical acquisitions create value for the selling company's shareholders, and not for the buyers³⁸. This is pretty easy to understand when considering that target shareholders on average receive a 30% premium over market price.^{39,40}

Accordingly to Hussey, M&A failures can be divided into two groups. First the ones where the acquisition did not meet the objectives in terms of earnings, profitability, or cash flow. Secondly the ones where the acquisition may have achieved the original objectives in the short term, but also have taken the organization into the wrong strategic direction for the long range.⁴¹ Whether or not an acquisition is successful obviously depends on the definition of success. Some empirical studies has looked at the share price five days after an acquisition, others at the share price after several years, some have looked at the price in relation to industry peers, there are many examples. The success rate also depends on the size of the acquisitions studied since managers of smaller acquisitions often have a lower level of sophistication and external help in their approach to M&A than larger transactions⁴². Figure 5 presents a general picture of failure rate in M&A without elaborating further on the definition of failure or the various problems associated with the specific study or if the study is performed by consulting firms or by academic researchers. Although this is a broad generalization we believe this figure displays a good picture of the general situation regarding value creation in M&A.

³⁷ Koller et al. *Valuation*, 2005, p. 443.

³⁸ Koller et al. *Valuation*, 2005, p. 439

³⁹ Ibid

⁴⁰ Weston & Weaver, *Mergers and Acquisitions*, 2001, p. 74

⁴¹ Hussey, *Some Thoughts on Acquisition and Merger*, 1999, p. 59

⁴² Weston & Weaver, *Mergers and Acquisitions*, 2001, p.83

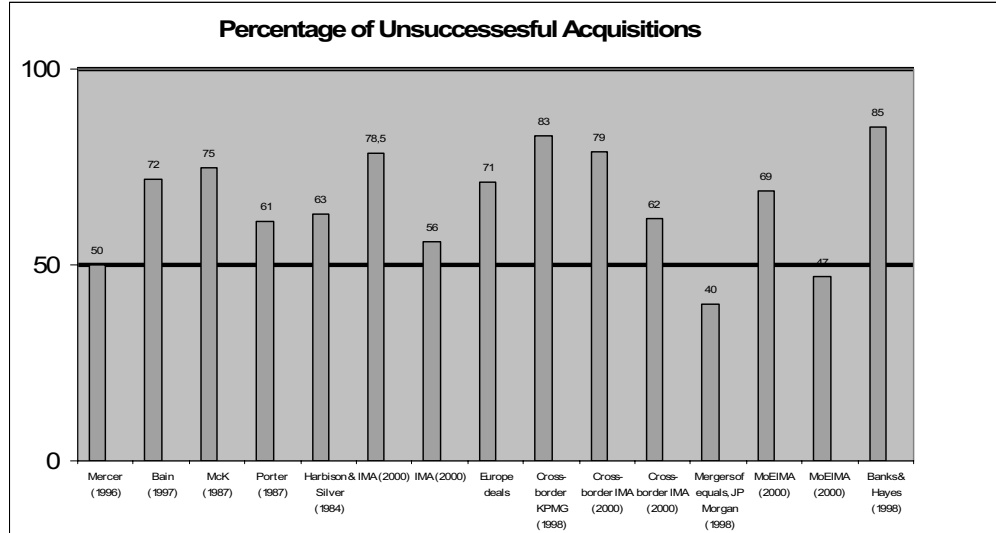


Figure 5: Overview of M&A failure rates by consulting firms and academic studies, 1984-2000 ⁴³

Research by Mitchell and Stafford shows that acquirer's stock market price typically under-performs comparable companies by 5 percent during the three years following an acquisition⁴⁴. Accordingly to an A.T. Kearney study of stock performance in relation to M&A during the 1990s, nearly 50% of the biggest M&A failed to produce total shareholder returns greater than their industry peers in the two years after the closing date of the deal⁴⁵. When analyzing 277 M&A transactions in the United States between 1985 and 2000, Boston Consulting Group (BCG) found that 64 percent destroyed value. BCG shows empirical evidence that mergers in times of a weak economy has a higher success rate and generate considerable more shareholder value than mergers in times of a strong economy. One of the reasons to this is the fact that a hidden premium is built into the stock price of the targeted firm due to high expectations during a strong economy.⁴⁶ This is in concordance with the reasoning on market value versus intrinsic value of a company previously stated. Interesting to observe is also that more M&A deals tend to be executed in times of strong economies indicating that the majority of deals examined in the various research's presented probably were conducted when the market valuation of companies were high. With the discussion on the previous passage, this implies that the companies where overvalued due to higher market expectations, leading to lower chances of value creation.

Important to note here is that although the average M&A deal does not seem to create value for shareholders, there are many that do. The question of what influences and

⁴³ Picot, *Handbook of International Mergers and Acquisitions*, 2003, p. 376

⁴⁴ Koller et al. *Valuation*, 2005, p. 439.

⁴⁵ Herd & Perry, *Reducing M&A risk through improved due diligence*, 2004

⁴⁶ Kotzen et al. *Winning Through Mergers in Lean Times*, 2003, p. 6

determines whether value is created or not, is therefore of utmost importance. Interesting findings from the 1960s and 1970s shows that acquisitions where the target company's market shares were high are better positioned for the chances of a successful acquisition. The research showed that three out of four acquisitions where the target company had at least a 50% market share were categorized as successful.⁴⁷ Kitching performed another empirical study on M&A in 1973. He showed that the risk of M&A failure varied with the type of merger performed. Nearly 41% of horizontal acquisitions failed, 47% of the vertical acquisitions, and 65% of the conglomerate acquisitions⁴⁸.

3.2.2 Reasons to the poor results

There are several possible explanations to why the success rate of M&A is so low. The conclusion would be that the acquirers pay a premium higher than the potential synergy effects they can realize. The possibly most daunting challenge of M&A is matching the purchase price with the value creation potential of the entire deal. Even if the company valuation is correct there could be problems if there are several buyers bidding for a target that have roughly the same synergy potential available to them. The one company that overestimates the possible value and synergies will also be then one making the highest offer and thus getting the deal. This syndrome is called the "winners curse".^{49,50} In addition to the current market price the acquirer in other words pays an up-front premium for uncertain payoff stream in the future. These payoffs, the synergies, must represent something that shareholders cannot get on their own. They must meet improvements in performance greater than those already expected by the markets. If these synergies are not achieved, the acquisition premium is merely a gift from the shareholders of the acquirer to the shareholders of the target company.⁵¹ Usually it is hard to obtain these since the market has adjusted the stock price for future returns and risks and the acquisition cannot produce sufficient earnings to justify the price paid.⁵²

Picot cites that the main reasons for the high disappointment rates in M&A are; 1) Insufficient knowledge of the candidate company and its suitability for, or adaptability to, the planned strategy, 2) Overvaluation of the synergy potential and, as a result, agreement of an inflated purchase price for the acquisition target, and 3) difficulties with the integration of the target company within the corporate organization of the acquiring company. A lot of the earlier research point to the importance of synergy and their impact on the value creation possibilities in M&A. We will now further explore synergies and the important part they play in the M&A game.

⁴⁷ Kitching cited in Young, B. *Acquisitions and Corporate Strategy*, 1989, p. 19

⁴⁸ Kitching cited in Hussey, D. *Some Thoughts on Acquisition and Merger*, 1999, p. 54

⁴⁹ Park, *Making the M&A Pay: Avoiding the "Winners Curse"*, 2002

⁵⁰ Koller et al. *Valuation*, 2005, p. 445.

⁵¹ Sirower, *The Synergy Trap*, 1997, p. 18-42

⁵² Ebeling & Doorley, *A Strategic Approach to Acquisitions*, 1983

3.3 Synergy

In order to create shareholder value through M&A the acquirer has to be able to create higher returns than the premium paid for the target company. This means realizing a higher return than the market already where expecting from the individual companies apart⁵³. When acquiring a company, the acquirer will often have to pay a premium over the value of the existing assets and future profits. This premium ought to be paid for the possible value of expected synergies, but that is not always the case.⁵⁴

3.3.1 What is synergy?

The word synergy can be derived from the Greek words “sun” and “ergon” which means, “to work together”⁵⁵. Sirower uses the definition of synergies as $2+2=5$ ⁵⁶ which would imply that the sum is more than the individual parts separately. For instance consider a network of n number of telephone users. For every additional person connected to the network it adds up with $n-1$ connections, not showing a linear function and thereby creating a synergistic relationship counting the number of connections, in resemblance with Sirowers discussion.

The systemic approach argues that synergy is when the sum of the parts is different than the individual parts themselves, e.g. more or less, depending on the relationship being studied⁵⁷. For instance when mixing two flavours that each by them selves are decent, the combination between them could be quite distasteful, thereby creating a negative synergy. To use Sirowers mindset this would translate to $2+2=3$.

Within the literature of M&A negative synergies are often discussed as a neglected effect of the acquisition.⁵⁸ The opinion of the authors is that both positive and negative synergies must be discussed and assessed in order to grasp the full effects of an acquisition. Therefore the authors will use synergies as when the sum is different from the individual parts separately, i.e.; $2+2=3$ or 5 . We will refer to this as synergies and negative-synergies respectively.

Synergies can either exist as a synchronic function of the merging parts apparent situation, or as a diachronic function of what is accomplished over time⁵⁹. The example of a telephone network above can be both a synchronic synergy and a diachronic synergy. The synchronic synergy would appear when two networks with

⁵³ Koller et al. *Valuation*. 2005

⁵⁴ Sirower, *The Synergy Trap*, 1997, p. 4

⁵⁵ Cross-reference: Van der Meer, 1986; Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990, p. 75

⁵⁶ Sirower, *The Synergy Trap*, 1997, p. 5

⁵⁷ Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990

⁵⁸ Park, *Making the M&A Pay: Avoiding the “Winners Curse”*, 2002

⁵⁹ Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990

their respective customers are put together into one, while the diachronic synergy would be the potential for new customers to join in as time goes by.

3.3.2 Types of Synergies in M&A

When talking about a merger between two companies a more narrow definition of synergies must be made. Mark Sirower uses the operational definition of synergies as: “Synergy is the increase in performance of the combined firm over what the two firms are already expected or required to accomplish as independent firms”. Though there might be improvements in performance following an acquisition, if it is expected it is not synergy. This is because the share prices at various markets already are expecting substantial improvements in profitability and growth by the independent company. Since synergy does not come from the two merging firms separate business, it is much like managing a new venture or a new business line.⁶⁰

Theories of M&A usually define sources of synergy based on the combination potential and similarity of the joining companies.⁶¹ Synergy can be categorized into the following four types.⁶²

1. Market power synergy – by moving towards a monopoly situation higher customer prices and lower supplier prices can be achieved.
2. Operational synergy – lowering manufacturing and marketing costs through increased scale, experience and scope.
3. Management synergy – supplementary or complementary management techniques enhances manager know-how
4. Financial synergy – lowering cost of capital and hedging of risks.

Larsson & Finkelstein finds proof that not just the similarity but also the complementarity of the joining firm’s resources creates value. Depending on typology of the M&A with overlapping or complementary functional resources earlier discussed in Table 5, Larson further identifies synergy potentials in M&A presented in Table 6.

⁶⁰ Sirower, *The Synergy Trap*, 1997, p. 18-42

⁶¹ Larsson & Finkelstein, *Integrating Strategic, Organizational, and Human Resource Perspectives on Mergers and Acquisitions*, 1999

⁶² Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990, p. 79

Strategic Attractiveness in Mergers and Acquisitions

Functional Resource	Synergy potentials from	
	Overlap	Complementarity
Purchasing	Purchasing power	Vertical economies (incl. transaction cost economies)
Production	Scale and experience economies	
Marketing	Scale and experience economies	
	Selling power	Market access & cross selling to existing customers
Administration	Scale and experience economies	
Finance	Scale economies	Portfolio and risk economies
R&D/know-how	Scale and experience economies	Technology transfer & creation

Table 6: Synergy potentials from overlapping or complementary functional resources in M&A.⁶³

Synergies have the possibility to provide value in two different ways. First there is the possibility to reduce costs within the new organization and second there is the chance to increase revenues to the new company^{64,65}, further referred to as cost-based and revenue-based synergies. As will be discussed in chapter 3.3.4, companies face more problems in estimating revenue-based synergies.⁶⁶ By using the typology of Table 6, the authors' opinion is that revenue-based synergy potentials appears in the three categories of; selling power, market access & cross selling to existing customers, and technology transfer & creation. The remaining potential will mainly come from cost-based synergies.

3.3.3 Negative-synergies

Negative-synergies are not discussed as much as synergy potential in M&A literature although the authors have been able to discover five main categories:

1. Costs related to the integration of the firms which would not appear if the companies were kept separately. These costs will include additional investments to achieve revenue-based or cost-based synergies, one-time expenses for closing the deal, standardizing IT, etc.
2. Original values of the acquiring and targeted firms will be severely jeopardized. The premium will be lost when the core businesses does not get the same focus as usual, thereby losing market shares to competitors.⁶⁷

⁶³ Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990, p. 216

⁶⁴ Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990, p. 217

⁶⁵ McNish & Sias, *Mergers and acquisitions*, 2004

⁶⁶ Ibid

⁶⁷ Sirower, *The Synergy Trap*, 1997, p. 18-42

3. When customers that used to procure from two separate suppliers now find their eggs in one basket they might switch to a rival competitor of the joining firms.
4. Poor understanding of the fundamentals of synergy can hurt acquiring firms. The limits to performance improvements will not be understood, so overpayment is predictable; valuation will consist of hollow and spurious assumptions and post acquisition planning will be a disappointing waste of managerial resources.
5. Poor integration planning and execution of the human side of M&A will limit the achieved synergies.⁶⁸

3.3.4 Identifying and estimating synergies

“On the buyer’s side, its sales force may not have the skills to sell the acquired products. Too often these problems are identified after the deal is completed and, typically, these acquisitions fail to deliver the projected value.”⁶⁹

In a study from 1998 to 2002 McKinsey&Company merger experts, Diane Sias and Rob McNish studied over 60 companies making two or more acquisitions in a five year period, trying to reveal why some mergers fail and other prevail. One of their conclusions about M&A failure is that companies tend to overestimate synergies. As much as 70% of the deals fail to achieve expected revenue synergies. When dealing with cost based synergies this number is considerably better but still 35% of the cost based synergies are overestimated by 20% or more. McNish and Sias argue that cost-based synergies are easier to estimate, as they tend to be under the company’s control. The revenue-based synergies though are dependant on future volume and price of the combined company’s operations and on the reaction of the customers and competitors. Cutting the wrong costs might also damage sales and thereby indirect decrease the potential for revenue synergies.⁷⁰

Often an acquirer’s assessments of potential synergies are too informal as addressed in literature on M&A. Some organizations do not rely on extensive hard facts or detailed market analysis due to lack of time and skills. This is often common for potential revenue-based synergies but also occurring in estimating cost-based synergies.⁷¹ Larson addresses this matter in the following way: “There will always be some synergy potentials that are not known *ex ante* and therefore require actual realization to be detected *ex post*. This does not invalidate synergy potential as an *ex ante* measurement of combination benefits, though. Instead, it calls for more systematic ways to estimate synergies in advance to minimize undetected potentials.⁷²” Sirower concludes that in acquisitions that do create value for shareholders, expected synergies are more than just wishful thinking. Successful

⁶⁸ Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990

⁶⁹ Parenteau & Weston, *It’s Never Too Early to Think Integration*, 2003, p. 2

⁷⁰ McNish & Sias, *Mergers and acquisitions*, 2004

⁷¹ Park, *Making the M&A Pay: Avoiding the “Winners Curse”*, 2002

⁷² Larsson, *Coordination of Action in Mergers and Acquisitions*, 1990, p. 215

acquirers have the capabilities to translate their plans into real acquisitions. Acquisition decisions involve judgments about the future but these must be informed judgments.⁷³

3.3.5 Synergy realization

Some considers synergy a “Holy Grail” of business⁷⁴, many seek it but few actually find it. As discussed in chapter 3.2.1, measuring M&A success is difficult and ambivalent. Larson & Finkelstein suggest that measuring to what extent synergy realization is achieved will avoid the pitfalls of accounting based measures.⁷⁵ As previously stated the actual synergy realization cannot be achieved until the post merger phase when the deal is closed.

Gruca, Nath and Mehra argue that the basis for synergy is sharing of resources across business activities and that the ultimate goal is to create sustainable competitive advantage for the firm. They present a framework with six steps to control and evaluate the link from resource sharing to synergy and sustained competitive advantage. First off the resources must be critical to the value chain of the organization in order to be interesting. Resources that are critical and have the ability to strengthen a company’s competitive position are often identified as the core competencies of the business. The shared critical resources must also be flexible in the meaning that they must be strategic substitutes in terms of their ability to create multiple outputs. The resources must furthermore not be constraint in capacity simply because output in such a case can not be expanded beyond current capacity. With the above conditions met the resources should have potential to create synergies. In order for these synergies to be realized the acquisition costs should not be excessive. As long as the resource in question is acquired at the market price rate, the company needs to have some kind of unique knowledge of how to exploit it in order to achieve some kind of excess value. The cost of the co-ordination of the resources can also hamper the synergy potential and realization. Finally the shared resources must be unique to the company and non-inimitable in order for them to have the possibility of also creating sustainable competitive advantage for a business.⁷⁶

3.4 Strategic Fit between merging companies

Excellent M&A implementation skills and qualified management of the merging firms are obviously important factors to create a successful merger, but it still depends heavily on strategy⁷⁷. The right strategic, operational, and financial analysis can create a much greater degree of comfort – in terms of strategic logic, competitive

⁷³ Sirower, *The Synergy Trap*, 1997, p. 18-42

⁷⁴ Gruca et al. *Exploiting Synergy for Competitive Advantage*, 1997, p. 605

⁷⁵ Larsson & Finkelstein, *Integrating Strategic, Organizational, and Human Resource Perspectives on Mergers and Acquisitions*, 1999

⁷⁶ Gruca et al. *Exploiting Synergy for Competitive Advantage*, 1997

⁷⁷ Weston & Weaver, *Mergers and Acquisition*, 2001

positioning and financial performance.⁷⁸ The importance of strategic fit between two merging firms has been analyzed in several articles and books on M&A. Sirower stress the two factors vision and strategy, which relates to the strategic fit of M&A. The vision must be clear to large constituent groups and adaptable to many unknown circumstances. The operational strategy must respond to the question: “What can be further sustained or improved along the value chains of the businesses that competitors cannot challenge, and how can competitors be attacked and disabled?”

Within the management literature of M&A there is a coherent view that in order to provide long-term value for an organization, the acquisition has to be in line with the overall business strategy.^{79,80,81,82,83} Boston Consulting Group stresses that “in order to succeed at M&A in today’s environment, executives must view it as an integral part of the corporate strategy- not just a way to boost earnings”.⁸⁴ Eberling and Doorley want M&A to be an ongoing strategic planning process. The emphasis should shift away from financial performance and place far more emphasis on competitive dynamics and the structural positions of potential candidates. An acquisition will make the best strategic sense when it forms a natural extension of a company’s strategic momentum.⁸⁵ Brendan Young means that strategic considerations needs to be given too two main criteria, the level of business affinity and the business attractiveness, which includes such factors as market size, growth, profitability etc. This is presented in Figure 6.⁸⁶ Hussey argues that there are certain acquisitions that are failures because they have pushed the acquirer into the wrong strategic direction and do not match the organizations vision and/or strategy. He argues furthermore that the problem with these types of acquisitions lies at the start of the M&A process and is as much a broader failure of strategic management as it is of how the actual M&A was handled itself.⁸⁷ Porter address the M&A subject by stating that a majority of consolidating mergers prior to his article, “What is strategy”, was driven by performance pressures with lacking strategic vision, leaving companies with no real advantage.⁸⁸

⁷⁸ Kotzen et al. *Winning Through Mergers in Lean Times*, 2003

⁷⁹ Ibid

⁸⁰ Tuite, *How to capture and convert real value*, 2005

⁸¹ Hussey, *Some Thoughts on Acquisition and Merger*, 1999, p. 55-59

⁸² Ebeling, & Doorley, *A Strategic Approach to Acquisitions*, 1983

⁸³ Young, *Acquisitions and Corporate Strategy*, 1989

⁸⁴ Kotzen et al. *Winning Through Mergers in Lean Times*, 2003

⁸⁵ Ebeling, & Doorley, *A Strategic Approach to Acquisitions*, 1983

⁸⁶ Young, *Acquisitions and Corporate Strategy*, 1989

⁸⁷ Hussey, *Some Thoughts on Acquisition and Merger*, 1999 p. 55-59

⁸⁸ Porter, *What is Strategy?*, 1996

Strategic Attractiveness in Mergers and Acquisitions

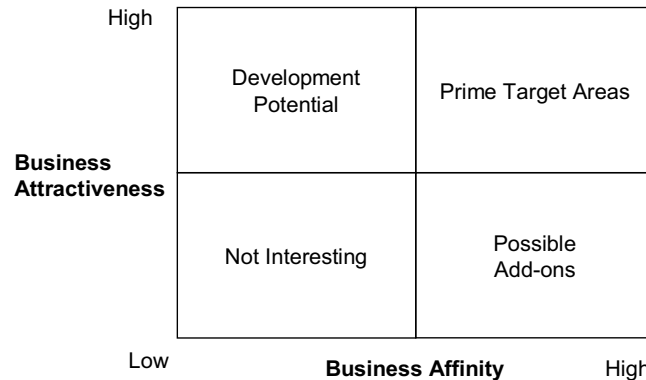


Figure 6: Young's model of Business affinity and Business attractiveness⁸⁹

Brendan Young also comments on the subject by saying that; “an acquisition should be an element within an overall coherent strategy, whether at the corporate or business development level.” He continues by developing the subject of what to consider when thinking of making an acquisition by saying that it is necessary to identify clearly how the acquisition will result in added value to the company, how quickly this can be obtained and how the overall risk of the company will be affected.

