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How did the financial crisis affect the approach to projects?

A case study of Volvo Trucks

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Industrial and Financial Management

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Abstract

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Background: The term investment have over time grown larger and wider, from mostly considering “hard” investments such as machinery, factories and plants to include also education, projects, marketing etc. Corporation investments have trough history been correlated to the economic situation with recession and good times effecting investments, as the uncertainty and risk increases during a recession, combined with debt financing becomes more limited.

Purpose The target is to describe how the financial crisis affected Volvo Trucks approach to projects. This by comparing the corporations decision system prior, during and post the financial crisis and the changes made to it, during this period, with the theoretical framework regarding project investment decisions.

Positioning: This thesis has focused on Volvo Trucks and its project approach, before during and after the financial crisis.

Method: A qualitative case study of a corporation were conducted with an abductive research approach a descriptive design, using semi structured interviews.

Results: The approach to projects prior and post the financial crisis is similar, with a different approach during the crisis. The prominent lasting change post the financial crisis is the change in employment policy.

Keywords: project risk, projects investment decisions, discount rate, financial crisis

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Björn Allasson and Robin Gunnarsson

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1. INTRODUCTON

1.1 Background

Investment decisions can be considered to be as old as trade itself. The term investment has over time grown larger and wider, from mostly considering “hard” investments such as machinery, factories and plants to include also education, projects and marketing (Sandahl, G., & Sjögren, S. 2005). Different versions of economic foundations such as discounted cash flow (DCF) where a specific cost of capital determines the expected future cash flow have become more widespread during the last five, six decades. This as a result of the changes in corporate structure which led to a bigger decentralization of investment decisions (Segelod E. 1998a).

Investments can be viewed as tied-up capital expected to generate future revenue. Investment decisions are a central part for corporations and the outcome of an investment has a significant impact for a corporation’s future profit and the assessment of an investment is thereby equally important to anticipate the effects of the investment (Bergknut, P., Elmgren-Warberg J. & Hentzel, M. 1993). Corporations’ investments have through history been correlated to the economic situation, with both recessions and booms affecting investments. Uncertainty increases during a recession and in combination with debt financing becoming more limited, a so called “credit crunch” is created (Ghemawat, P. 1993).

The global financial crisis began in the U.S. in the spring of 2007 as a result of the so-called sub-prime loans. In autumn 2008, much of the world was rapidly drawn into an economic downturn; the term "financial crisis" was heard all over the news. Banks became more restrictive in their lending and many companies had trouble financing their operations. The U.S. government launched various support packages to rescue the financial institutions, but a short time later, Lehman Brothers filed for bankruptcy and this is considered the start of the financial crisis in Sweden (Bessis, J. 2010). The Swedish banks were affected both directly and indirectly by the crisis through credit losses as well as the undermining of confidence in the security market and the trust between banks. Because of the lack of confidence the investors became reluctant to lend capital on credit (Riksbanken, 2008a). Sweden was affected by the global financial crisis and economic downturn mainly through tighter credit conditions, higher interest rates for households and corporations as well as falling asset prices. In the case of corporations, these tighter credits created difficulties in both implementing investments and handling already ongoing operation payments. Shares were sold in favor of less risky investment options, due to the decrease in risk appetite, which led

to a fall in share prices (Konjunkturinstitutet, 2008a).

1.2 Definition of the problem

The financial crisis increased the uncertainty on the market and the risks in conducting business grow larger (Bessis, J. 2010). Corporations manage risk at two levels, the first is how they manage risk at corporation level with focus on the investment processes, and the second is how they manage risk in the specific investment decision. The risk of corporations is one component for the required rate of return from the market. The market have become a collective term for the actors that buy, sell and manage stocks, options, bonds and other derivatives on the stock market and similar markets (Sandahl, G., & Sjögren, S. 2005).

Kindleberger (2000) believes that a financial crisis begins with a phase of strong increases in asset prices. In this phase, it is easy to borrow, invest and speculate. The interest rate plays a central role, as it is low when the financial crisis begins and thereby making it possible to borrow capital at a lower rate. The expectations of increasing asset prices are driving the rise of the prices and investors are borrowing capital to invest. This creates inflation and the central banks act by increasing the interest rates to meet the inflation target. As interest rates rises, it is no longer profitable to borrow and invest capital and people start selling their assets. When everyone wants to sell, but there are no buyers, it's a financial crisis. These losses spread through the economy. When individuals and businesses are put out of business, the banks' assets decreases as the banks must write off these loans.

In times with lower revenue it has been noticed that corporations have a higher tendency to use discounted methods, so called sophisticated methods. It is on the other hand considered that strict procedures are decreasing the flexibility of the management group in times of uncertainty when quick adaption is desirable. It is also considered that strict procedures can be repressive for corporations in times of high growth (Sandahl, G., & Sjögren, S. 2005).

There have been studies made regarding corporations` investment manuals. Some of these studies have focused on project evaluation techniques. We have however not found any surveys or studies of Swedish corporations, which focus on eventual changes in their project approach due to the financial crisis. This is why an interest did arise to conduct a case study of a Swedish corporation and examine if the financial crisis did influence the corporation`s approach to projects. We will do this by conducting interviews regarding the corporation's methods and praxis for deciding upon projects prior, during and post to the financial crisis to

find out if anything has changed and if so, why these changes were made. We need to understand the corporation`s approach to projects prior to the financial crisis to be able to compare with its approach during the financial crisis. The approach the corporation has post the financial crisis will be put in perspective of the corporations approach prior and during the financial crisis. This will enable us to contribute with knowledge regarding how the financial crisis influenced the approach to projects during the crisis and if the financial crisis had any long term effect on Volvo Trucks approach to projects. To achieve this, our main focus of this study is the time during the financial crisis and the comparison to the times prior and post.