The opinion that companies that are strategically related should outperform those who are not is, according to Sirower, a folklore rooted in the integration of systems. He means that synergies that are expected from cost savings will come from the integration of systems thereby eliminating duplication of work. System integration focuses on the physical integration of operational strategy such as integration of sales force, distribution systems, information and control systems, and R&D and marketing efforts.⁹⁰ According to most M&A literature strategic fit is about the similarity in operational activities between joining firms. Larson & Finkelstein however shows empirical proof that also the complementarities of resources are crucial to the M&A success.⁹¹

Salter and Weinhold argue that acquisition candidates who offer a good fit with the acquirer's unique skills and resources are the ones most likely for value creation potential. In related diversifications the most significant shareholder benefits accrue from when special skills and industry knowledge of one merger partner can help improve the competitive position of the other. It is therefore essential to specify specific diversification objectives for the acquiring company in order to be able to assess the fit between the two companies. The overall distinction in related diversifications is whether to expand existing skills and resources into new product markets (supplementary) or whether to add new functional skills and resources but

⁸⁹ Young, *Acquisitions and Corporate Strategy*, 1989

⁹⁰ Sirower, Mark. *The Synergy Trap*, 1997, p. 18-42

⁹¹ Larsson & Finkelstein, *Integrating Strategic, Organizational, and Human Resource Perspectives on Mergers and Acquisitions*, 1999

leaving the product market relatively unchanged (complementary). Companies must make this decision early on in accordance with the overall strategic direction of the firm. This decision should then be used as a foundation for setting precise diversification objectives and acquisition guidelines. In evaluating potential for value creation there are two distinct areas according to Salter and Weinhold, both dependent on how the two companies' resource structures can be successfully integrated to form a more efficient business unit. First is the potential for a greater free cash flow for the combined company than could be realized from the companies separately. This potential is mainly focused around the integration potential of the two companies. The second area for value creation stems from the possibility to obtain the same cash flow but at a lower risk and variability.⁹² In order to assess the strategic fit and thus not base the decision solely on the purchase price, one must consider what the target company's core competences are, the competitive advantages the acquisition delivers to the combined company, and the gaps the acquisition will address in the current business product range, technology, skills or services.⁹³

3.4.1 Motives for M&A

There are several motives for why M&A deals exist at all on the business scene. Brendan Young motivates the existence of M&A by saying that "organic growth alone constrains the rate at which an organization can expand"⁹⁴. Even though acquisitions have a high failure rate they offer the opportunity to increase the rate of growth of an organization beyond what is possible by organic growth alone.⁹⁵

Recent literature from consulting firm BCG dissects acquisition strategy, or motives for acquisitions, into three areas. First motive for acquisition is related to cost savings. This is a strategy especially powerful in fragmented industries where consolidation through acquisitions can lead to scale and cost advantage. Second motive is to fill a company's gap in capabilities rather than to develop the capability themselves. This can be a good way of keeping up with rapid development and innovation in a fast moving industry such as telecom⁹⁶. This is also in accordance with the opinion of Sirower and Koller et al. that says that an acquisition basically is a purchase of assets^{97,98}. Koller et al. however states that if a company has the ability to develop these capabilities internally, his earlier findings show that doing so tend to yield higher returns than purchasing them through an acquisition⁹⁹. These findings are now being contradicted by the recent BCG study that shows that companies who pursue a consistent and focused strategy to grow from acquisitions return higher shareholder

⁹² Salter & Weinhold, *Choosing Compatible Acquisitions*. 1981

⁹³ Tuite, *How to capture and convert real value*, 2005

⁹⁴ Young, *Acquisitions and Corporate Strategy*, 1989, p. 19

⁹⁵ Young, *Acquisitions and Corporate Strategy*, 1989

⁹⁶ Cools et al. *Growing Through Acquisitions*, 2003

⁹⁷ Sirower, *The Synergy Trap*, 1997

⁹⁸ Koller et al. *Valuation*, 2005, p. 441

⁹⁹ Ibid

value over long term than those in favor of just organic growth. The third motive for acquisition is using them as a strategy to rapidly scale up a new business model.¹⁰⁰

3.4.2 Strategy in Mature industries

In 1997 Anand and Singh compared the two corporate strategies of diversification and consolidation through acquisitions for firms facing a declining industry. Diversification through acquisitions involves serving alternative markets with non-overlapping assets of the merging firms. Diversification increases the corporate scope where complementary assets will improve the performance of the combined firms. Consolidation through acquisitions involves focus on existing capabilities and markets with overlapping assets of the merging firms. This narrows the corporate scope where a consolidation of assets will improve the efficiency and performance of the combined firms.¹⁰¹ They find empirical evidence that consolidation-oriented acquisitions will perform better than diversification-oriented acquisitions in declining industries and that consolidation-oriented acquisitions perform better in declining industries than in growing industries. Their conclusion is: “Although firms in declining industries may not have good prospects within their own industry, they cannot enhance their value by diversifying to escape the unattractiveness of their own industry”.¹⁰² BCG finds empirical proof that irrespective of M&A typology, the M&A results are better in a weak economy than in a strong. This is because managers can take the time to analyze a broader range of potential deals carefully, perform the due diligence necessary to understand the potential synergies, and arrive at a better-informed valuation of a target.

Managers facing demands of growth are constantly tempted to broaden their position in the market by extending product lines, expanding market focus etc. In saturated or declining markets these types of decisions are ever so important. These types of attempts to compete in several ways at once however have the ability to confuse the organizations focus and have a negative effect on a firm’s competitive advantage. The alternative growth strategy would be to concentrate on exploring the current strategic position further rather than broadening it.

3.5 Best Practices in M&A

Within the literature on M&A several best practices are suggested by researchers to operationalise the thoughts on how to achieve better results. Some of these have been covered in the previous chapters of value creation, synergy realization and strategic fit, while two more are discussed below.

Acquisitions are often an attempt to divert attention away from a failing core business with the hope that the acquisition might provide a miracle for the acquirer. Sirower

¹⁰⁰ Cools et al. *Growing Through Acquisitions*, 2003

¹⁰¹ Anand & Singh, *Asset redeployment, Acquisitions and Corporate Strategy in Declining Industries*. 1997

¹⁰² Ibid

stresses the importance of judging how competitors will react to a merger of the two firms. Often when two firms join they are vulnerable as managers' time is preoccupied with closing and integrating the deal, forgetting about customers in their day-to-day business.¹⁰³

3.5.1 Create an M&A team

What is needed is a set of capabilities dedicated to M&A. Those companies that have a clear goal with an acquisition program have higher weighted returns to shareholders.¹⁰⁴ Companies should create an in-house team for M&A that is able to work across operational boundaries. This will help to create learning's from takeovers and the similarities in the M&A-process can create know-how for the team.¹⁰⁵ Involving the people that will make the deal work at operational level can determine which synergies are real and which are not.^{106,107} By spending money up front on interdisciplinary and dedicated teams from the own organization will provide risk management that hopefully will avoid overpaying or entering into a bad acquisition.¹⁰⁸ The literature from management firms stress that the company also will need assistance from outside legal and financial due diligence experts.^{109,110,111} However when making up their own opinion the reader must be aware of that the sources of this information is biased.

3.5.2 Structure a process for M&A

Since M&A is such a complex issue there is a need to structure and organize the process into operational sequential steps.¹¹² Potential acquisition candidates should be judged against agreed criteria, which must be consistent with the company objectives and corporate plan.¹¹³ For instance those companies that perform structured post-learning sessions of M&A show better results than the ones relying on mere M&A experience.¹¹⁴ This could mean tracking results of synergies relative to plan, etc. By estimating the synergies in an early stage the buyer will also be able to quantify the likely costs associated with realizing the synergies.

BCG stresses the need for an "end-to-end M&A" or a high-resolution approach. This means an in depth assessment of the strategic, operational, and economic impact of a potential merger at the level of individual brands, specific customers and suppliers,

¹⁰³ Sirower, *The Synergy Trap*, 1997, p. 18-42

¹⁰⁴ McNish & Sias, *Mergers and acquisitions*, 2004

¹⁰⁵ Vantrappen & Kilefors, *A User's Guide to Successful M&A*, 2005

¹⁰⁶ McNish & Sias, *Mergers and acquisitions*, 2004

¹⁰⁷ Park, *Making the M&A Pay: Avoiding the "Winners Curse"*, 2004

¹⁰⁸ Cookson, *Growing Pains: Tips to Consider Before You Acquire*, 2004, p. 64

¹⁰⁹ Ibid

¹¹⁰ McNish & Sias, *Mergers and acquisitions*, 2004

¹¹¹ Herd & Perry, *Reducing M&A risk through improved due diligence*, 2004

¹¹² Sharifi et al. *Your M&A Map for Success*, 2005

¹¹³ Tuite, *How to capture and convert real value*, 2005

¹¹⁴ McNish & Sias, *Mergers and acquisitions*, 2004

and particular business units and geographies. This will create a road map to ensure that synergies are delivered in the post merger integration between the companies.¹¹⁵

In literature several authors each stress a structured process for M&A with different names for relatively similar actions. Eberling's five steps cover most of later suggestions of what to consider prior to the due diligence phase. But since Eberling's suggestion is from a rather early article on M&A additional considerations critical for the integration phase are needed. Eberling propose an acquisition process described by the first five steps below¹¹⁶

1. Stating Strategy: There should be a process of strategy on both corporate and business unit level where acquisition is one of the alternatives. Acquisitions should be aimed at improving competitive position within a promising industry at less resource cost and with more prospects of excellent financial performance than other alternatives.
2. Developing Acquisition Criteria:
 - a. Upper limit on scale
 - b. Non attractive industries due to managers biases should be excluded
 - c. Broad activity/technology/skill base where synergies might be found
3. Eliminating Inappropriate Sectors: Which sector is not attractive to us as a company and where can we get the synergies we seek.
4. Screening for Promising Sectors:
 - a. Competitive Dynamics
 - b. Industry Trends
5. Selecting Promising Candidates:
 - a. Activity/technology/skill base position
 - b. Predicted financial performance
6. Complementing this process should be post-acquisition plan that will enhance the post-merger integration between the two companies. As stated by Paranteu & Weston, "It is never too early to think integration".¹¹⁷ A post-acquisition plan will cover immediate actions such as communications to employees and customers and in the long term focus on key actions that drive revenue growth and extract synergies.¹¹⁸ The post integration plan also should cover how to minimize the disruptive effect of the M&A to ensure a smooth functioning of the company's core business.¹¹⁹

Hussey argues that lack of knowledge about the acquired company is one of the main contributing factors to acquisition failure. The lack of knowledge leads to faulty

¹¹⁵ Kotzen et al. *Winning Through Mergers in Lean Times*, 2003

¹¹⁶ Eberling & Doorley, *A Strategic Approach to Acquisitions*, 1983

¹¹⁷ Paranteau & Weston, *It's Never Too Early to Think Integration*, 2003

¹¹⁸ Cookson, *Growing Pains: Tips to Consider Before You Acquire*, 2005, p. 64

¹¹⁹ Cools et al. *Growing Through Acquisitions*, 2003, p. 20

analysis of the acquisition’s fit with the buying organization, of its real value for the buyer, and of the post acquisition actions needed to release the added value.¹²⁰

“The fundamental obstacle to higher success rate in acquisitions is a widespread lack of strategic analysis. Any performance improvements needed to justify the purchase price are often based on assumed synergies. What is needed is a more thorough method for analyzing potential acquisitions.”¹²¹

3.6 Discussion of literature

When reviewing the literature on M&A there are several ways to try to synthesize a comprehensive framework. In chapter 3.1 we mentioned the distinction between pre merger and post merger literature on M&A. Our focus has been on the pre merger side with only minor comments on the post merger side. When reviewing the literature we have distinguished two patterns of interest for the reader in order to make a clear judgment of the empirical case study. This will further be described below.

First a distinction between M&A literature written by authors related to either consultant management firms or academic institutions can be made. However a gray area occurs with acknowledged researchers such as Sirower that holds a Prof. at the University of New York and at the same time is one of BCG:s experts in their M&A practice. If one or more of the authors have a consultant connection we have selected to place them within this criteria.

Second a line can be draw between literature based on quantitative or qualitative empirical studies and conceptual literature. Table 7 further illustrates these two perspectives with the amount of literature we have found in each category. This is not to be seen as a measurement of how frequent occurring each type of literature is but more as what we found with our research method. Each individual author is also presented in Table 8.

		Empirical		Conceptual
		Quantitative	Qualitative	
Research Background	Academic Related	7	2	5
	Consultant Related	3	1	18

Table 7: Distinguishing features in literature depending on: Research background and Underlying empiric

¹²⁰ Hussey, *Some Thoughts on Acquisition and Merger*, 1999, p. 56

¹²¹ Clarke, *Acquisitions – Techniques for Measuring Strategic Fit*, 1987

Within the academic related literature we have not been able to synthesize on any predominant factors that would be of greater importance than any other. The research of larger quantitative studies conducted during the seventies and the eighties were criticized by Lubatkin as too occupied with accounting based measurements. Therefore later academic quantitative studies have tried to identify important factors of those M&A deals that do succeed in value creation^{122,123,124}. For example Larson & Finkelstein suggests that the synergy potential achieved is a better way of measuring M&A success than accounting based measure¹²⁵. Earlier studies suggested that overlapping M&A was the only type of M&A that would create synergies by performing similar activities. Our finding is that three academic related empirical quantitative studies conclude that also complimentary activities plays an equally important role in creating synergy.^{126,127,128} Otherwise within their own niche of science every author finds one or many factors that are of importance to the outcome of the M&A.

¹²² Seth, *Sources of Value Creation in Acquisitions*, 1990,

¹²³ Vithala et al. *A Balanced Model for Evaluating Firms for Acquisition*, 1991

¹²⁴ Hitt et al. *Attributes of Successful and Unsuccessful Acquisitions of US Firms*, 1998

¹²⁵ Larsson & Finkelstein, *Integrating Strategic, Organizational, and Human Resource Perspectives on Mergers and Acquisitions*, 1999

¹²⁶ Larsson & Finkelstein, *Integrating Strategic, Organizational, and Human Resource Perspectives on Mergers and Acquisitions*, 1999, p.1

¹²⁷ Seth, *Sources of Value Creation in Acquisitions*, 1990, p. 445

¹²⁸ Hitt et al. *Attributes of Successful and Unsuccessful Acquisitions of US Firm*, 1998, p.112

Strategic Attractiveness in Mergers and Acquisitions

Academic related – Quantitative
Vithala R. Rao, Vijay Mahajan, Nikhil P. Varaiya
Seth Anju
Jaideep Anand, Harbir Singh
Michael Hitt, Jeffrey Harrison, R. Duane Ireland and Aleta Best
Rikard Larsson, Sydney Finkelstein
Janet Y. Murray, Masaaki Kotabe
Richard Schoenberg
Academic related – Qualitative
Rikard Larsson
Martin Sikora
Academic related – Conceptual
Michael E. Porter
Mohsen Sharifi, Vijay Karen, and Zafar Kahn
Jay B. Barney
David Hussey
J. Fred Weston, Samuel C. Weaver
Consultant related – Quantitative
Jeffrey Kotzen, Chris Neenan, Alexaner Roos, Daniel Stelter
Rob McNish, Dianne Sias
Kees Cools, Kermit King, Miki Tsusaka, Chris Neenan
Consultant related – Qualitative
John Klee, Mike Wathen
Consultant related – Conceptual
Lubatkin, Michael
Herman Vantrappen, Petter Kilefors
Ian Cookson
H. William Ebeling, Jr & Thomas L. Doorley III
Milyae Park
Milyae Park
Chris Kenney
Richard S. Parenteau, J Fred Weston
Paul Tuite
Thomas S. Gruca, Deepika Nath and Ajay Mehra
Brendon Young
Christopher J. Clarke
Malcom S. Salter, Wolf A. Weinhold
Jeffery S. Perry, Thomas J. Herd
Mark L. Sirower
Gerhard Picot
Terence E. Cooke
Milton L. Rock

Table 8: Studied literature divided by category

In the quantitative consultant related literature the methodology has been reviewed in order to assess the reliability. A BCG quantitative study presents that frequent acquisitive companies create shareholder value above index of less frequent acquirers¹²⁹. The conclusion of the study is that the companies have done this with a clear M&A strategy that can be listed in the three types of acquisition within Table 5 respectively. We find this to be coherent with the academic literature that concludes the importance of both overlapping and complementary activities for value creation in M&A discussed in the passage above. Therefore we will view both overlapping and complementary activities as sources of synergy potential in the case of SPS and BT.

Even though these findings encircle the M&A phenomena with important sources for success it is hard to condense into what general managerial actions is needed to be done before the due diligence phase to assure value creation. Which activity is more important than the other? If you were the manager with limited time, which actions would you take? The reoccurring conclusion of academic related literature is that it is not enough to base an acquisition on financial numbers alone but that the assessment has to be done in a more comprehensive way with underlying strategic fit depending on the type of acquisition.¹³⁰ Our belief is that this is a reflection of the comprehensive, all embracing, interdisciplinary and difficult to manage subject of M&A. There is no of the shelf solution and no single factor that will determine the outcome of the M&A and that is important to understand. Therefore we want to assess what actions that can be performed in our specific case and judge how this information will help us enhance the knowledge of the M&A process. Still, we would like to take advantage of the extensive amount of academic research conducted. We will use the findings of academic literature to enhance our analysis within selected areas that we think could be conducted before a due diligence phase such as identifying synergy potential using Larsson's typologies in Table 6.

Within the literature related to consultant firms there is an obvious chance for biased opinions, especially within the conceptual based literature. We commented upon this in chapter 3.5.1 with the management literature expressing the need of outside expertise in M&A deals. Our finding is that conceptual consultant related literature presents a more coherent view of what is needed of a company in order to succeed in M&A when compared to the academic literature. This has to be viewed with skepticism. If such coherent actions were obvious sources of value creation, how come this is not apparent within the massive amount of academic research conducted on the topic since the seventies? We believe that the explanation to this could be that management consultants have to present a structure and ordered view of actions needed to succeed in M&A in order to sell their services. The research is probably more biased by a sales perspective than the actual research interest. Also qualitative management related publications switch perspective into a conceptual view when it comes to the implications for managers. Yet we have not found either academic or

¹²⁹ Cools et al. *Growing Through Acquisitions*. 2003

¹³⁰ Vithala et al. *A Balanced Model for Evaluating Firms for Acquisition*, 1991, p. 332.

management quantitative or qualitative proofs of a coherent process like presented in the conceptual literature. Our belief is that the conceptual thinking is not to be viewed as a panacea in order to present a one-way solution to M&A, but as a way to bring structure into a difficult subject.

Therefore we would like to use some concepts in order to see if they are useful and how they can help us in our case study of SPS and BT. Within the pre-merger phase of M&A we found a pattern in management literature to stress the need for a strategic fit between the two companies, the need to understand the relation between synergy potential and value creation, and how best practices can help to achieve the desired outcome of the transaction¹³¹. As mentioned above, academic literature will aid deeper analysis to these management areas of our research. In management literature it is also frequently commented on the need for post merger integration and management skills but it is considered to be outside the boundaries of this paper and needs to be reviewed with a perspective of combination and post merger integration in opposite to our own pre-merger perspective.

As discussed above we have found both academic related and management related literature to mention the strategic fit between the two merging companies to be of great importance to M&A. The definition of strategic fit is to us however somewhat unclear. Mainly management related literature discusses strategic fit at a high corporate level. This holistic perspective of strategic fit centers on fitting an acquisition to the overall business strategy in order to keep the original strategic trajectory of the company intact. Several authors of both management and academic related literature describe the fit at a more operational level concerning the activities and resources of the two firms that must either complement or be similar to the existing ones. In order to make these two different perspectives on strategic fit transparent we would like to conceptualize these two views and break out the management holistic perspective from the strategic fit and call it the *corporate acquisition strategy*. In doing so we define the *strategic fit* to be company specific for the target and the acquirer.

The *Corporate acquisition strategy* involves acquisitions as a natural extension of the strategic momentum and one of many strategic options for achieving growth. The purpose is to treat several industries and markets as desirable directions for growth through acquisitions and eliminate others that are considered not attractive regarding the company's own strategy.

The *Strategic fit* is how well a specific company fits and enhances our corporate strategy. Recommended aspects within literature involve; market potential, value chain analysis, and core competences analysis of both companies.

As presented and discussed within the theoretical chapter, *corporate acquisition strategy*, *strategic fit*, *synergy potential* and *value creation potential* are all factors

¹³¹ Cools et al. *Growing Through Acquisitions*, 2003

that are important to value creation in M&A. They can be seen as a link between how corporate acquisition strategy will add value through a specific acquisition. The corporate acquisition strategy determines the industries and markets where target companies will be located. The strategic fit determines how well a specific target will enhance the acquirer's strategy and provides a cornerstone for synergy potential. With identified synergy potential for the target, both from the acquirer's and the target's perspective, the strategic fit is confirmed and estimated at activity level. The synergy potential finally affects the valuation of the target company and thus the overall potential for value creation.

3.7 Theoretical model

Through our theoretical survey we have extracted a model containing four factors that we have found of importance throughout the literature. This model should not be seen as a normative model but an explanation of the four factors and what information we need to obtain in order analyze to assess the factors. We would like to stress the fact that the model at this stage is derived from a theoretical foundation as discussed in 3.6. The four factors in our model are; 1) Corporate acquisition strategy, 2) Strategic fit 3) Synergy potential and 4) Value Creation potential. We chose to call this model the *Strategic Attractiveness model*.

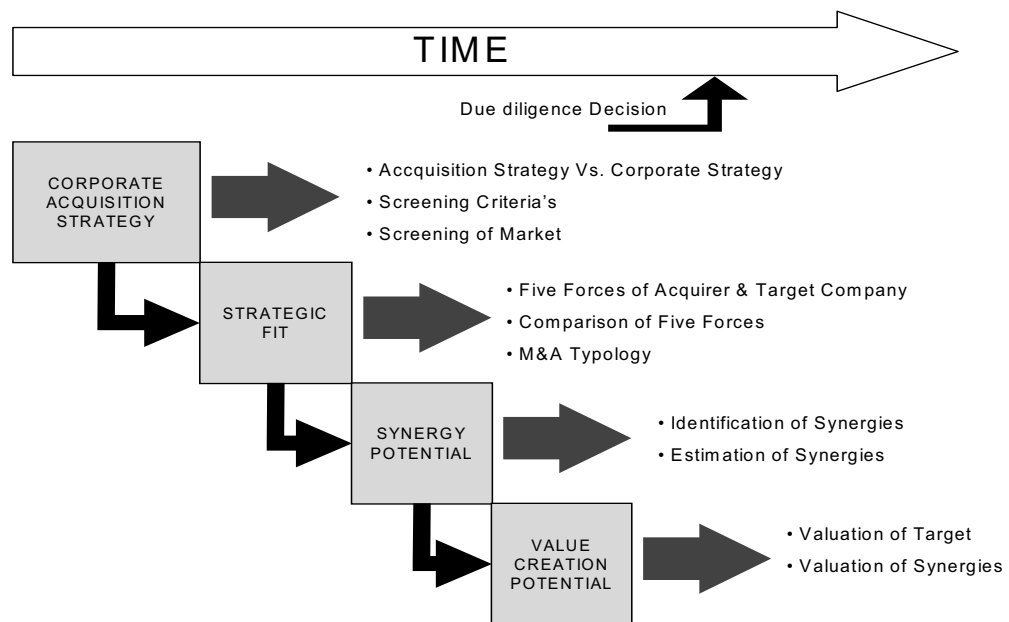


Figure 7: Own developed model of Strategic Attractiveness based on our theoretical studies.

3.7.1 Corporate acquisition strategy

A good corporate acquisition strategy entails that acquisitions forms a natural extension of the strategic momentum and trajectory of the company. To ensure this literature recommends that unattractive markets and industries to be eliminated.

In order for us to assess the corporate acquisition strategy we need to understand how the acquisition screening criteria's relate to the strategic direction of the company and if these two are supportive of each other. We believe that if the screening criteria's are related to the strategy of the company the possible target companies will all, to some extent or another, be strategically related to the company. The literature recommends an early discussion on which markets to compete in and which to avoid before doing the actual screening. Within the literature we have been able to summarize different recommended steps that we will try to use in the assessment of corporate acquisition strategy. These steps are:

1. An incorporation of the acquisition strategy with overall strategy and an evaluation of the strategic trajectory.
2. Setting the screening criteria's based on the strategy.
3. Screening the market for potential candidates based on their fulfillment of the screening criteria's.

3.7.2 Strategic Fit

The strategic fit is the fit between company specific characteristics of one of the targeted companies and the acquiring company. This means that two or more companies that are found to fit the corporate acquisition strategy will provide different strategic fit for the acquiring company.

In order to assess the strategic fit we not only need information about the target company but also information regarding our acquirers operations. At the start of the strategic fit process we will therefore try to assess the core competencies and activities of the acquiring company as recommended in the literature. We will then start looking at the specific target company and evaluate them in the same way we assessed our own company in order to hopefully obtain the needed information. By mapping the two companies in the same way we hope to facilitate a future comparison. During our theoretical research we have not found a model to use for analyzing the initial fit between the two companies. We will instead try to apply Michael Porters framework of the five market forces. The framework evaluates the business attractiveness based on the power related to the different actors of customers, suppliers, competitors, substitute products, and barriers to entry for a company and we hope that this will fit with our needs for assessing the strategic fit. Another framework that might have been useful would be the SWOT-approach evaluating strengths, weaknesses, opportunities and threats for the studied target. We believe that the five forces framework will indirect address the most important questions of our acquisition case that would have be provided from a SWOT-analysis. The SWOT-analysis would typically assess a much broader perspective where only a small part

would be applicable to the specific acquisition. A lot of the information analyzed in our case study will originate from within each company why a company internal framework for analysis such as the VRIO-model or Resource Based View could have been helpful. We will not perform such an analysis as we have instead chosen to focus more in-depth on a single framework. As a part of this we also aim to compare the two five forces analysis as a step towards assessing the strategic fit in acquisitions. We have not come across a pure comparison between two five forces in the literature why we find the outcome of our approach to be very interesting.

3.7.3 Synergy Potential

Throughout this paper the importance of synergy in M&A has been evident and the significant matter of synergy potential when analyzing a possible acquisition candidate has been made clear. Synergies are either revenue- or cost based and can be synchronic (realizable right away) or diachronic (over time). As discussed in 3.6 synergies can come from both overlapping and complementary resources.

In order to obtain and analyze the information we will use the functional resources in table 6 on page 30 and look at the; purchasing, production, marketing, administration, finance and R&D/know-how from the two perspectives of overlapping- and complementary synergy potentials. This will be done from the perspective of both the acquiring and the target company. By using this classification we hope to get an all-inclusive picture of the potential synergies between the two companies. We will however also bear in mind any possible synergies we might find outside of this classification and comment on the usefulness off the classification in our specific case. After identifying the different synergies we will try to dig deeper into the ones that will influence our case the most. We will try to assess the synergy potential depending on if they are cost- or revenue based and if they are synchronic or diachronic in accordance with much of the academic literature.

3.7.4 Value Creation potential

Value creation is what it essentially all comes down to. In order to assess whether or not an acquisition will have potential to create value for the acquiring organization one need to look at both the valuation of the target company and the value of the potential synergies. The actual answer to the question if an acquisition will create value or not cannot be answered until after the two companies have been fully integrated and all the synergies have been realized.

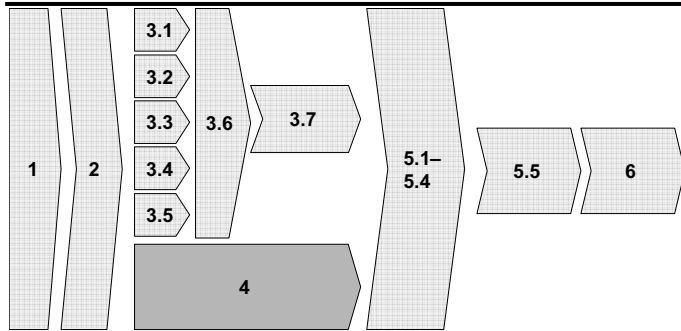
We however hope to be able to provide an estimate of the potential for value creation. In order to make the initial valuation of the target we need access to financial information and preferable also some comparable data on other actors in the same industry or on the industry as a whole. In the second factor we need to assess the various costs and problems associated with realizing synergies. As recommended in the academic literature we also need to take into consideration the hard work of realizing the synergies and also the fact that companies normally tend to overestimate synergies, especially the revenue based ones. Assessing these possible negative

Strategic Attractiveness in Mergers and Acquisitions

results of the acquisition could be a good way of keeping a sound picture of the entire process and thus not get carried away with all the promising possibilities of the acquisition.

Strategic Attractiveness in Mergers and Acquisitions

4 Empirical Study



In chapter four we will present the empirical studies of this paper. The chapter is divided into two major parts, covering SPS and BT separately

4.1 Sandvik AB

Sandvik is a high-technology engineering group with advanced products and a world-leading position within selected areas. Sandvik started as a steel company in 1862 and has since then expanded into several other areas, however still with steel as a linking factor.¹ Worldwide business activities are conducted through representation in 138 countries. The Group has 39 000 employees and annual sales of approximately SEK 63 billion. The group is divided into three major areas of business; Tooling, Mining and Construction (SMC) and Materials Technology (SMT). Sandvik each year spends about 4 % of their turnover on research and development. Sandvik's business concept is based on unique competences in materials technology. They develop, manufacture and market highly processed products, which contributes to improve the productivity and profitability of their customers. Operations are primarily concentrated on areas where Sandvik is, or has the ability to become, a world leader.²

The Sandvik corporate goal for growth is divided between organic growth and growth through acquisitions. The objective for organic growth of 6 % annually over a business cycle, is higher than the underlying market expansion of 3 – 4 %. This is to be achieved through increased market shares in present and new markets, new products, or new application areas with higher than average growth potential. The goal for Return on Capital Employed (ROCE) is 20 %.³

“Growth through acquisitions is an important complement to organic growth for the Sandvik Group. The main reasons for acquisitions are typically to gain market share in strategic areas, or to broaden the product portfolio within our existing Business

¹ ”The world of Sandvik”, Sandvik brochure 2005/2006

² www.sandvik.com

³ Bodin, Anders. & Österholm, Rolf. Interview, 2006-04-19

Areas.”⁴ This means; a industry in connection to steel or materials that demand high-technology expertise, market leader or potential to become market leader in niche market, premium brand, about the same ROCE (15-18%) and EBIT (12-15%) as Sandvik’s goals and not a privately owned company.⁵ To complete an acquisition Sandvik must consider themselves to be able to be a good "parent" to the acquired company. Sandvik's parenting concepts are based on the idea that they must be able to support a new company within the group with technology, business know-how, distribution networks, or other business critical support in order to generate value as an owner. This typically limits their interest to companies active in areas closely related to their existing core businesses.⁶ Sandvik incorporates a central function that can aid the divisions in juridical aspects of M&A. There is no central strategic function that can aid the divisions on M&A in the operational work. M&A is a matter of every president at division level. Since Sandvik is a conglomerate it would be hard to have a central M&A function because the underlying business must be understood when assessing strategic alternatives. To provide the right commitment in a conglomerate such decisions should not be more than one or two levels above the division president.⁷ Alternative collaboration alternatives such as joint venture are not considered a strategic option for the moment being.⁸

Growth through mergers and acquisitions is not a new strategy for Sandvik and many of the now existing core operations once started out as acquisitions.⁹ For instance the history of a division of Sandvik called Drilltech, a world wide provider of heavy duty rigs and drills with a turnover of 1.43 billion USD is a vivid example of this.¹⁰ See Table 9 below. The latest example of a major acquisition is the purchase of the Australian company SDS Corporation by SMC Australia in April 2006 for the amount of 594 million SEK.¹¹

⁴ Sandvik intranet

⁵ Engblad, Mats. Interview, 2006-05-02

⁶ Sandvik intranet

⁷ Engblad, Mats. Interview, 2006-05-02

⁸ Ibid

⁹ Bartsch, Craig. SPS Totowa. Interview 2006-03-02

¹⁰ www.drilltech.sandvik.se

¹¹ www.direkt.se

Strategic Attractiveness in Mergers and Acquisitions

1984	Sandvik divisions were transformed into separate companies Sandvik Rock Tools was established.
1987	Sandvik Rock Tools acquires Hughes Mining Tools.
1987	Sandvik acquires MGT
1988	Sandvik acquires Mission Drilling
1989	Cooperation with Atlas Copco which began in the 1940's in the rock-drilling field is terminated.
1990	Sandvik acquires 25% of Tamrock.
1996	Sandvik acquires 26% of Tampella, the parent company of Tamrock.
1997	Sandvik acquires Drillmaster
1998	Tamrock and Sandvik Rock Tools merge to create Sandvik Mining and Construction
1998	Four business sectors were established: Sandvik Tamrock, VA-EIMCO, Sandvik Materials Handling and Driltech Mission
1999	Sandvik Tamrock acquires Broyt, a leading supplier of face loaders.
2000	Sandvik Materials Handling acquires Beltreco, the leading conveyor service company for mining and other bulk materials handling customers.
2000	Driltech Mission acquires BPI
2001	Sandvik Mining and Construction acquires mining and construction part of Svedala and establishes a new business sector: Sandvik Rock Processing
2001	Sandvik Mining and Construction acquires Bafco in Chile. Bafco is a leading service and rental company in underground mining industry.

Table 9: The creation of Sandvik Drilltech through acquisitions¹²

4.2 Sandvik Process Systems

SPS represents one of SMT's five product areas, the turnover in 2005 was 1.2 billion SEK¹³. SPS has two major product categories, steel *belts* and *industrial processes* (IP). SPS expertise include the manufacture of steel belts and press plates as well as the design, manufacture and installation of steel belt systems for chemical and food processing plants.¹⁴ Steel belts are typically used in a process to convey a product, such as fish or chicken, and enable usage of the thermal conductivity of the steel material to either cool or heat the product. IP uses the steel belt as one part of their product but also includes the design and manufacturing of a whole process plant. A typical application is when a fluid solution is distributed to a steel belt and cooled into pastilles, e.g. RotoformTM. Our main focus of the paper is set on the steel belt business of SPS as this is where SPS thinks that the possible merger with BT is most likely to provide benefits.¹⁵

¹² www.sandvik.com/intranet

¹³ Internal numbers from SPS

¹⁴ www.processsystems.sandvik.com

¹⁵ Bodin, Anders. Interview, 2006-04-19

Strategic Attractiveness in Mergers and Acquisitions

The total market for steel belts decreased during the last decade, SPS sales during this timeframe dropped from approximately 650 tons to 450 tons¹⁶. The drop in sales volume is mainly due to cheaper substitute belts made of plastics which are continuously evolving into what used to be steel specific characteristics, such as wear resistance and strength. Another factor is that steel belts are used in process applications and is highly dependent from machine builders in niches which limited growth. 2005 was still a record year for SPS but growth was mainly achieved through price increases of the steel belts. SPS Belts presented a result of 8 % growth and a ROCE of 70%. The good result was achievable due to a duopoly situation in the steel belt market between SPS and its main competitor Berndorf. The two companies control approximately 98 % of the total market.¹⁷ SPS holds a 54 % market share and is positioned as the premium brand.¹⁸

Table 10 shows the total market of conveyor belts divided by Rubber and Synthetic “Plain” Belts, Modular Plastic Belts, and Metal Belts & Woven Cloth Belts. Table 11 shows the Metal Belts & Woven Cloth Belts market in more detail.

Total Market MUSD	Type of Belt	Main Suppliers	Turn Over MUSD
2400	Rubber and Synthetic “Plain” Belt	Goodyear	330
		Gamma Holding/Ammeraal Beltech	260
		Habasit	250
		Fenner/Uni Poly Enerka “Dunlop”	250
		Forbo AG/Seigling	250
600	Modular Plastic Belting	Intralox	120
		KVP	25
1000	Metal Belts & Woven Cloth	Cambridge Int.	58
		Ashworth	37
		Kufferath	50
		SPS	70
		Berndorf	50
4000	TOTAL		

Table 10: The total market for all types of conveyor belts in MUSD¹⁹

¹⁶ Internal SPS document, *Belt Technologies – An expansion opportunity for SPS*, 2006-03-06

¹⁷ Bodin, Anders. Interview, 2006-04-19 and Bartsch, Craig. Interview 2006-03-02

¹⁸ Bodin, Anders. Interview, 2006-04-19

¹⁹ SPS Internal material

Total market MUSD	Sub-market MUSD	Type of belt	Main suppliers	Turn over MUSD
1000	360	Filter & Separation	Cambridge Int.	4
			Ashworth	12
			GKD	18
			Kufferath	20
	365	Woven Process & Conveyor Belts	Cambridge Int.	50
			Ashworth	23
			GKD	18
	100	Woven Metal Panels	Kufferath	35
			Cambridge Int.	4
			Ashworth	2
			GKD	18
	150	Conveyor & Process Strip Belt	Kufferath	10
			SPS	75
			Berndorf	60
15	M & I Strip Belt	Contibelt	3	
		Belt Technologies	6	
			Dymco	7

Table 11: The metal & woven cloth conveyor belt in more detail.²⁰

4.2.1 Products – Endless Steel Belts

A SPS endless steel belt is basically a strip of steel that is welded together at the ends to form a wide and flat coil. When this coil is suspended between two drums, force can be transmitted due to friction and the belt will start to move in a loop. It looks like the conveyor belt at the grocery store shopping counter but made of steel instead of rubber. A SPS steel belt can vary between 0,1–8 meters in width, 0,2 – 3.7 mm in thickness and be produced almost to any length above 2 meters. The belts can be either polished, perforated, engraved with patterns, coated or plain. Endless steel belts are seen as the core products of SPS. The production of steel belts began in 1901 thereby making it one of Sandvik's oldest products. The basic function of the steel belt is to convey products in manufacturing processes. The product itself has not really changed very much in a hundred years. What have changed are the quality and tolerances of the belts, the materials used and the manufacturing processes²¹.

SPS steel belts are divided into special and standard belts. Special belts are bigger belts while standard belts are smaller. This results in two similar production techniques with different machinery and handling, all described in the next chapter. The volume decrease of the latest years has mainly struck standard steel belts since they are the once competing with plastic substitutes. The market for special belts continues to grow organically even though SPS has thought that it will stagger for a long time.

²⁰ SPS Internal material

²¹ Bodin, Anders. Interview, 2006-04-19

The basic underlying characteristics which make steel a preferable material for belts over substitute materials, i.e. plastics and rubber, are the following:²²

- High thermal conductivity that makes it suitable in, for instance, bakery ovens or cooling food.
- High durability that provides longer life times than plastics, i.e. 5 – 10 times longer. The life of the belt is dependent on how sharp the radius of curve around the drum is and how close lateral force has to be applied to the drum to keep the belt on track. When applied correctly Sandvik guarantees more than 10 billion cycles of a belt.
- High corrosive resistance over plastics.
- High tolerance of surface finish that combined with the corrosive property makes it easy to clean with low rates of bacteria compared to plastics.
- Engravable for pressing repetitive patterns, such as wood-patterns for laminate floor.

The disadvantages of steel compared to substitute materials are:²³

- High cost i.e. 10 times the cost of plastic belts.
- The curve of radius around the drums of the conveyor needs to be greater for a steel belt than for a similar plastic belt. Therefore the conveyor machines cannot be made as small as the ones using plastic belts.
- Inflexibility. Steel belts are welded endless which makes it inflexible compared to plastic modular belts. Plastic belts are made modular with interlock attachments which mean that any given length can be made without welding. This also means that a damaged plastic belt can easily be repaired at location.

A standard steel belt from SPS would typically be sold between 100.000 and 200.000 SEK while a special belt typically is sold at 2 and 3 million SEK.

4.2.2 Production

Steel as a material is considered a commodity but the quality of the finished steel belt is highly dependent on the quality of the raw material used. Therefore only a couple of suppliers are used by SPS and raw material is purchased in the form of coils from Japan, Outokumpu or from SMT Strip internally with a lead time of up to approximately 14 weeks. The total average lead time for the manufacturing of the product is about 4 weeks.

Levelling and Straightening

The coil first has to be levelled and straightened into very fine tolerances. Levelling is the smoothness of the surface and straightness is measured as camber. The levelling of the belt is achieved by cold rolling the coil with pressure zones which deforms the material step by step. This transfers tension and material along the coil so that curves

²² Lundgren, Krister. Interview.

²³ Bodin, Anders. Interview, 2006-04-19 and Lundgren, Krister. Interview

and bumps are levelled. After every roll the operator has to apply a new pressure zone until the sought tolerance is achieved. This process is very dependent on the skill and experience of the machine operator and SPS almost classifies it as hand craftsmanship. Attempts have been made to atomise the process but the problem proved too complex to handle. This was mainly due to the unique characteristics of every single steel coil. A standard belt takes approximately 4 – 12 hours to straighten and level depending on the individual coil.^{24,25} The procedure is similar for special belts but the thickness of the belt means that the belt has to be welded into an endless loop and applied with pre-suspension tension. Only then can the cold rolling into sought tolerances deform the whole thickness of the material.²⁶ The result is a coil or a loop with very good precision and tolerance. The knowledge of manufacturing these belts is considered as core competence in SPS.²⁷

Cutting and Welding

The coil is then cut to the desired length and welded together into an endless loop. The welding is done by the TIG – method and is semi-automated. The task for the operator is to make the ends of the coil collateral so that the belt does not get warped. In order to achieve special belts of widths up to 8 m several coils has to be collateral welded alongside each other.

Burring

The edges of the coil are burred to prevent cutting on otherwise razor sharp edges.

Perforation

Some belts get perforated in a mesh-like pattern which enables cooling and drying products using air. The diameter of a hole ranges from 5.0 mm down to 1.0 mm. The perforation of the belts is outsourced to local suppliers in the Nordic region.²⁸

Coating

Some of the smaller belts are coated with Teflon-like materials to provide non stick characteristics, this is outsourced to local suppliers.²⁹

V-roping

To be able to keep the traction of a steel belt, rubber V-ropes can be applied at the back of the belt.

4.2.3 Sales and Service Organizations

The sales and marketing function of SPS is present world wide with sales personal or agents in 30 countries. The sales representative's work with value based sales and

²⁴ Carl-Gösta, production SPS. Interview. 2006-01-18

²⁵ Study of production and interview with C-G, Sandviken 2006-01-20

²⁶ Carl-Gösta, production SPS. Interview. 2006-01-18

²⁷ Bodin, Anders. & Österholm, Rolf. Interview, 2006-04-19

²⁸ Carl-Gösta, production SPS. Interview. 2006-01-18

²⁹ Ibid

typically sells 20-50 belts a year. The selling of belts is divided into approximate 20% as new sales and 80% as replacements belts. SPS is the premium brand with prices generally 5 – 10 % higher than Berndorf.³⁰ Sandvik also has a global service organization with high technological knowledge about the operating demands of the belts to assure the maximum lifetime. The service crew has the ability to repair a belt without taking it out of the machine it is currently used in. By cutting out a circle in the belt, a damaged material part can be removed and replaced by welding a new piece of material into place.

SPS has, in their view, a better service organization compared to Berndorf. SPS mainly use their own and highly experienced service technicians. The technicians are located in about 25 countries. The knowledge within the SPS sales and service organizations are considered as core competences by SPS^{31,32}.

4.2.4 Customers

SPS customers are original equipment manufacturers, i.e. machine builders (OEM:s) which later sell their machines to manufacturing companies in several industries. Industries that can utilize the superior characteristics of the steel materials are predominant, such as baking oven belts where the thermal conductivity and temperature is not suitable for plastics belts. Replacements belts are sold directly to the end customer by SPS world wide sales organization. Figure 8 presents the industries where the SPS belts are used ranked by sales value.

³⁰ Bodin, Anders. Interview, 2006-04-19

³¹ Ibid

³² Österholm, Rolf. Interview, 2006-04-19

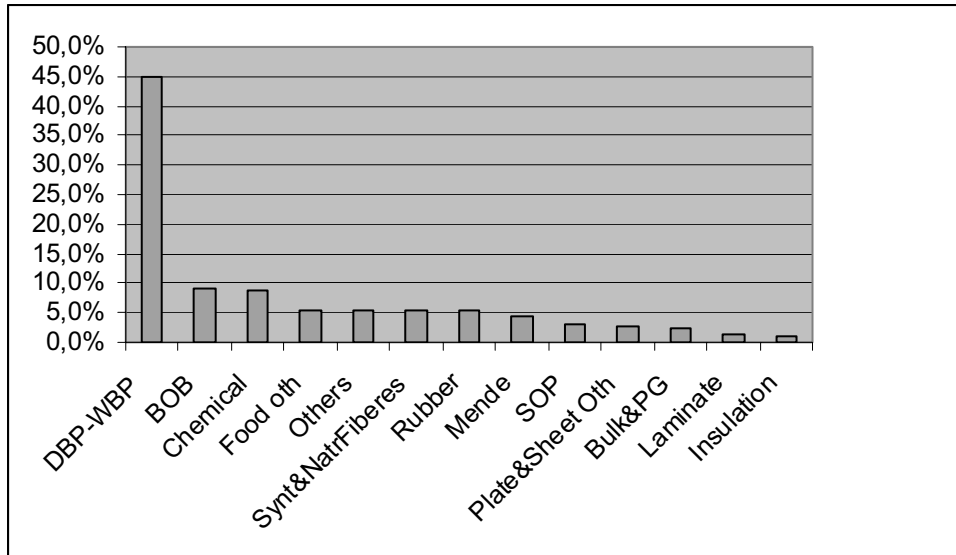


Figure 8: Industries where SPS belts are used as percentage of invoicing³³. DBP=Double belt press. WBP=Wood based panels. BOB=Bake oven belts. Mende=Rotational press for WBP. SOP= Single operating press for WBP. Bulk =Transporting belts for suger, sand, concrete etc. PG=Piece goods, transporting belts for parcels, bottles, cans etc.

4.2.5 Creating Growth

SPS in collaboration with other SMT divisions have identified other industries where growth through M&A would be attractive.^{34,35} Some industries and companies have also been assessed as not interesting for the time being such as a horizontal merger with Berndorf.³⁶ Acquisitions are not presently following a strict process at SPS as it is not considered as practicable^{37,38}. Instead interesting acquisition candidates and markets are kept as documents which are updated at SPS board meetings when the discussion of growth is present. In the SMC division of Sandvik a more formal and structured process for acquisitions has been developed and can be followed by SPS if necessary.³⁹ In 2004 SPS identified eight new possibilities to grow its business; acquiring BT was one on these eight. SPS also identified that two of the other eight opportunities were strongly affected by BT. The three growth opportunities affected by BT were:

³³ Sales material SPS

³⁴ Engblad, Mats. Interviu, 2006-05-02

³⁵ Österholm, Rolf. Interview, 2006-04-19

³⁶ Engblad, Mats. Interviu, 2006-05-02

³⁷ Berg, Göran. Interview, 2006-04-20

³⁸ Engblad, Mats. Interviu, 2006-05-02

³⁹ Ibid

- Acquiring BT and their current business. Similarities in products and production techniques combined with strong economic figures made it an appealing candidate.^{40,41}
- A fast food grill project for a major fast food chain. A new technique for grilling food was tested by an OEM in U.S. where thin conveyor steel belts were one of the core requirements. Volumes were significant. BT and SPS were both developing belts for this project but the cost and quality by neither supplier had yet been acceptable for the fast food chain. SPS had not been involved in the project as long as BT. SPS believed that coating the belts with Teflon was not a good solution for the belts, but would rather try different materials, possibly with a new Gaia technique from SMT. Gaia means that any steel can be given a coating from another metal in a very thin layer and is considered unique for Sandvik.⁴²
- A new steel grade, 1700 SA, with improved characteristics for thin conveying belts could be used to enter the small conveyor market. The main difference is that the 1700 SA material has a higher tensile strength which enables thinner belts useful for smaller conveyors. A possible application area was the frozen food market and chocolate manufacturers where much of the volume losses to plastic belts had occurred.⁴³

4.2.6 SPS problems in the current situation

SPS has identified four competences currently lacking in order to grow the small conveyor market for steel belts. These are respectively:

- handling of more delicate steel belts in the manufacture process. Thinner steel belts, 0,15 – 0,4 mm., are so fragile and soft that they easily become damaged by procedures that would not damage SPS thicker steel belts. For instance a small stone on the floor of the production facility could damage the belt enough to make it scrap.⁴⁴
- applying V-ropes to a thinner steel belt. The rubber is firmer than a thin steel belt, which makes the belt surface buckle. SPS lacks the routines, knowledge and tools to handle belts below 0,4 mm. in thickness and to make them profitable. Even though the thinnest belt processed by SPS is 0,2 mm. with 1700 SA material, no such orders are accepted without special considerations from the product manager.⁴⁵
- high levels of scrap material when producing thinner belts as the camber cannot be corrected with regular methods but has to be cut into straight belts.⁴⁶

⁴⁰ Engblad, Mats. Interview, 2006-05-02

⁴¹ Berg, Göran. Interview, 2006-04-20

⁴² Bodin, Anders. Interview, 2006-04-19

⁴³ Bodin, Anders. Interview, 2006-04-19 and Lundgren, Krister

⁴⁴ Sjögren, Kjell. and Lage. production SPS.

⁴⁵ Lundgren Krister, Interview.

⁴⁶ Sjögren, Kjell. and Lage. production SPS.

- the welding of thinner steel belts is currently too time consuming with poor results of quality. SPS currently lacks the knowledge and the machines to weld materials below 0.35 mm. with satisfying results of Sandvik quality.⁴⁷
- the knowledge of end-customer needs and market potential of small conveyors are poorly understood. Attempts have been made to identify the market potential of OEMs of small conveyors in Italy.⁴⁸
- SPS does not have enough knowledge about building smaller conveying machines as a whole and therefore are limited when trying to grow this market.⁴⁹

4.3 Belt Technologies

In early 2003 SPS had a meeting with BT at the SPS facilities in Totowa with the topic of discussing possible co-operation possibilities. After this meeting there have been additional meetings and correspondence between the two companies. The latest larger meeting took place in late 2004. SPS initial interest in BT was at the time based on the possibility to expand BTs existing business and also to get access to the knowledge within the company. Through SPS global sales organisation they hoped to be able to expand the current market areas covered by BT. SPS identified that this would however require additional training of the SPS sales staff. Another possible synergy identified by SPS was to supply the raw material by SMT/Sandvik Strip. SPS was also interested in combining the companies' surface treatment departments for the possibility to develop new materials. SPS was also very interested in the welding capability by BT to solve the problems with welding the new thin steel material handled by SPS. On the 10th of November 2003 a non-disclosure agreement was signed by former CEO of SPS, current marketing VP and The owner of BT stating that any information shared between the two companies should not be made publicly known. After the meeting in 2004 there has not been much activity in the possible deal although they still have some contact

BT was founded in the beginning of 1970 in Agawam Massachusetts, USA, and belonged to EBTEC Corporation up to 1989 when a management buy-out took place. In April of 2000 the current owners acquired the company for a total sum of 8.5 million dollars.⁵⁰ The present CEO, also one of the owners, were at the time of the acquisition very well familiar with the status of the company, both financially and operationally, as he previously had been the company's external auditor⁵¹. Effective December 19th the same year the stockholders of BT Inc. exchanged their interest in the company for a similar interest in BT Trust, a Massachusetts Business Trust and

⁴⁷ Lundgren Krister, Interview.

⁴⁸ Österholm, Rolf. Interview, 2006-04-19 and Lundgren, Krister.

⁴⁹ Bodin, Anders. Interview, 2006-04-19

⁵⁰ Consolidated Financial Statement, Belt Technologies, 2000

⁵¹ Internal SPS document, *Belt Technologies – An expansion opportunity for SPS*, 2006-03-06

the business trust took over ownership of the company. As a result of this tax motivated reorganization, BT Inc. is today a wholly owned subsidiary of BT Trust.⁵²

BT specializes in stainless steel belts that are sold together with their own pulleys and/or conveyor belts. These steel products are mainly used for precision positioning, timing, conveying, power transmission, packaging, and automated manufacturing operations. The Financial numbers have been very strong during the last couple of years with EBIT⁵³ margins between 28 and 35% during 1999 and 2003⁵⁴, this figure was even better in 2004 when it rose to 43%⁵⁵. The company's net turnover was approximate \$6.4 MUSD during 2004⁵⁶⁵⁷ and total number of employees was 40⁵⁸.

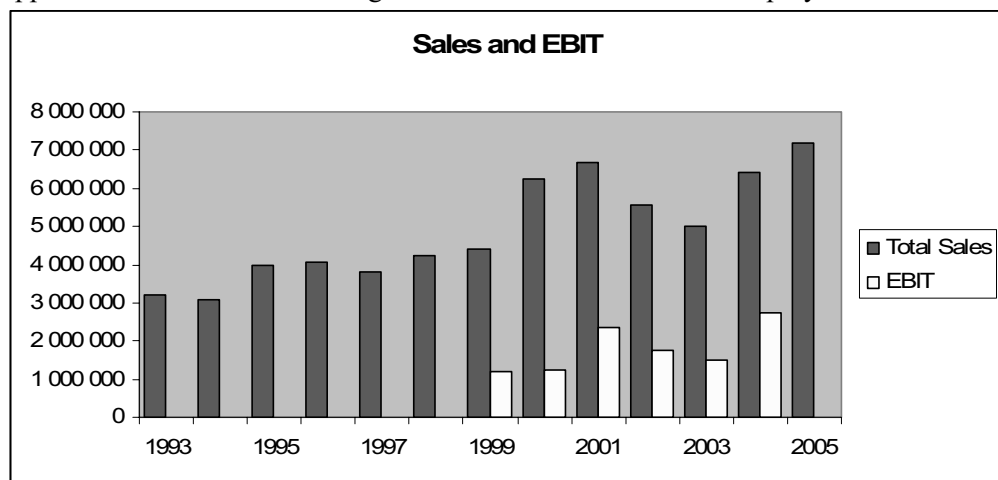


Figure 9: BT sales and EBIT 1993-2004.⁵⁹

The company's is organized according to the organization chart provided below in Figure 10. According to the CEO of the company the critical employees for the operations are the Operations manager, the new product development manager, the engineering manager and the two machinists⁶⁰.

⁵² Consolidated Financial Statement, Belt Technologies, 2000

⁵³ EBIT - Earnings Before Interest and Tax

⁵⁴ Consolidated financial statements, Belt Technologies, 1999-2000

⁵⁵ Internal minutes from meeting between SPS and BT 2004-09-16

⁵⁶ Ibid

⁵⁷ We believe net sales to be 7.2 MUSD during 2005 but that has not been confirmed.

⁵⁸ Hoovers report on 2006-03-14

⁵⁹ Based on information from various sources such as financial statements from BT, SPS documents and databases.

⁶⁰ Internal minutes from meeting between SPS and BT 2004-10-16

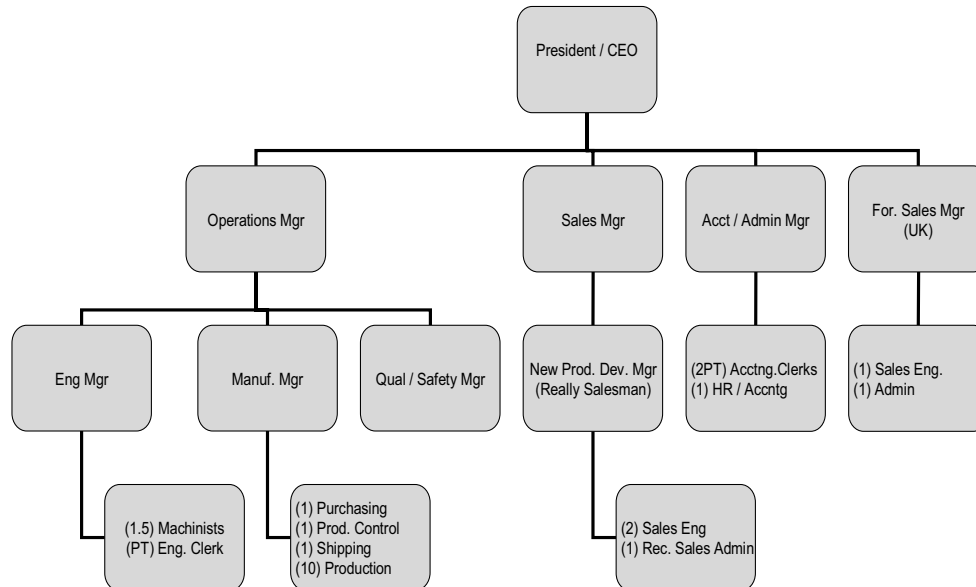


Figure 10: Organization chart as of September 2004 according to BT⁶¹.

4.3.1 Market situation

There is only one company besides BT that has the capability to produce the type of products that BT sells and thus only one real competitor. The company is called Dymco and is located in Japan. SPS have been in contact with Dymco and had also a meeting with them in the beginning of 2004. Dymco are approximate 30 employees in Japan and one in Shanghai and they also use an agent in the U.S. called Hess Pumicle Products. Dymco believes that their strength is technical know-how on thin steel belts with conveyors but that their sales channels outside Japan are very weak and their activity in Europe and in the U.S. it to low. As opposed to BT, Dymco uses sub-contractors for welding, plasma and laser welding.⁶² Dymco gross turnover was 6.4 MUSD in 2004⁶³ but profit margins are believed to be low⁶⁴.

4.3.2 Products

BT main business is selling steel belts, pulleys and conveyors. The products are generally designed to unique customer specifications.⁶⁵ An overall classification of the products can be made into the following areas; Engineered Belts, Process Belts, Pulleys, Conveyers and Heat-sealing bands⁶⁶. The steel belts produced and sold by BT are very small in comparison with SPS products. The dimensions of the steel belts

⁶¹ Internal minutes from meeting between SPS and BT 2004-09-16

⁶² Internal minutes from meeting between SPS and Dymco 2004-02-04 in Yokohama Japan.

⁶³ OneSourceExpress internet database, 2004-03-14

⁶⁴ Internal SPS document, *Belt Technologies – An expansion opportunity for SPS*, 2006-03-06

⁶⁵ www.belttechnologies.co.uk

⁶⁶ www.belttechnologies.com

very a great deal depending on the application area but widths can be in the area of 10-600mm with thickness of 0,025 – 1,2 mm⁶⁷. Lengths can be up to 10 meters. As opposed to SPS steel belts there is very seldom a physical product on the actual steel belt⁶⁸. The belts can be used for several different applications. The main business is in positioning and indexing products linear in repetitive manufacturing. They can furthermore be used for X/Y-positioning, e.g. printer heads in scanner and printers or robotic parts. According to the former CEO of SPS U.S. the conveyor application part of BT is not that main business but more of a complement to the belt side⁶⁹.

Engineered Belts

BT engineered metal belts are used in a broad range of applications such as friction drives, specialized conveyers, transporters and positioning conveyers. Different coatings, plating or laminates can be combined with perforations or attachments to achieve the desired characteristics. BT produces six types of engineered metal belts. First off is the plain belt without perforations, attachment or coatings. The belt is manufactured by using a high energy beam to weld together two ends of a metal tape and thus form an endless belt. The high integrity butt weld used is extremely strong and smooth. Plain belts are mostly used in conveying, heat sealing, casting and imaging applications. The second and third type, belts with attachments and perforated belts, are usually used in automated assembly or inspection conveyers that require precision indexing.⁷⁰ The precision perforations can be produced mechanically or by using non-impact methods⁷¹. With a wide range of different coatings BT can manufacture a variety of coated belts and thus alter the natural surface properties of metal belts, tapes and pulleys. With combinations of perforations, coatings and attachments special combination belts are manufactured. These combination belts are commonly used in high speed packaging equipment, automated assembly, inspection equipment and cutting. The last type of engineered belts is the drive tapes, which unlike the belts are not endless. Drive tapes are used in carriage positioning applications such as plotters, scanners, coordinate measuring conveyers read/write heads and robot arms and can be perform with zero or near zero backlash.⁷²

⁶⁷ Internal SPS document, *Belt Technologies – An expansion opportunity for SPS*, 2006-03-06

⁶⁸ Ibid

⁶⁹ Miller, Walter. Telephone Interview, 2006-02-06

⁷⁰ www.belttechnologies.com

⁷¹ Design Guide and Engineer's Reference for Metal Belts. Produced by BT 1999

⁷² www.belttechnologies.com

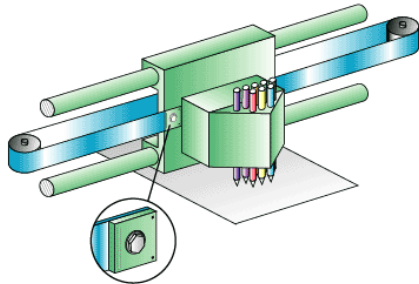


Figure 11: Drive tape, actual drive tape in blue.⁷³

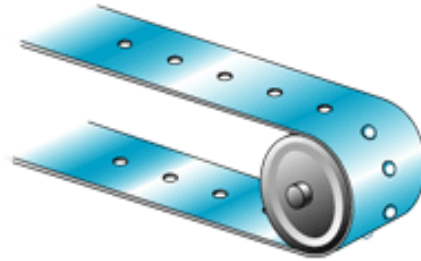


Figure 12: Perforated belt⁷⁴

Process Belts

Process belts are fabricated from carbon or stainless steel and are used in different types of process systems. Process belts provide long life and low friction conveying without the vibration induced by other types of belting. In order to provide stable tracking characteristic so called V-ropes made out of rubber can be attached to the underside of the steel belt. Carbon steel is usually the best choice when a scrapping device will be in contact with the belt. As the belts are very easy to clean and sanitize they are used in the baking and chocolate industry. The belts thermal properties and magnetic characteristics also make them beneficial in a wide range of material handling processes. The stainless steel belts are mainly used in applications where the sanitation requirements are high such as food applications. The surface is hard, flat and smooth which makes it very easy to clean. The belt will furthermore not absorb natural odors or affect the tastes of material being transported.⁷⁵



Figure 13: Process belt with product on top⁷⁶

Pulleys

All metal belts and drive tapes produced by BT travel around pulleys. BT custom designs and manufactures different types of pulleys that optimize the unique characteristics of the metal belts.⁷⁷ The pulleys can be constructed to insure accurate positioning and repeatability. Features such as timing elements, relief channels, and

⁷³ www.belttechnologies.co.uk

⁷⁴ www.belttechnologies.com

⁷⁵ Ibid

⁷⁶ Ibid

⁷⁷ Design Guide and Engineer's Reference for Metal Belts. Produced by BT 1999

different types of material can be mixed and matched to develop a pulley which will deliver the desired conveyor results. BT primarily sells six different types of pulleys, all designed for different purposes. BT has a patent on one of the pulleys techniques called Independently Steerable Pulley (ISP)⁷⁸. The ISP is designed to compensate for camber⁷⁹ that is inherent in the metal strips used to manufacture metal belts. The solution removes the need for pillow blocks, jackscrews or other alignment methods. The conveyor can also be adjusted while in motion. The diameter of the pulleys should, according to BT, be about 625 times the belt thickness to obtain the best belt characteristics. BT sells pulleys made of several different types of materials such as aluminum, stainless steel, and certain plastics.⁸⁰



Figure 14: Pulley⁸¹

Conveyors

BT seems to have good knowledge in constructing conveyor systems⁸². Their high precision conveying, indexing or linear rail movement systems are sold complete with tracking and tensioning mechanisms⁸³. The conveyors, that are ideal in extreme temperature or harsh chemical environments, can be sold with or without motors and power supply⁸⁴.



Figure 15: Conveyor system⁸⁵

Heat Sealing Bands

⁷⁸ US patents number 5,427,581 and 5,676,613 and 5,676,615

⁷⁹ Camber, or edge bow, is the deviation of a belt edge from a straight line. Metal belt camber is typically as little as 0.2-0.5mm per 1m.

⁸⁰ www.beltechnologies.com

⁸¹ Ibid

⁸² Internal minutes from meeting between SPS and BT, date unknown

⁸³ www.beltechnologies.com

⁸⁴ Ibid

⁸⁵ Ibid

BT produces heat-sealing bands in thickness from 0,076mm to 0,203mm and in any length or width. The bands are mostly used in food preparation, pharmaceutical, medical, chemical or any packaging application that needs increased release properties.⁸⁶

4.3.3 Possible substitutes to BT products

There are a number of substitutes to belt products from BT such as rubber and fiberglass belts and some substitutes to the power transmission or motion control components such as linear motors, lead screws and chains⁸⁷. The two most important substitute products are plastic belts and linear motors. The plastic belts are first and foremost cheaper than the metal belts. When the belt is near breaking point it is also possible to see this as the belt will stretch, it is then possible to replace the belt before it breaks down completely⁸⁸. This means that it is possible to avoid a long downtime in the machine by changing the band earlier. Plastic belts can also be bought in modules meaning that they can easily be changed into any length desirable. This also means that the belts can be easily repaired if any part of the belt breaks down. Plastic belts do however provide a lower accuracy than steel belts due to the fact that they stretch. They furthermore give off particles thus not making them suitable for environments that have to be kept absolute clean. They also have a low strength to weight ratio compared to steel belts and can furthermore not handle hostile environments such as high temperatures.

Linear motors are a substitute for primarily power transmission and motor control. They represent a new technique that provides a better accuracy than steel belts and also at a higher speed, the pitch tolerances are ten times better than the once achievable with steel belts.⁸⁹ The linear motors have been developed quite much during recent years and are smaller and stronger than a couple of years ago. They are however weaker than the steel belts and can not carry as much weight. They are furthermore considered expensive and inflexible. Linear motors seem to be gaining market shares in this market segment.⁹⁰

4.3.4 Production

Belt Technology manufactures most of the products themselves. Their climate-controlled facilities are equipped to produce metal belts, drive tapes, and complementary pulleys in prototype and high volume production quantities⁹¹. In late 2004 they were still running one shift. The company has tried running a second and a third shift at one point, but they found that the output they received from the two extra

⁸⁶ www.belttechnologies.com

⁸⁷ Design Guide and Engineer's Reference for Metal Belts. Produced by BT 1999

⁸⁸ Bergström, Anders. Mydata. Interview.

⁸⁹ Ibid

⁹⁰ www.engineeringtalk.com

⁹¹ Design Guide and Engineer's Reference for Metal Belts. Produced by BT 1999

shifts fell off dramatically.⁹² BT has a relatively new MRP system for their manufacturing operations. The new MRP system combined with the possibility to bar code all jobs gives the company very good possibilities to track each product and ensure gross profit margins are kept at a proper level. Due to the relative short length of the steel belts produced no straightening of the original material is needed and BT does because so not have the experience to do such operations⁹³.

By an advanced proprietary tool technique the steel belts can be perforated with very high pitch to pitch tolerances⁹⁴. In 2005 the Company bought Clark Manufacturing, a company specializing in stainless steel suction belts used to measure and carry tobacco through a suction system. The acquisition was said to give BT better resources in perforating steel belts using water-based systems⁹⁵. The plan at the time of the acquisition was, according to company officials, to move the manufacturing capacity to the Agawam facility and integrate new product lines within the current operations⁹⁶. According to Professionals at SPS the basic steel material used in BTs products can be purchased from several different suppliers⁹⁷. According to SPS a large part of BTs basic steel material needs could be supplied by Sandvik Materials Technology Strip division⁹⁸.

BT also possess the skill of coating the steel belts with various grades of Teflon to provide a heat resistance surface with excellent release characteristics⁹⁹. During 2004 the company coated approximate 50% of their own belts¹⁰⁰ BT has the capabilities to manufacture the metal belts with a very high degree of accuracy. The perforated belts and the belts with attachments can be fabricated with pitch accuracies of +/- 0.013mm. The positioning accuracy for metal timing belts can be down to +/- 0.025mm, the repeatability of the systems is also very precise due to the fact that the metal belts do not stretch.¹⁰¹

4.3.5 Sales and Marketing

Sales in North America is done by the company's own sales personal, two distributors and too a great deal through Original Equipment Manufacturers (OEM)¹⁰². The same goes for the considerably easy sales of replacement belts, where BTs policy is to let the OEM:s sale those belts too instead of selling the belts direct to the end user

⁹² Internal minutes from meeting between SPS and BT 2004-09-16

⁹³ Internal SPS document, *Belt Technologie - An expansion opportunity for SPS*, 2006-03-06

⁹⁴ www.belttechnologies.com

⁹⁵ www.businesswest.com and www.engineeringtalk.co.uk

⁹⁶ www.businesswest.com/Nov142005/dept_notebook.htm

⁹⁷ Miller, Walter. Telephone Interview, 2006-02-06

⁹⁸ Internal SPS document, *Belt Technologies—An expansion opportunity for SPS*, 2006-03-06

⁹⁹ www.belttechnologies.com

¹⁰⁰ Internal minutes from meeting between SPS and BT 2004-09-16

¹⁰¹ Design Guide and Engineer's Reference for Metal Belts. Produced by BT 1999

¹⁰² Internal SPS document, *Belt Technologie - An expansion opportunity for SPS*, 2006-03-06

themselves.¹⁰³ The average sale was \$5000 in 2004 and the average customer purchases between 10 and 50 belts per year¹⁰⁴. European sales are managed through the European office located in Durham City, England, with 3 employees.¹⁰⁵ The sales office was started in 1994 and has grown quite rapidly since then. All products sold are however still manufactured in the USA¹⁰⁶. Furthermore there are a number of agents used worldwide to facilitate and increase sales as well as providing engineering support in their respective countries¹⁰⁷. There are currently agents in Austria, Israel, Italy, Japan, Korea, The Netherlands, Singapore and Sweden¹⁰⁸. In Sweden BT has kept the responsibility of the main customer on the market and left the small ones to agent. Roughly 25% of the Swedish market seems to be in the Stockholm related area. The Swedish agent does a field trip together with representatives from the BT European office with the purpose to increase sales approximate once a year.

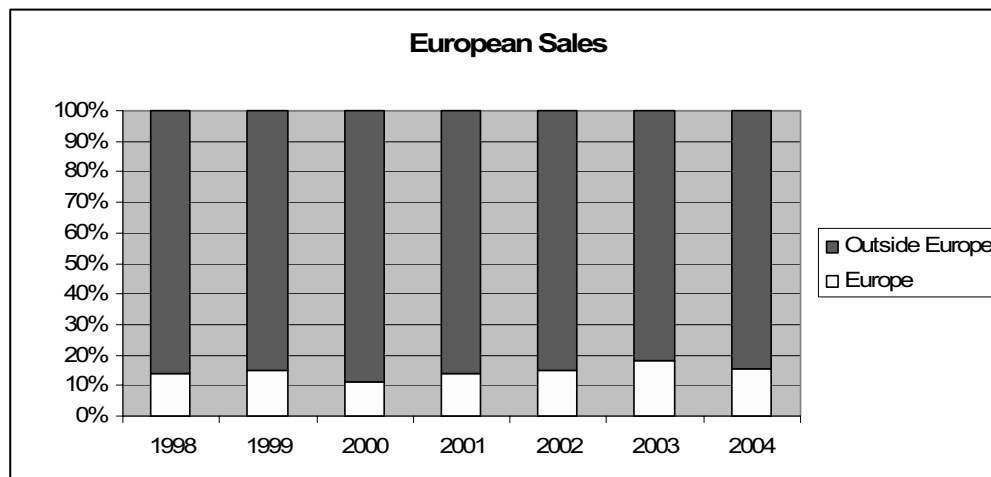


Figure 16: European Sales of total sales, 1998-2004¹⁰⁹

According to SPS the present owners of BT do not have the financial strength or the interest to broaden their market coverage¹¹⁰. The European sales manager said that finding funding to break into new markets have been very hard. The European office has however gotten help from a UK Trade & Investment program called “Passport to Export”. The program enabled them to access certain resources and gain some good results including exposure to new markets by producing brochures and literature in Italian, Spanish and French and also advertising in the local media in those countries.

¹⁰³ Notes on balance sheet from meeting with BT, date unknown

¹⁰⁴ Minutes from meeting between SPS and BT representatives, 2004-10-16

¹⁰⁵ Internal SPS document, *Belt Technologies – An expansion opportunity for SPS*, 2006-03-06

¹⁰⁶ www.belttechnologies.co.uk

¹⁰⁷ www.belttechnologies.com

¹⁰⁸ www.belttechnologies.com/agents

¹⁰⁹ Consolidated Financial Statement, Belt Technologies, 1998 - 2003

¹¹⁰ Internal SPS document, *Belt Technologies – An expansion opportunity for SPS*, 2006-03-06

As a direct result of these efforts they have established a distributor in Italy and become the default supplier for a large cigarette manufacturer in the Netherlands. The program has helped them raise sales by 11 percent. The main European market for BT is in the UK and in Germany¹¹¹.

4.3.6 Service

According to SPS' personal, BT does not have a well developed service organization if any at all. BT does not possess the capabilities to weld belts at remote locations as SPS service organization. In 2005 SPS US was asked if they could be of assistance in welding a belt produced and sold by BT at the customer site.¹¹² The possible growth of the company is limited due to the fact that they don't have access to field service¹¹³.

4.3.7 Customers

BT claims to have the bigger part of their customers in the Aerospace, Medical Equipment, Electronics, Food Processing, Tobacco, Automation and Material handling industries¹¹⁴. The customer base is very diverse with a lot of different application areas¹¹⁵. BT has quite a large dependency on a few customers. In the years 1998 to 2003 the main customer situation has been the following. In 1998 BTs biggest customer accounted for 11% of the turnover. In 1999 no one customer accounted for more than 10%. One customer accounted for 22% of sales in 2000. In 2001 the two biggest customers accounted for 20 and 13% respectively and 33% together. The same two customers accounted for 30% together in 2002. In 2003 and 2004 the main customer stood for 10% of the sales volume.¹¹⁶ We will below present a number of actual customers to BT and as far as possible describe what the belts are used for.

SAAB Tech Electronics AB¹¹⁷

Saab automated technology uses belts, pulleys and other accessories from BT in their sophisticated BOL aircraft system. The BOL is a countermeasure dispenser that shoots out small metal strips to avoid missiles¹¹⁸. The system is used by the Swedish fighter planes JAS and VIGGEN but is also sold to the UK Royal Air force and the US Navy¹¹⁹. The belts supplied by BT are perforated and works as a drive mechanism in the dispenser. The arguments from SAAB for using the belts where primarily their fine precision, the fact that they do not stretch under extreme temperatures, their high

¹¹¹ Internal minutes from meeting between SPS and BT 2004-10-16

¹¹² Miller, Walter. Former CEO of SPS US. Interview 2006-02-06

¹¹³ Ibid

¹¹⁴ www.belttechnologies.com

¹¹⁵ Internal minutes from meeting between SPS and BT 2004-10-16

¹¹⁶ BT financial statement 1998-2003 and Minutes from meeting between SPS and BT representatives, 2004-10-16

¹¹⁷ Fröjd, Sven-Erik . SAAB Tech Electronics AB.

¹¹⁸ See US patents D470,561S and 4,679,483

¹¹⁹ Fröjd, Sven-Erik . SAAB Tech Electronics AB..

strength to weight ratio and the fact that they don't need any lubrication. The belts supplied are 0,1mm thick, 30mm wide and 2,5 meters long. They are punched to a very fine pitch regarding the perforation. The BOL system has been around for quite some time but the belts supplied from BT are still used in newer and updated versions of the system. SAAB has been a customer of BT for more than ten years. There are two belts from BT in each BOL-system. There have so far been about 1500 system produced and sold and SAAB estimates the need for 750 more systems over the next five year period. In addition there is a need for approximate 500 belts a year sold as replacement belts. The prices of the different parts sold by BT to a single BOL-system are as follows:

- 2 pulleys at 1400 SEK
- 2 belts at 800 SEK
- 2 wheels at 1500 SEK
- 2 roles at 400SEK

The total purchase sum for the parts to one BOL is 8200SEK¹²⁰. A very rough calculation based on the 500 replacement belts per year at the same price as the initial belts and 150 new systems each year would indicate a total sum of 1.6 million SEK which is close to 3% of BT annual turnover.

Horizon Instruments¹²¹

Horizon Instruments is based in Heathfield, U.K., and produces machines for applications such as diagnostic test production, vial filling and capping, laminating materials, cutting and placing, and QC monitoring and testing. When Horizon Instruments was designing a machine for manufacturing medical diagnostic strips they faced a challenge due to a requirement of the machine to carry the material through two ovens as part of the manufacturing process. BT was able to solve the problem by supplying a precision indexing steel belt drive system able to cope with the temperature changes and cleanliness requirements of the application. Because the test stripes are used for medical purpose the precision indexing conveyor system needs to have a clean, non-contaminating surface on which to place the bands as well as possessing a low thermal mass that will not cause temperature fluctuations when passing through the ovens. The conveyor system consists of two steel belts, each 25mm wide. The material used was 17-7 Condition C stainless steel. The conveyor system is 2.5m from centre line to centre line of the pulleys. Horizon instruments representatives commented the collaboration with BT by saying that "the company was able to supply all the technical information they needed and provided them with a very good service.

BT made a precision indexing conveyor system for four machines. The main selling arguments were the heat resistance of the belts and the high hygiene standard. The belts supplied were 25 mm. wide, 2.5 meters long and equipped with positioning pins.

¹²⁰ Equal to \$1120 at 7,32 SEK per dollar.

¹²¹ www.engineeringtalk.com

Automation and Motion Technology (AMT)¹²²

This UK-based company provides turnkey solutions to the cold-rolled metal cutting industry through the provision of purpose-built high-speed flying shear used for cutting cold-rolled metal in to the different lengths. BT has been their supplier of conveyor belts and drive tapes. The main selling arguments were the high strength to weight ratio, the low inertia and the fact that the belts can be used free from lubricants and are stronger than linear motors. The belts provided by BT were 50,8mm wide and 0,3mm thick.

Harro Höflinger¹²³

Harro Höflinger is a leader in the field of process automation and packaging technology. They integrated steel belts supplied by BT Europe into its battery laminating machines. The belts are used for precision timing and are treated with a non-sticky Teflon surface. The company also relies on BT for belts that are used by world leading pharmaceutical products manufacturers within their packaging machines. One of the main features of those belts is the high precision perforation. The company has purchased many belts of BT and the majority of them have been 300mm wide.

Enflex¹²⁴

Enflex is a Spanish horizontal pouch machine manufacturer. They have launched a machine that both adds the cap while forming the pouch and then fills the pouch through the cap. BT has supplied test belts for their prototype machines but the company would probably not use metal belts if production were to be scaled up due to the high price of the belts.

Stirling Engineering¹²⁵

Stirling Engineering is a consultation, design, and fabrication company based in San Jose, California, U.S. They specialize in providing products and services to the electronics, semiconductor, data storage, and bio-tech industries and have had a long relationship with BT. Belts bought from BT are used for indexing and driving of an assembly line of DNA-tests. The main selling arguments were the low inertia, the flexibility and precision and the fact that no lubrication is needed. The company has regular use of BT belts.

Team Technich

Team Technich is a German based company that SPS have been delivering thin steel belts to. During early 2006 BT took over Team Technich as a customer from BT by offering much lower prices than SPS could. The customer chose to buy the belts from BT although the belts from SPS had a higher standard regarding the Teflon surface treatment of the belts. With reference to the extreme low prices offered by BT SPS

¹²² www.engineeringtalk.com

¹²³ Ibid

¹²⁴ Telephone interview and www.enflex.es.

¹²⁵ www.engineeringtalk.com

thinks that they wanted to state their “territory” clearly by dumping the prices under SPS manufacturing costs.¹²⁶

Tobacco Industry and Phillip Morris

The tobacco industry is one of the biggest customers to BT. Phillip Morris is believed to be the biggest customer and approximately make up 10-20% of the annual turnover of BT¹²⁷ The recent acquisition of Clark Manufacturing was an attempt by BT to even further trying to strengthen their position within the industry. Clark manufacturing main customers is the OEM of “Molins” and “Sasib” cigarette making machines. There are however some threats as some consider the technique used is obsolete¹²⁸ and also that fact that the overall cigarette market is declining, especially in the US where BT’s biggest customer are located.

4.3.8 New Applications

BT says that their long-term company success is in large measure due to their ability to continually advance the science of metal belts and develop new solutions¹²⁹. There are at least two interesting new applications that BT is working with. The first is the fast food project described in chapter 4.2.5. BT has since 1999 been involved in the project in conjunction with the OEM company that builds the machine BT would supply the belts for. Ever since the beginning of the collaboration BT has tried to develop belt satisfactory to the end customer but has yet to succeed. The main problems concern the Teflon surface treatment of the belts and the V-ropes attached to the belt. In addition to this there is also a problem with the lifetime of the belts. If the belts could be produced to satisfactory end-customer requirements there is huge potential in the project. The second new application area is within clean room applications. Certain types of processes such as the assembly of for example printed circuit cards require absolute clean environments. Due to the fact that metal belts do not require lubricants and that they will not generate dust they are compatible with clean room applications. They may in addition also be sterilized in an autoclave¹³⁰.

4.3.9 SPS Valuation of Belt Technologies

SPS has already performed an initial valuation of BT based on financial statements on received from the company. The main calculations have been made using the DCF-model. The latest valuation was performed on the 15th October 2004 and those are the numbers we will present here. The valuation is based on the financial statements from 1998 to 2003 and estimates for the years 2004-2007. The calculations are performed using three different growth alternatives over the next five years. (5, 10 and 15 %). The enterprise value is according to this valuation in the range of 17-27 MUSD. If

¹²⁶ Lundgren, Krister. Interview.

¹²⁷ Miller, Walter. Former CEO of SPS US. Interview 2006-02-06

¹²⁸ Interview with personal at Flexlink.

¹²⁹ Design Guide and Engineer’s Reference for Metal Belts. Produced by BT 1999

¹³⁰ Ibid

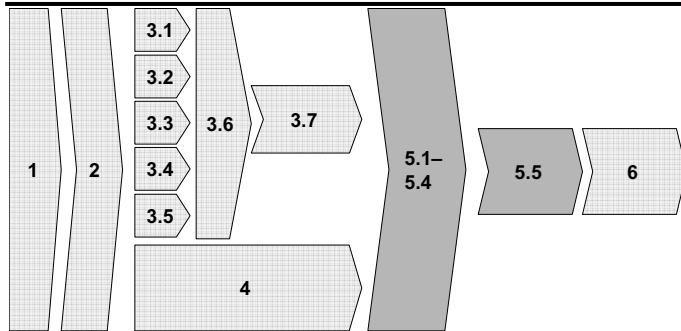
Strategic Attractiveness in Mergers and Acquisitions

instead using a P/E¹³¹ estimation based on the average earnings of 2001-2003 and a P/E of 10-12 the value would land on 8-10 MUSD. If valued based on an EBIT-multipel corresponding to valid industrial practice i.e. 10,6 the value of the company would be 19-31 MUSD. The ROCE in 2003 was 18,8%.¹³²

¹³¹ Price over Earnings

¹³² Internal SPS document, *Belt Technologies – An expansion opportunity for SPS*, 2006-03-06

5 Analysis



In this chapter we will analyze the gathered data with base in our theoretical review and our theoretical model presented in 3.7. We will start by analyzing the four factors presented in the original model and end with presenting our new and improved model in 5.5.

5.1 Corporate Acquisition Strategy

1. Acquisition Strategy as part of Corporate Strategy

Within mainly management literature of M&A we found the need for a corporate acquisition strategy that treated growth through acquisitions as a reoccurring event on management agendas. In our case study of SPS we have found that acquisitions are an inherent part of both Sandvik's corporate strategy and its history. Several of the divisions that are now part of Sandvik's core business have grown both organically and through acquisitions, such as the example of SMC in chapter 4.1. Within the corporate vision of Sandvik there is an objective besides organic growth of 6% per business cycle that complementary growth through acquisitions should be sought when possible. For the acquisition to be interesting Sandvik should be seen as a good parent for the acquired company's business with the possibility for synergy effects from related divisions. In a conglomerate like Sandvik a corporate acquisition strategy might be harder to apply to every division. We found SPS to have no written or documented acquisition routine for the moment being. Acquisitions are discussed as one of many growth opportunities at SPS board meetings. Acquisition candidates are treated mainly as growth opportunities and documented and updated, as there are changes within the cases. Joint venture and alliances were not seen as a suitable collaboration form though we could not verify if this was common for all of Sandvik or just SPS. However we find Sandvik to have outspoken goals for acquisitions seen as a complement to their growth strategy.

2. Screening criteria's

According to literature this criteria needs to be applicable to a broad variety of industries and companies attractive at corporate level. This will maintain the combined company's strategic momentum and keep the strategic trajectory. Sandvik has the overall vision that acquisitions should relate to their core business of material

technology and be, or have the ability to become, market leaders in niche markets. This could be seen as an extension of Sandvik's overall strategy. Furthermore these criteria's are; connection to steel or materials with high-technology expertise, market leader or potential to become market leader in niche market, premium brand, about the same ROCE (15-18%) and EBIT (12-15%) as Sandvik and preferably the company should not be a privately owned company. The screening of potential candidates and the M&A process is operationally managed at division level by each president and his/hers staff. The final approval of an engagement into due diligence needs to be presented to the board of Sandvik.

3. Screening the market

Within SPS the above stated criteria's resulted in both markets and industries identified as unattractive for the moment being and those identified as attractive. The screening of companies resulted in the identification of several attractive targets. BT and Dymco were two companies identified within the same market but also other confidential companies were identified. The main competitor of Berndorf where identified as non-attractive for the time being. The screening of the market was not a single event but a reoccurring event when growth was discussed at board meetings.

At the start of our case study Sandvik had already performed all of the three categories above. SPS had to a great extent considered and performed those factors that we identified as corporate acquisition strategy in management literature. During our case study we were not at the right level in Sandvik to further investigate this level of the corporate acquisition strategy. However we noted that the corporate goals in a conglomerate as Sandvik are not the operational starting point of the acquisition process as stated by the management literature. A higher level previously sets these criteria's. Our case study shows that corporate acquisition strategy provides guidelines and support on where to screen for the appropriate targets. In accordance with literature we believe that the corporate acquisition strategy should be performed in order to prevent a merger that will endanger the strategic positioning or trajectory of the combined firm. In conglomerate companies, such as Sandvik, there might be the need to further develop division specific screening criteria's of M&A so that it better suits the characteristics of the specific targeted market.

Management literature also mentions in-house M&A capabilities as a best practice that would enhance M&A results. According to SPS there is a limited advantage of a M&A-team in a conglomerate like Sandvik due to the industry specific characteristics of the market. SPS also believes that in order to have the right level of commitment such decisions must not be more than one or two manager levels away. We believe that this is true since in a conglomerate every division's management knows its own business. But still we agree with literature that there are characteristics of the M&A process that are very similar across divisions. M&A is done many times a year within the Sandvik Corporation as a whole but maybe one, two or five times a decade in a division. Therefore much of the know-how and best practice from many Sandvik M&A are lost with the turnover of management. One way to spread knowledge and

learning's across divisions would be to use a central M&A-team. This team could develop a structured process resulting in an effective M&A performance were the divisions management time is optimized to participate when their knowledge is needed. The commitment problem that SPS expressed to this discussion is present anyways as management consultant firms are hired. The result might be higher accuracy in the information gathered at shorter time. Sandvik has this set-up with legal aspects of M&A that are treated by a central practice at Sandvik head quarters. Since our case study has not involved more than one acquisition at division level we will not elaborate further on the subject. Our conclusion is that it would be a topic for future research do evaluate if central M&A-teams are successful in conglomerate companies and Sandvik would be a suitable object to study.

5.2 Strategic fit

When we started this study we did it with the prerequisite to study Belt Technology. In general terms speaking we entered the process after the potential acquisition candidate already had been chosen and that is where we will start this part of the analysis. BT should at this stage consequently already have passed the initial screening process and been marked as an interesting candidate. As discussed in our model we will start by evaluating their position using the five forces framework to see where this leads us. As we were unfamiliar with SPS operations at the start of this paper this has been a natural thing to evaluate and assess for us. Obviously SPS management feels that they already have a very good knowledge about the operations of their company. However, we still feel that it could be helpful for the management to regularly reassess their views in these questions. A good time to do this would be when assessing new targets for acquisition.

5.2.1 SPS five forces

Threats of potential Entrants

Our analysis of the greatest barriers to entry of SPS Belts market includes several factors. The complex knowledge of the manufacturing of steel belts into the fine tolerances, welding them endless and applying steering V-ropes to them could almost be considered hand craftsmanship executed through big machines. Therefore, if manageable, it would take great resources and time to build these capabilities in-house by any competitor trying to enter the market. The SPS worldwide sales and service organization has very high knowledge of steel belts and applications and how the belts can be repaired while they are still in the machine where they are used. This also requires a great deal of resources and time in order to copy or do better. Sales personal would take about one year to educate and five years to become experienced.

Another barrier is furthermore the investments needed in the machines and production facilities, these are likely to keep minor companies from entering the market. It would also not be easy to enter Sandvik's customer base since Sandvik is a brand name for quality. High tolerances and smooth operational machines are major considerations from customers.

Power of Buyers

Customers to SPS Belts are worldwide OEM machine builders and SPS depends to some extent on their sales volumes but 80% of sales are replacements belts sold by SPS direct to the end customer by the world wide sales organization. SPS has also tried to avoid some of the OEM dependency by developing their machine building division with IP in Germany. In addition there are only Berndorf and SPS that can manufacture steel belts with the fine tolerances needed and cover the world market. This implies that the strength is more with SPS than its customers. We find the 12% price increase in 2005 to be a strong indicator of this opinion.

Power of Suppliers

Steel is often considered a commodity in a worldwide market. However SPS is highly dependent on the raw material of the steel coil delivered in order to achieve the high tolerance of flatness and camber needed. SPS is not a major consumer of steel coils worldwide but would not be considered small either with approximately 450 tons ordered a year. For the moment SPS uses three main suppliers that can maintain the needed level of quality. Since there are 14 weeks of lead-time for a coil from Japan SPS keeps one of their suppliers from SMT Strip that can provide coils with shorter lead times if needed. Our analysis is that SPS has no major advantages towards its suppliers but still has no major dis-advantages either.

Threats of Substitutes

SPS standard belts have been struck hard within the last 10 – 15 years by the cheaper substitute materials from synthetic belts. The plastic belts outperform steel in many aspects such as, price, space needed for machines in operation, and flexibility. The companies operating in the synthetic and plastic markets are bigger than SPS and have highly sophisticated production. The SPS steel belts main characteristics that still makes it as a attractive solution are; high durability, thermal conductivity and easy to clean. Therefore special belts, mainly used in WBP-DBP in Table 11 are still making volume increase in sales and are not threatened by substitutes in a near future. Sales for standard belts however only increase due to high price increases by SPS and Berndorf. Therefore SPS is under constant pressure not to loose market shares to plastics and still try to achieve their own targets for growth. There is also a threat from wire-mesh belts. Wire-mesh belts keep the steel characteristics while cheap but lack the durability of the plain steel belt. Our analysis is that the plain steel belt market is under fierce threats from various substitute products. This is also one of the major factors to why SPS are looking at acquiring BT and grow this new market.

Competitive Rivalry

Within the steel belt market of plain steel belts there are only two competitors that really fight a battle: SPS and Berndorf. SPS are considered the premium brand with 5 – 10 % higher prices and the two companies has 98% of the market shares, SPS possess 55 % of this. Last year both companies made price increases but neither managed to grow the volume substantially.

5.2.2 BT five forces

In order to compare the strategic fit for the two companies a similar evaluation was needed for BT.

Threats of potential Entrants

As stated in the empirical chapter BT seems to be basing their new sales on customer specific solutions with a high degree of engineering for every solution. This would require a high amount of engineering know-how in order to meet the customer requirements, which therefore become a barrier to entry. By considering the prices of the steel belts sold in relation to the company's turnover we also would assume that there are a very high number of belts produced and sold each year. This is somewhat contradicting but might be explained by repetitive sales to their biggest customers that provide some 10 – 20 % of the turnaround within the tobacco industry. This makes the customer base fragmented over different industries and it would probably be hard to compete with BT for these customers. The fine tolerances of index positioning in their products and laser welding techniques indicate that they have a very sophisticated machine park. We believe the extreme tolerances and large volumes of sales indicate that the actual manufacture of the belts is highly automated. We therefore consider the barriers of entry to be quite high in relation to the current valuation of the total market value.

The threat of SPS or Berndorf to enter the market is obvious. However we have the knowledge from our case study that SPS attempts and initial failure to manufacture smaller and more complex conveyor steel belts has proved a strong barrier to entering into this market. An acquisition would probably not be considered a threat from BT at this point in time since it is the topic of study and the owner seems willing to sell the company.

Power of Buyers

As discussed above BT customer base appears to be very fragmented across different industries and has proven to be very hard for us to assess. Even though we studied BT for almost ten weeks both in Sweden and in the U.S. we did not find more than a handful of their customers, but we believe this is a sign of their fragmented customer base. We have discovered BT's products in a very broad base of industries and it is used in a variety of different applications.

Most of the products we have come across have also been tailor-made to specific customer specifications. In the new fast-food grill project that has been run since 1999 BT still haven't been able to come up with a finished solution which indicates high levels of engineering solutions in their products. This probably means that once BT has sold their solution they probably are the sole provider of belts. We believe that this fact would put BT in a good position towards its existing customers for replacement belt sales since they are probably quite dependent on the specific solutions provided by BT. However the belts seldom seem to be the core of the customer's products and therefore replacement sales cannot be considered secured

longer than the machines life times. This is probably the case of their biggest customers within the tobacco industry that provides approximately 10 – 20 % of BT's turnover. According to Flex-Link the tobacco machine builder that BT supplies uses old technique and U.S. is not the future market for cigarettes. For a new customer however the amount of engineering solution probably limits the growth potential every year. BT's growth over a five-year period of about 4 – 6 % might be an indicator of this.

SAAB that buys 800 belts a year would represent a big customer with 3 – 4 % of turnover. A noticeable fact is that the percentage of sales covered by one or two big customer/s from 1998 – 2003 has varied quite much. This might indicate that BT has a limited customer base. Overall our assessment points to the facts that BT has a pretty neutral position in relation to their customers and that a lot of resources are included for every new customer sales.

Power of Suppliers

As described in the empirical chapter BT procures their material from typical steel suppliers. They do not seem to buy any specialized material but more of a bulk product. There are furthermore a large number of suppliers on the market and BT buys in weight pretty small quantities that probably do not make them to a prioritized customer.

Threats from Substitutes

We have found the substitute products on the market to be of great interest. The plastic belts seems to be moving into and taking ground from the conveyor belts of BT like they do for SPS. In resemblance with belts sold by SPS, BT sells belts to application areas where plastic belts do not function due to environment circumstances. Plastic and synthetic belts seem to be an area of development such as new synthetic belts with a core of steel that will copy some of the steel characteristics such as strength and wear resistance.

When it comes to the more fine and precise steel belts, which we believe is the main product area for BT, there is an evident threat from linear motors. Linear motors provide accuracy ten times better than steel belts and are becoming quicker and stronger as they are seen as the future of automation and production-line technique. Neither did we find any positive responses when approaching potential customers that used competing products of plastic belts or linear motors. Either they had not heard of the solution or did they consider it as an obsolete technique.

Competitive Rivalry

The internal rivalry in the market we consider quite low. To our knowledge there is only one other company competing with the same type of products and their main markets do not coincide with the main markets of BT. This is obviously a great strength to BT and probably a contributing factor to the outstanding financial results that the company has performed.

Overall we find BT's market to be a niche market limited mainly by substitute products and the amount of engineering solutions for every new customer. BT has a high technical knowledge with few direct competitors that might explain their extraordinary financial results. In a short perspective the fast-food grill project will have a major impact on future revenues if it does not get terminated. However the threats of highly competitive substitute products is not an advantage. In the long perspective this does not appear better since new improved characteristics of the substitute products will probably increase their potential as competitors.

Our analysis also leads us to a first assessment or discussion of BT's assumed core competences. SPS has expressed that the welding and the characteristics of the thinner steel belts differ from how they manufacture standard steel belts. Therefore the ability to manufacture steel belts 0,15 – 0,40 mm. is assumable part of BT's core competences. This means cutting, welding, perforating and handling the belts. With the discussion above there also seems to be a lot of engineering incorporated into the products. This implies that the identification of customer needs, the engineering, and the selling of solutions based on the small steel belts to various industries and applications is a core competence. The conveyor application seems to be more of a complement product to sell the core product of smaller steel belt solutions.

5.2.3 Comparison of Five forces for Acquisition

In our theoretical model the strategic fit will ensure that the specific acquisition candidate fits the corporate strategy of Sandvik. With our five forces analysis we have found BT to be a company with high technological know-how of manufacturing of advanced products related to thin steel belts. BT is related to the SPS division mainly through the product characteristics but also with the steel material. The products have the same basic physical properties and the companies have both started to look at applications of smaller conveyors. BT is operating in a niche market like Sandvik wants and is a market leader since they are the only manufacturer on their geographic markets. The high quality and high know-how of BT's products would fit well with the Sandvik quality of products. BT has showed strong financial results the last five years with ROIC well above Sandvik's goals. The growth have been about 5 % yearly which is not a very attractive growth for a company as small as BT but still above the underlying market for Sandvik of 3 – 4 %. BT is also a family-owned company that Sandvik does not consider as prime targets. Even though the two criteria of growth and ownership structure do not fully meet the Sandvik criteria we argue that many of the screening criteria are qualitative confirmed and that an acquisition would not take Sandvik into the wrong strategic direction.

Our conclusion is that SPS are positioned in a saturated market with little or limited potential for growth, with high profitability but with major threats from substitute products. Even though special belts have created volume growth for the last years and endured longer than expected by SPS, it will probably not satisfy the long term growth target of 2 % above the underlying market. The price increases made in

Strategic Attractiveness in Mergers and Acquisitions

standard belts cannot be sustained from year to year or customers will start looking for alternative products or suppliers. This makes it an unattractive market in the long run but profitable for the time being. After this assessment of the SPS market we believe that it is considered an attractive solution to look at alternative growth from acquisitions. However BT's market power situation is somewhat similar to the SPS market power situation since substitute products that limit the potential for growth dominate it. This makes two alternatives for acquisitions interesting since unrelated acquisitions are not part of the Sandvik corporate strategy; either limiting the dominating factors making the current markets of SPS and BT more attractive, and/or creating new possibilities for revenue growth outside existing markets.

To try and perform a deeper analysis of the strategic fit between the two companies we will try to use a comparison of the two five forces frameworks. We will assess the dominating limiting factor for both companies and analyze if a combination of the two companies would have the possibility to change the impact of this factor.

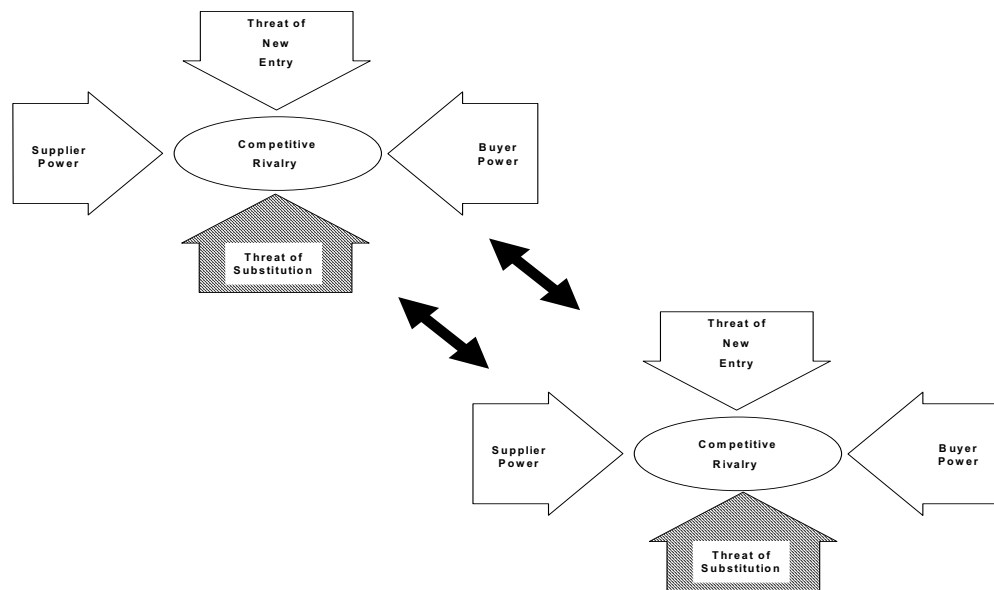


Figure 17: Five forces comparison with dominating factor in our case study highlighted.¹

The dominating limiting factor of SPS's current market we believe would be substitute products made of plastic and/or synthetic belts. These have had great impact on standard belts sales volumes and are developing characteristics that would make them even better a couple of years from now. The dominating features of the plastic belts are much incorporated in the characteristics of the material that makes it cheaper to produce, space-effective with smaller radius of the drums, and more flexible to switch. In order to compete with plastics SPS would have to produce cheaper products that would need to have much smaller radius of curve around the

¹ Own figure based on Michael Porters five forces framework

drum. Both of these characteristics could be obtained by using a thinner steel belt that would lower both direct material usage and at the same time lower the radius of curve around the drums. Our five forces analysis indicates that BT has high know-how regarding manufacturing of thin steel belts. Together with SPS' new steel grade 1700 SA, or even with new R&D know-how from SMT, maybe the sought characteristics could be reached to regain some of the market power. Steel belt still offers a better hygienic function than plastic, has better thermal conductivity, and has higher tensile strength than plastic belts. The problem with SMT developing a new steel grade is that it takes considerable volumes, 100-200 tons a year in order to develop new steel materials.

Just like SPS, BT's main dominating factor is the substitute products of plastic belts but also linear motors. Plastic belts of small conveyor applications have the same characteristics as in the SPS case. Linear motors are a preferred choice when extreme tolerances and repeatability is needed. It is considered high-tech and product development seems to be high. This makes the thin steel belt solutions pinched between two categories that each seems to be developing better characteristics at a high rate. To change the dominance of plastic the discussion is the same as the discussion of SPS.

Within the linear motors the limitation for BT is the steel elongation characteristics. BT is operating at the finest pitches that can be obtained by steel without almost any elongation.² This sets a physical limitation to how fine pitches per rotation that can be performed. This pitch is ten times better for linear motors and they are still getting better. Therefore this characteristic seems to be a dead end even if materials technology could be obtained by SPS.

Therefore there seems to be a good strategic fit that would possibly change the limiting dominating factor of the substitute products of rubber to make the two companies markets more attractive. This has to be further evaluated using the synergy potential typology presented by Larsson. By using this typology the other possibility of creating growth in new markets can be better addressed than using the five forces framework. In the case study of SPS and BT we have found that the strategic fit between the two companies can be evaluated by using the five forces framework and thereby provide a basis for identification of synergy potentials. This has been managed through the mainly one-sided information that has been available to us.

² $\Delta \varepsilon \approx 0$

5.3 Synergy Potential

5.3.1 Identification of Synergies

Within the theoretical model we called for an assessment of the functional activities that would provide either overlapping or complementary synergy potentials according to Larsson's typology. After the strategic fit analysis we now have structured information to start this evaluation of overlapping and complementary resources.

Overlapping Resources

1. Purchasing power

The initial assumption of a potential to generate increased buying power for BT if incorporated by Sandvik is apparent. The same steel grades are purchased and used for several applications. Considering Larsson's typology there should be an overlap in the functional resource that would mean greater volumes and/or better long term planning of volumes to reach a better negotiation position to suppliers. SPS knowledge lies in thicker belts > 0,4 mm. and therefore steel coils above this thickness is bought. The core of BT's products almost ends, where SPS products starts, 0,15 – 0,4 mm. Therefore the volume increase for BT would be limited. From the five forces analysis SPS is not seen as a big consumer within the worldwide market of steel and the addition from BT would not change this fact for them either. The variation of BT's biggest customers in order volumes indicates that longer planning times which might reduce purchase costs is not an option. Within office supplies and other commodities BT is too small to have any impact on SPS but SPS might however have an impact on BT and lower their costs. We do however believe that this impact is very limited. This means that we do not detect any, or very small, synergies from purchase power if SPS where to acquire BT.

2. Production Scale and Experience economies

The production overlapping effects of SPS acquiring BT could be if the products where to be manufactured by the same machines and possible improve the degree of coverage for the machines in either company. The manufacturing techniques are however different for the two companies and we consider this synergy to be almost non-existing. There is the possibility for SPS Totowa to incorporate the BT business within their production facilities and thus lower or eliminate some cost for BT. The question is however if the skilled workers from BT would follow the company to this new location. Scale benefits that would lower production costs would probably be limited since the products produced are not identical and the volumes are not that great. This means that we do not detect any, or very small, synergies from production scale and experience economies if SPS where to acquire BT.

3. Marketing Scale and Experience Economies

Within a conglomerate like Sandvik there is an opportunity for smaller companies to get larger advertisement space than they would on their own at a lower cost. BT would probably get scale effects from news releases and advertising campaigns if

incorporated into the Sandvik brand as the Sandvik logo is used throughout Sandvik AB. We do at this stage believe the possible marketing effects to be quite small. We do not see any possible benefits for SPS in this category. BT already have a strong brand reputation as the market leader of precision steel belts and it would probably not provide a negative synergy as it fits well within Sandvik's vision of market leadership with high technology know-how in niche markets. Even though it would not be a great source for synergy potential there are probably not any negative synergies for SPS either.

4. Selling Power

In our five forces frameworks we suggested that SPS are in a power position relative to its customers while BT are in a fairly neutral position. The selling power of SPS is mainly based on the duopoly situation with Berndorf and would not be affected much by the incorporation of BT into the SPS organization. If BT were acquired by SPS the market strength towards their diverse customer base would probably not change much, BT would maybe be a little less dependent on a single customer due to the increase in organizational size but we don't believe this synergy to be very great. Some customers are common for both companies when it comes to small conveyors but the threats from substitute products would still be the dominating factor that customers could switch to and there would thus not be any real synergies for either company. We therefore do not believe selling power to constitute any real synergy potential if SPS were to acquire BT.

5. Administrative Scale and Experience Economies

The administrative synergy effects should according to the literature come from overlapping of resources and economies of scale and experience. In our case there is a potential for lowering the cost within certain administrative functions such as HR for both companies depending on the view. According to SPS there is a possibility to integrate BT with the US SPS site that could potentially mean some cut backs on BT personal. In relation to the size of the company this is probably not a major gain for BT. We do not believe SPS would be able to cut back on any personal costs or any administrative costs if integrated with BT. We therefore do not see this synergy potential to be of any great interest when assessing the potential synergy effects. In accordance with the literature we have not been able to identify any administrative synergy effects from the complementarity of resources.

6. Finance Scale Economies

In the overlapping of resources on the finance side there should be potential to lower some of the costs through economies of scale. As a larger and more stable company SPS should have the possibility to lower the BT cost of capital. There can also be opportunities for BT to handle other financial costs such as tax more effectively. We can't identify any real gains for SPS in this category if merged with BT. We do not have the information to analyze this further and we do not believe this effect to be very important in relation to the overall picture.

7. R&D and Know-How Scale and Experience Economies

In the overlapping side of R&D and know-how there shouldn't be any real synergies to realize. In relation to SPS and Sandvik the amount invested in R&D by BT is negligible and we don't believe any real cutbacks can be made if the companies are combined. This goes for both sides.

Complementary Activities

8. Vertical Economies of Purchasing, Production and Marketing

This would be a predominant factor if a vertical merger within the same value network would occur. Sandvik AB would possibly be able to supply some raw material to BT that would imply a purchasing synergy. We do however believe that the amount of material Sandvik could supply would be limited and thus not contribute to any major savings. We do not see any synergies from the SPS side.

9. Market Access and Cross Selling to Existing Customers

One of the expectations from SPS about the acquisition of BT was the possibility to grow BT's existing business to the worldwide markets that SPS are operating in. BT would then gain access to the entire SPS' sales organization and all of SPS' customers worldwide or SPS would get access to a new product depending on which side we see the potential from. Even though hiring and training of new sales personal would still be needed within SPS in order to provide engineering solutions for a new and different product much market knowledge can be obtained by SPS. Therefore we believe this to be an apparent synergy potential if SPS were to acquire BT. Even though the substitute products of plastics still would be present in the world wide market this synergy potential might open doors for BT that will create growth above the current 5 % per year.

10. Finance Portfolio and Risk Economies

On a small scale the combined entity will have a greater diversification of revenue sources due to an increase of the product range that will have the potential of lowering the overall risk of the company. This is thus a potential synergy for both companies. BT is however at this stage in time quite small in relation to SPS which means that the affects will probably be more apparent for BT than SPS.

11. R&D and Know-How Technology Transfer & Creation

SPS management have stated the opinion that the complementarity of resources in know-how is one of the mayor possibilities and benefits of acquiring BT. As discussed in the chapter of strategic fit we agree with this opinion and also believe there is some potential for developing new products or applications and combining technologies and thus create new technology. There is furthermore a valuable technology transfer possibility by transferring in first hand the welding capabilities and knowledge of handling thins steel material from BT in order to aid SPS in their work with their investment in new thinner steel belts. BT would mainly benefit by getting access to the massive R&D department of Sandvik. There could also be positive effects of combining the conveyor knowledge of the two companies. As

discussed in the five forces analysis this might be a synergy potential that if realizable will limit the dominating position of substitute plastics material and make the market more attractive.

We believe that the main identified synergy potentials come from market access & cross selling to existing customers and technology transfer & creation. In order to explore this further we need to dig deeper into the specific synergies and their potential. Other synergy potentials that we identified as smaller, such as administrative scale and experiences economies, should not be totally ignored. They will be important when trying to reach a deal price later on in the due diligence process, but for now they will not constitute the strategic decision of whether or not to engage into due diligence with BT.

5.3.2 Estimating Market Access & Cross Selling to Existing Customers Synergies

Within the literature of M&A the existence of revenue-based and cost-based synergies were apparent. In chapter Table 6 we distinguished that the two synergy potentials that we have identified between SPS and BT, market access & cross selling to existing customers and technology transfer & creation, both would be classified as revenue based synergies. This means that they have to be estimated with caution since they are more frequently overestimated than cost-based synergies. This lies to some extent within the nature of the revenue-based synergies since they are not under the control of the company.

SPS believed that incorporating BT into SPS and use their exciting sales force to sell BT's products worldwide would be a great synergy potential. With the assessment that we have conducted so far we have found that this would not be an as easy to apply solution as first thought. Even though BT and SPS at first seems to be selling similar products of steel belts, our analysis shows that there are fundamental characteristics that are different both in products and in services.

Selling BT's products to new customers probably requires a substantial amount of resources in several ways. Our suggestion is that these should be treated as negative synergies in the valuation of the company. Since BT's products is a solution that we have found not commonly known to the industry, or considered as obsolete, we believe a great deal of work has to be done in order to identify new customers and their needs. In addition the training of sales personal is probably time consuming and substantial since there seems to be a lot of engineering work involved for every solution. This means that the eventual provided benefits will be more of a diachronic than synchronic synergy. It is not as easy as putting a new product that will sell itself into the hands of SPS sales organization, it will take a lot of time and effort to realize it. Therefore we do not believe that this synergy is enough to relocate either SPS or BT away from their relative unattractive future markets and create growth.

5.3.3 Estimating R&D and Know-How Technology Transfer & Creation Synergies

SPS thought that the acquisition of BT would provide an opportunity to transfer skills within thinner steel belts such as the conveyor applications using 1700SA steel and various welding know-how. We believe this to be true since our analysis of BT indicates that they possess superior technological know-how of thin steel belts. They are producing high volumes of very fine precision steel belts and the process is probably highly automated which would make it easy to transfer to SPS. To be able to compete with plastic materials the belt has to be space effective. This is done by small drums with little curve of radius. This means that the belt has to be very thin 0.15 – 0.2 mm. On the positive side this would save raw material but it also implies two negative aspects. A sharp curve of radius strongly limits the lifetime of the steel belts, which is negative for the customer as the trade-off between cheaper plastics with shorter lifetime against expensive steel belts with longer lifetimes gets lost. In addition such thin steel belts as 0.15 – 0.2 mm. are so thin that even a strong material like 1700 SA easily gets damaged. This limits the use for conveying heavier or rough products.

However we do not find the know-how of thin steel belts to be the real problem for small conveyor applications. We believe that the lack of know-how of customers is a bigger problem. So far the market has shown very little interest in the thinner steel belts from SPS as they do not outperform cheaper plastic materials. The conveyor applications from BT seem to be a secondary product sold to complement their smaller steel belts, which indicate a cool acceptance from the market for BT as well. Our finding is that the customers are accepting plastic materials with shorter life time as they cannot afford the down time it means having a steel belt damaging a machine or production line as it breaks with little sign of warning. A plastic belt will stretch and indicate that it needs to be changed. The cheaper plastic material makes it affordable to keep in stock and the lead-time for plastic belts is thus shorter than steel belts. Also the new interlocking modular plastic belts can be adjusted and changed by the customer itself not having to wait for a service engineer from SPS. Therefore synergies concerning 1700 SA are not a synergy that would relocate BT or SPS away from their current markets and create growth. We do however believe that the possibility to develop new applications by combining the knowledge of the two companies is interesting. It is however very hard to estimate the potential from such synergy at this stage in time.

The fast-food grill project was another synergy potential from know-how of thinner steel belts. This project we believe has the potential to create a substantial amount of growth. Though being a supplier of a major fast-food chain would put SPS in a dominated position of a huge customer. Dymco in Japan would probably be chosen as another supplier once everything gets going. So far the price level demanded for the steel belts from the fast-food chain has been very tough to meet and considerably lower than SPS has been able to produce. Our assessment is that together with more synergy potentials this could be a strategic right synergy to go to due diligence on

since if it could be complemented with other more certain synergies it might be worth a closer investigation.

5.4 Value Creation Potential

In accordance with our model we will divide the assessment of the value creation potential into two separate parts that will guide us to an opinion on the value creation potential. SPS had previously performed a stand alone valuation of BT. The valuation is based on very rough estimates and loose assumptions. It is understandable that SPS has not put in a lot of effort and resources on performing a deep going valuation at this stage of the M&A process, we will explain this further below. The actual valuation does not give us much guidance, as there are too many uncertain factors. Our opinion is that SPS had access to a lot of the hard facts on BT from various financial documents but lacked information on the market and possible future performance of BT. SPS settled for a quite wide interval in price range in this case. We believe that SPS still will have some use of the valuation, as it is now possible to at least confirm that their valuation is in the same ball part as the possible target price set by the seller. We have also obtained some useful information from the SPS valuation and the financial statements of BT to increase our knowledge of the target and aid us with information for identifying and assessing the synergies. We have not performed a monetary valuation of BT ourselves, as we did not have the resources or the knowledge to do this. This was furthermore not the main focus of our study.

The question of estimating the market access & cross selling and R&D & Know-how synergies down to monetary terms has proven very difficult during our case study of SPS and BT. Even though this is emphasized in management literature as important factors to avoid overpayment and thus being able to create value, the right level of information has not been obtained with our research method. Our analysis to this is that either this information can not be retrieved, is not obtainable before a due diligence process is engaged where the information is shared at a much deeper level, or the right information gathering has not been conducted.

From our findings from a ten³ week case study with single sided information of BT we can show what is *not* the right level of information in order to estimate the monetary value of synergies.

- Nine customers could be identified and studied more in dept, none could be visited in person.
- Full information from SAAB on the exact order value for every detail. Exact information on future orders.
- In person meetings with BT's agent that provided us with the opportunity to physically examine some of BT's belts.

Complementary sources of information that we would have needed would be:

³ Deducting writing the paper and studies of SPS leaves us with approximately ten weeks for BT.

- The amount of engineering solution of BT's total revenues as opposed to the part that comes from the physical product.
- The customer needs that both BT and SPS satisfy would be a complement of great importance when trying to judge new markets.

We believe it to be very hard to retrieve this kind of information at this stage in time and that our lack of information cannot solely be derived from our research method. We would also like to comment on the often-hard work of realizing synergy potential. We have been discussing this parameter somewhat before with for instance the discussion on the need to employ and train more sales personal within SPS if they were to start selling BT's products. The amount of work necessary should not be overlooked when trying to estimate and assess the synergies.

We believe that it is very hard to come up with a reasonable estimate of the synergies at this point in time. We could obviously give it our best guess but with the very low certainty we could give, it might do more harm than good. We think that the kind of information needed is very hard to not say impossible to obtain before the due diligence process. We do however feel that we with our analysis could assess the decision on proceeding to a due diligence with a qualitative reasoning on synergy potential. With the reasoning on the strategic fit between the two companies in our analysis our reasoning have lead us to the opinion that SPS should not continue with the acquisition of BT. We would however also like to bring up the subject of the nature of the decision that needs to be made. It is much safer for the authors to recommend SPS not to invest resources by continuing with this project. We do still have this opinion but we would merely also say that it is a very "big" decision with a lot a financial resources involved which may have affected us.

We would also like to comment on the fact that SPS sometimes seems to have the opinion that it is not that important if the final premium paid for a target company of this size would be 12 or 15 MUSD as long as the potential for revenue based synergies is right. We believe this opinion to be based on the two facts that 1) SPS are in a mature and volume wise declining market and thus constantly looking for growth opportunities and 2) that BT is much smaller than SPS and Sandvik and thus will a few extra MUSD not make that big of a difference in the long run. In a pure theoretical value creation sense this thinking is reprehensible but we understand the practical reasoning behind it. When not being able to accurately estimate the synergy potential a correct valuation of the intrinsic value of the company will not provide us with all the information we need to assess the true value creation potential of the acquisition. We believe this is also a reason to the SPS mind set.

5.5 Development and progress of our theoretical model

We have throughout our assessment of the possible acquisition of BT tried to use the theoretical model we presented in 3.7 to the furthest extent we found useful but also used some other ways of assessing the candidate. There are some important changes

that can be made to our model with the newly found knowledge we have of how our original model functioned when assessing a real acquisition case.

5.5.1 Corporate Acquisition Strategy

As commented upon in the assessment of the corporate acquisition strategy we have not been in a position to fully evaluate SPS internal process regarding this factor. Through both our theoretical findings and our participation in and evaluation of the acquisition case we have however come to the opinion that this phase is important and should not be overlooked. Being highly aware of the strategic direction of the company is crucial when setting the screening criteria's. By having a good fit between the criteria's and the strategy all the potential acquisition candidates passing the criteria's should be reasonable well positioned in relation to our company and the strategic trajectory we are on. This should also mean that we could limit the process of evaluating clearly unattractive candidates. Like the opinion of SPS management we could not see the corporate level of acquisition strategy to be the operational starting point within a conglomerate like Sandvik. Corporate acquisition strategy is at higher level that also would be the right level to discuss the usefulness of in-house M&A teams. Instead we believe that division specific criteria could be developed in order to get the market specific characteristics involved. This is further developed in the next passage. However the corporate acquisition strategy sets the basic values that these more specific screening criteria would be based upon. The steps would then be:

1. Incorporate acquisition strategy with overall strategy and evaluate the strategic trajectory.
2. Set screening criteria's based on the strategy.

5.5.2 Strategic Fit

In our theoretical review of M&A literature we did not find a framework model to assist us in analyzing the empirical data to assess the strategic fit between SPS and BT. We used the five forces framework for assessing the market position and core competencies of the two companies and found the model to serve our purpose quite well. We found it useful to utilize the same framework for assessing both companies in order to facilitate the future comparison. Especially by assessing how the acquisition could improve the power position by altering the dominating factor that invoked the acquisition in the first place, we believe this to be a new way of attacking the strategic fit. Maybe an earlier assessment of the dominating market factor for the acquiring company would really set the screening criteria of interesting candidates at the right level from the operational starting point in the M&A process.

After finishing the assessment of the strategic fit we believe that we had a good picture of the acquisition and how it fit in strategically with SPS and what needed to be changed in the current markets in order to make it more attractive. We have found that the following steps should be incorporated in to our model.

1. Evaluate own company using five forces framework and assess the dominating factor
2. According to market specific characteristics set screening criteria's
3. Screen market for potential candidates based on their fulfilment of the screening criteria's.
4. Evaluate target company using five forces framework and assess the dominating factor
5. Evaluate fit more in depth related to corporate strategy from the five forces findings
6. By considering the dominating factor, evaluate if the target's and/or acquirer's market power position could be improved by;
 - Enhancing the dominating factor
 - Minimizing the dominating factor

5.5.3 Synergy potential

In the synergy factor of our model we found Larsson classification of overlapping and complementary functional resources to be a suitable tool for identifying and qualitative assessing the synergies. We believe that we were able to dig deeper into the different synergies and come up with some useful analysis of them, especially regarding the often troublesome work of realizing them and the costs associated with this.

We found it somewhat useful to think in terms of diachronic and synchronic synergies as this provided more information to the problems and time frame associated with realizing the revenue based synergies. The dividing of synergies into revenue- and cost based synergies was useful to identify how value was supposed to be created. We also believe that it is important to be aware of the problems especially associated with the revenue based since they have been proven hard to estimate. We however managed, by a thorough qualitative assessment of the synergies, to justify whether or not to engage into a due diligence process.

The sum up the synergy factor of our model after our case study we would recommend the following steps.

1. Identify synergies and assess which once that will influence the acquisition the most.
2. Divide the synergies into revenue- and cost based groups and handle them accordingly.
3. Evaluate when they can be realized, e.g. diachronic or synchronic synergies, as this will influence the potential of them.
4. Reassess the synergies with the new qualitative information in order to evaluate the importance of them and if they will alter the current market's power situation.

5.5.4 Value Creation Potential

We did not perform the first part of the value creation potential step by ourselves but relied on the SPS valuation of BT. We found these calculations to be very loose and not provide us with any more information than a reference figure for the possible target price. We still believe that this is an important step to perform and that we need to value the target in order to be able to present a whole picture of the value creation potential. We will therefore keep this step in this factor but we do not think that the valuation has to be done in a very deep and accurate way at this point. When moving on in the M&A process we would have to perform a much more accurate evaluation of the target in order to be able to negotiate the price. At this stage we believe it is enough to reach a ball part figure in order to be aware of the potential price when first approaching the target. We further see the use of acquainting oneself with the financial side of the company to get more information and thus see some important angles otherwise missed out. We furthermore can find some useful information in the valuation when assessing certain synergies.

Although we have not been able to quantify the synergies we still have come up with information regarding the problems associated with realizing them. The result of this information is that the two most strategically motivated synergy potentials have been broken down to a level where we do not find them so attractive anymore. We also would like to point to the fact that we feel that it is a very hard task to estimate the synergies in monetary terms at this time of the process, as we believe that we lack some very important information. In order to really come down to a qualitative assessment of the potential of the synergies we would have needed more information about the target company, the market situation, and the customer needs of both companies. Our opinion is however that we have come up with very useful information if moving on with the acquisition. By our qualitative assessment we have been able to point in certain directions in order to assess the value creation potential of the acquisition.

5.5.5 New and improved model

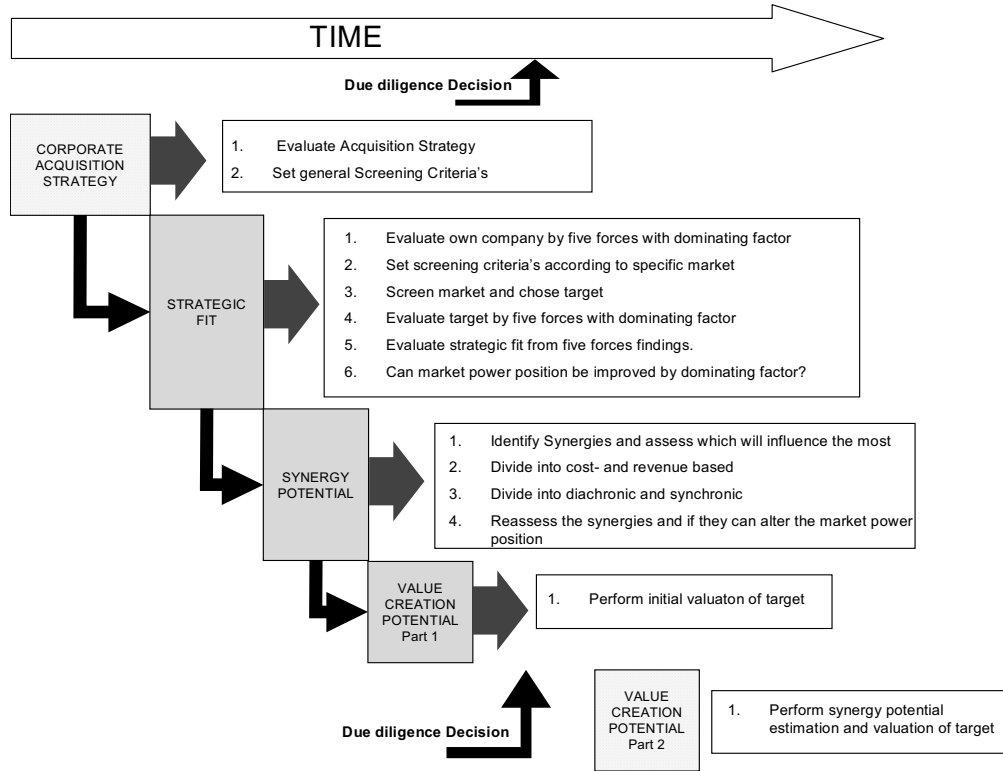
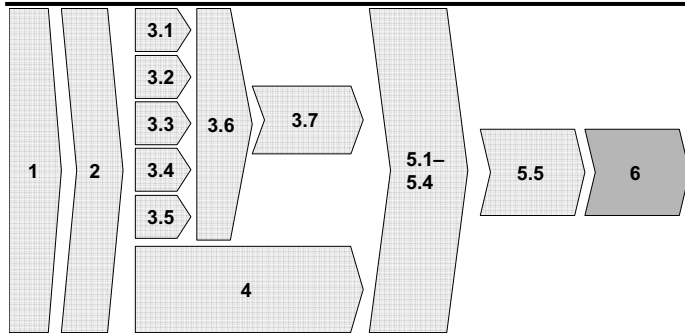


Figure 18: Our new and improved Strategic Attractiveness model

Through the reasoning above we have developed our original model first presented in 3.7. When mixing the theoretical model with the reality of our case study we come up with some interesting findings discussed in our analysis and also later on in our conclusions. As stated we have not been able to study the *corporate acquisition strategy* stage at this stage and we have therefore moved it out of the steps we recommend performing at this stage of an acquisition process. The *strategic fit* now has much more focus on the five forces framework and the comparison between the two companies' individual five forces. The *Synergy potential* factor now does not incorporate the estimation of the synergies in pure monetary terms. The actual valuation in the *Value creation* factor has also been moved outside of the model and should according to us be performed first while reaching a due diligence process.

6 Conclusions



In this final chapter we will present our conclusions of our study. This includes both practical conclusions regarding SPS situation as well as theoretical contributions and suggestions for further research.

During this case study of qualitative data we have come up with several conclusions. By processing our case study of SPS and BT with a theoretical model deduced from existing M&A literature we concluded on a refined model of four factors to consider and understand when assessing the strategic attractiveness of a M&A candidate before a due diligence decision.

We found the first factor of our model, the *corporate acquisition strategy*, to be important for the future M&A process but not to be the operational starting point of the M&A process in our case study. Our conclusion is that this factor is set before the operational work of acquisitions starts and that it covers general criteria's that can apply to several companies. The second factor, *strategic fit*, refers to how well a specific company fits our strategy and is company specific for an acquisition candidate at division level of a corporation. By separating the corporate acquisition strategy from the second factor of strategic fit, we have created a clearer view of what separates general strategy of acquisitions and growth from market specific characteristics needed at division's level in a conglomerate like Sandvik. This was somewhat unclear in consultant and academic related literature. The third factor of *synergy potential* provided a qualitative assessment of the synergies that needed to be reached in order to strategically justify the acquisition. These three factors formed an operational framework of what is needed to consider and understand before a decision to engage into a due diligence process.

A fourth factor of *value creation potential*, that was supposed to estimate the intrinsic value of the company and determine the value creation potential by quantitative estimating synergies in our case study, could not be conducted without the mutual sharing of information in a due diligence process. However to understand the fundamentals of value creation potential in M&A is needed to be able to increase the chances of actually creating value when integrating the two companies. Therefore this

factor is included in our model but cannot be estimated before a due diligence process.

We believe that the five forces was a successful method for assessing the strategic fit. The steps we performed, also presented in our improved model in Figure 18 we believe to be proved useful. We indirect covered a lot of the perspectives that alternative frameworks like SWOT or Value chain analysis might have addressed but we do believe they would provide complementary perspectives. Our comparison between two five forces analyses is one of the major generic contributions of this paper as it highlights a conceptual way of working with acquisitions. This means that we present a new approach towards strategic fit and the assessment of the same.

By performing an early assessment of the own specific market the dominating factor in the five forces framework is to be identified. If the company is dominating the factor, an acquisition that will enhance this factor is to be screened for. If the factor, like in our case study, is dominating the company an acquisition that will decrease this factor or create new markets is to be screened for. The strategic fit would be how the combination of the two companies would alter the dominating factor's of both company's markets and what synergies that need to be present.

With an in depth qualitative assessment of the different types of synergy potential we found two certain synergies to be the once that an acquisition of BT should depend upon. Both of these were revenue based. We were not able to perform a quantitative estimation of them into monetary terms but, by performing a qualitative analysis based on Larsson's synergy potentials, we could undermine the initial assumptions that both of the synergies relied upon. In our analysis of these synergies we found the reasoning based on differences in cost- & revenue based and synchronic & diachronic synergies very useful why we incorporated this in our final model as well. Our conclusion is that it is very hard to estimate the synergies at this early stage in the M&A process but that a qualitative assessment provided enough information to determine whether or not to engage in a due diligence process.

We could not predict value creation in monetary terms before the due diligence. We do believe that the trade-off between the amounts of resources needed to come up with a correct estimate and the reward or value of the estimate arguments for this to be done in the due diligence instead. When entering into a due diligence phase after performing the steps in our model we believe that the acquirer will be better equipped with information in order to make the most of the process. If SPS were to perform a due diligence with BT they would have useful information on the most important synergy potentials and also what information they need to obtain in order to come up with a correct estimate of the synergies. We would like to stress this point as we believe it to be very important and one of the major contributions of this paper.

By presenting our new and enhanced model of the strategic attractiveness with the four factors *Corporate Acquisition Strategy*, *Strategic Fit*, *Synergy Potential* and

Value Creation Potential we have provided a framework for what factors that are critical to consider and understand when assessing the strategic attractiveness of an acquisition candidate and thus answered our research question. We further believe that we have fulfilled the objectives set forth at the beginning of the study by reaching an understanding of what factors to consider at this stage.

Our practical conclusion of this paper and thus our recommendation to SPS is *not* to continue into a due diligence phase with BT. The lack of clear synergy potential is the main factor for this statement. We do also believe that SPS and SMT can gain a lot by reviewing and using our model when assessing future acquisition candidates. By distributing this master thesis to a number of employees within the SPS organization we also hope to be able to provide a better theoretical understanding on the subject of M&A and by this aid the development of a coherent view on the subject within the organization.

Since our research is based on a single case study it is hard to generalize the results for a broader range of companies as earlier discussed in chapter two. The results are to be seen as concepts when studying similar systems. The model we built was useful for SPS and the acquisition of BT but it would be of great interest to try the model on a larger population of M&A. Our suggestion is that this can be carried out both as qualitative pre merger studies like the one we have conducted in this study and as quantitative post merger studies of how much synergy potential that could be accurately identified with the use of our model over a larger population of companies.

Reference List

Literature

Anand, Jaideep; Singh, Harbir; Asset Redeployment, Acquisitions and Corporate Strategy in Declining Industries; *Strategic management Journal*; Vol. 18; 1997

Barney, Jay B.; Returns to Bidding Firms in Mergers and Acquisitions; *Strategic Management Journal*; Vol. 9; Special Issue Summer 1988; p. 71-78

Clarke, J. Christopher; Acquisitions – Techniques for Measuring Strategic Fit; *Long Range Planning*; Vol. 20; No. 3; pp. 12-18

Cooke, E. Terence; Mergers and Acquisitions; Basil Blackwell Ltd.; 1986; Great Britian

Cookson, Ian; Growing Pains: Tips to Consider Before You Acquire; *AFP Exchange*; Vol. 24; No. 2; 2004; pg. 2004

Cools, Kees et al.; Growing Through Acquisitions; *BCG-report*; 2003; (www.bcg.com)

Ebeling, H. Jr William; Doorley III, Thomas L.; A Strategic Approach to Acquisitions; *The Journal of Business Strategy*; 3; 1983; pg. 44-55

Eisenhart, Kathleen. Building Theories from Case Study Research; *Academy of Management Review* (1989)

Gephert, Robert; Research Methods Forum; *Academy of Management*; Vol. 4; 1999

Gruca, S. Thomas; Nath, Deepika; Mehra, Ajay; Exploiting Synergy for Competitive Advantage; *Long Range Planning*; Vol. 30; No. 4; 1997; pp. 605-611

Herd, J. Thomas; Perry, Jeffery S.; Mergers and Acquisitions: Reducing M&A Risk Through Improved Due Diligence; *Strategy & Leadership*; Vol. 32; No. 2; 2004; pp. 12-19

Hitt Michael et al.; Attributes of Successful and Unsuccessful Acquisitions of US Firms; *British Journal of Management*; Vol. 9; 1998; p. 91-114

Hussey, David; Some Thoughts on Acquisition and Merger; *Strategic Change*; 8; 1999; pg. 51-60

Strategic Attractiveness in Mergers and Acquisitions

Jaidee, Anand; Harbi, Singh; Asset Redeployment, Acquisitions and Corporate Strategy in Declining Industries; *Strategic Management Journal*; Vol. 18; 1997 Special Issue; p. 99-118

Kenney, Chris; Do Most Acquires Leave Too Much to Chance?; *Mergers and Acquisitions*; Vol. 37; Iss. 5; 2002; pg. 36

Klee, John; Wathen, Mike; The Deal: M&A Leaders Tell How to Maximize the Value of Transactions; (www.pwc.com)

Koller, Tim; Goedhart, Marc; Wessels, David; Valuation; 4th edition; John Wiley & Sons, inc.; Hoboken, NY; 2005

Kotzen, Jeffrey et al.; Winning Through Mergers in Lean Times; BCG-report (www.bcg.com); July 2003

Larsson, Rikard; Finkelstein, Sydney; Integrating Strategic, organizational and Human Resource Perspectives on Mergers and Acquisitions: A Case Survey of Synergy Realization; *Organization Science*; Jan 1; 1999

Larsson, Rikard; Coordination of Action in Mergers and Acquisitions; Lund Studies in Economics and Management 10; Lund University Press; Wallin & Dalholm Boktryckeri AB; Lund 1990

Lubatkin, Michael. *Mergers and the Performance of the Acquiring Firm*. The Academy of Management Review (1983)

Murray Y., Janet; Masaai, Kotabe; Performance Implications of Strategic Fit Between Alliance Attributes and Alliance Forms; *Journal of Business Research*; 58; 2005; p. 1525-1533; (www.sciencedirect.com)

McNish, Rob; Sias, Dianne; (Stewart Early); Mergers and Acquisitions; *Strategy & Leadership*; Vol. 32; No. 2; 2004; pg. 5-11

Nilsson, Carl-Henric. Methodological Reflections, Extended Version; *Technology Management publication*; Lund University; 2004.

Nissen, Cecilia; Särnstrand Emil; TM 70/2003; ISSN 1651-0100; KF sigma; Lund 2003

Parenteau, S. Richard, Weston J. Fred; It's Never Too Early to Think Integration; *Mergers and Acquisitions*; Vol. 38; Iss. 11; 2003; p. 17

Park, Milyae; Making the M&A Pay: Avoiding the "Winners Curse"; *Accenture-report*; 2002; (www.accenture.com)

Park, Milyae; Aligning Deal Price With Value Potential; *Mergers & Acquisitions*; Vol. 40; Iss. 7; 2005; pg. 40

Patel, Runa; Davidsson, Ulla; Grundbok i forskningsmetodik: kvalitativt och kvantitativt; Studentlitteratur; Lund 1987

Picot, Gerhard; Handbok of International Mergers and Acquisitions; Palgrave Publishers Ltd.; ISBN 0-333-96867-0; 2002

Porter E., Michael; What is Strategy?; *Harvard Business Review*; 1996

Rock, L. Milton; The Merger and Acquisitions Handbook; R.R. Donnelley & Sons Company; ISBN 0-07-053350-4

Salter, S. Malcom; Weinhold, A. Wolf; Choosing Compatible Acquisitions; *Harvard Business Review*; 59; 1; 1981; pg. 117-127

Schoenberg, Richard; Knowledge Sharing and Resource Sharing as Value Creation Mechanisms in Inbound Continental European Acquisitions; *Jornal of Euromarketing*; Vol. 10; No. 1; 2001; pp. 99-114

Seth, Anju; Sources of Value Creation in Acquisitions; An Empirical Investigation; *Strategic Management Journal*; Vol. 11; No. 6; 1990; p. 431-446

Sharifi, Mohsen; Karan, Vijay; Khan, Zafar; Your M&A Map for Success; *Wiley InterScience (www.interscience.wiley.com)*; 2005

Sikora, Martin; Spotting Deals That Destroy Value; *Mergers and Acquisitions*; 2004; pg. 11-15

Sirower, L. Mark; The Synergy Trap; The Free Press; ISBN 0-684-83255-0; 1997; New York

Tuite, Paul; Acquisitions: How to Capture and Convert Real Value; *Accountancy Ireland*; Vol. 37; No. 5; 2005; pg. 35

Vantrappen, Herman; Kilefors, Petter; A User's Guide to Successful M&As; *Prism*; 2; 2005

Vithala, R. Rao; Vijay, Mahajan; Nikhil P., Varaiya; A Balanced Model for Evaluating Firms for Acquisition; *Management Science*; Vol. 37; No.3; 1991, p. 331-349

Strategic Attractiveness in Mergers and Acquisitions

Weston, J. Fred; Weaver, Samuel C.; Mergers and Acquisitions; The McGraw-Hill; ISBN 0-07-1364324; 2001

Young, Brendon; Acquisitions and Corporate Strategy; *Management Accounting*; 67; 8; 1989; pg. 19-21

Interviews

Bodin, Anders. Operations Manager at SPS, Sandviken, 2006-04-19

Österholm, Rolf. Vice President Marketing at SPS, Sandviken, 2006-04-19

Spalding, Brian. CEO at SPS USA, Totowa, 2006-03-09

Berg, Göran. CFO at SPS, Sandviken, 2006-04-20

Engblad, Mats. CEO at SPS, Sandviken, 2006-05-02

Internet

www.accenture.com

www.adl.com

www.atkearney.com

www.bcg.com

www.belttechnologies.com

www.belttechnologies.co.uk

www.engineeringtalk.com

www.direkt.com

www.mckinsey.com

www.sandvik.com

Appendix A

1. What is the overall strategy of Sandvik and how is this affecting the strategy of SPS?
 - a. What is the strategy of SPS?
2. How will SPS try to accomplish this?
3. How will SPS try to create growth within a saturated market such as steel belts?
 - a. What are the company view/strategy regarding Acquisitions?
4. How important is the belt section of SPS?
 - a. How “strict” are the boundaries between different Sandvik area, i.e. could a possible strategy be to keep SPS-belts as a cash cow and instead of investing within SPS transfer funds to another Sandvik area?
5. What are the core competences of SPS?
6. What are the supposed benefits of acquiring BT?
 - a. In what ways will these be obtained?
 - b. What are the similarities of SPS compared to BT?
 - c. What are the differences of SPS compared to BT?
7. Would BT and SPS be able to share the same:
 - a. Procurement?
 - b. Technology development?
 - c. Logistics?
 - d. Administration?
 - e. Operations?
 - f. Marketing and sales?
 - g. Service and aftermarket?

Strategic Attractiveness in Mergers and Acquisitions

- h. Strategy?
8. Would you consider BT to be an acquisition of:
 - a. Diversification?
 - b. Sameness?
 - c. Conglomerate?
 9. Do you have an opinion of how much BT market will grow in the next five years?
 10. If merged with SPS what do you think would be the main aspects that would contribute to growing BT faster than the company would on its own?
 11. Do you think that an acquisition of BT would provide shareholder value over a:
 - a. 1 year period?
 - b. 2 year period?
 - c. 5 year period?
 - d. No shareholder value?
 12. What new customers and applications are within reach after a merger with BT?