1.3 Research Question

"How did the financial crisis affect the approach to projects?"

We have constructed some sub questions to investigate the research question. The purpose of the sub questions is to answer the research question.

- *How were projects decided upon prior to the financial crisis?*
- *How were projects decided upon during to the financial crisis?*
- *How projects are decided upon post the financial crisis?*

1.4 Purpose

The target is to describe how the financial crisis affected Volvo Trucks approach to projects. We will do this by comparing its decision system prior, during and post the financial crisis and the changes made to it, during this period, with the theoretical framework regarding project investment decisions.

2. Methodology

2.1 Research Approach

We have chosen an abductive approach, which is a mixture of the inductive and the deductive approach. This approach suits well to the case study methodology we have chosen (Alvesson, M. & Sköldberg, K. 1994). The theory that constituted the base for our first interview was later complemented by new theory, which we needed to understand the information from the first interview. The new theory was also used in the follow-up interviews. It is our belief that the abductive approach gave us the opportunity to get an understanding of how the financial crisis affected the approach to projects for the corporation in our case study. This by allowing a continuous alternating between theory and empiricism (Alvesson, M. & Sköldberg, K. 1994), which enable us in the chapter of discussion and analyze (chapter 5) to present the knowledge gained from this thesis.

2.2 Case study and Design

To answer the research question we decided upon a case study methodology. Feagin at Al (1991*)* argue that a case study methodology is ideal for a holistic, in-depth investigation. The method gives us the opportunity to focus on specific processes and gives a deeper knowledge and understanding of the activities in the corporation (Bell, J. 2000*)*. The descriptive design was used to construct the theoretical framework, as it is used by researchers to describe the current situation and state in the field (Merriam, S.B. 1994).

2.3 Qualitative method

This thesis is based on qualitative methods and semi structured interviews. As the characteristics of data we seek requires an in-depth dialog (Yin, R.K. 2003) the qualitative method was preferred as we aim to reach comprehensive as well as in-depth understanding (Jacobsen, D. I. 2002). The focus in this thesis is the affect the financial crisis had on Volvo Trucks approach toward projects. We wanted to know how the corporation viewed and evaluated a project prior, during and posts the financial crisis. By choosing the qualitative method we could focus on one single corporation to understand what have been the major shifts for Volvo Trucks approach to projects. To understand what incentives the corporation had for these changes and what knowledge Volvo Trucks has drawn from their experience of

the financial crisis. The intention in this thesis is merely to analyze the theoretical and empirical information and through it gain knowledge and draw conclusions in accordance to our purpose.

2.4 Semi structured interviews

When constructing the interviews for this thesis we decided upon semi structured interviews, that is a mixture of the structured and the unstructured interview (Ghauri, P. & Gronhaug, K. 2002*).* By using semi-structured interviews, we did construct the questions in advance but incorporated the flexibility and opportunity to ask follow-up questions. This was done during the main interview, and also during the follow-up interviews, which gave the opportunity to achieve finer distinctions in the communication (Jacobsen, D. I. 2002).

The theoretical framework we used to construct the interview guide for the first interview was later complemented by new theory, which we needed, to both better understand the information from the first interview and to construct additional questions for our follow-up interviews. As of this the initial interview guide, used for the first interview, grew larger as we needed to extend it to fully answer the research question and sub questions. In chapter three, the theoretical framework, we have in the end of every section made a summary/conclusion were we also state what questions in our interview guide, used in our case study, that derived from that specific theory section. The questions (see Appendix 1: Interview guide) that were constructed in advanced of the interviews aimed to compare theory with practice and thereby answer the research question and the sub questions.

Conducting interviews is one of the best methods, but could possible also be a complicated method for gathering information (Merriam, S.B. 1994). The Interviews for this thesis were conducted in Swedish, as it is the native language of all parts in the interviews conducted. That's why the interview guide in Appendix 1 is presented in Swedish. As this thesis is written in English the answers are interpreted and translated.

2.5 Volvo Trucks

The Volvo Group is one of the world's leading manufacturers of trucks, buses, construction equipment, drive systems for marine and industrial applications and aerospace components.

Volvo Trucks is a Swedish truck manufacturer and a part of the Volvo Group. Volvo Trucks headquarter is located in Lundby, Gothenburg (www.volvotrucks.com).

The decision to make a case study of a Swedish industry corporation, located in the Gothenburg area, had several reasons. It was our belief that it would be easier to get in contact with a Swedish corporation. If the corporation also were located in the Gothenburg area, it would become easier to conduct all the interviews face to face, which we believed was the way to win the most knowledge in the area. The reason we chose an industry corporation is that the industry sectors order books were affected by the financial crisis (SCB, 2009), which was suitable given our research question. As Volvo Trucks fit our criteria's and is part of Volvo Group, maybe Gothenburg's most famous corporations, and we had a personal contact at Volvo Trucks that could give us directions were to initially turn, they became the corporation of choice for our case study.

We established contact with the corporation by an initial phone call, followed up by an email presenting the thesis and the purpose of the interview. After that a date for the first interview was decided with two employees at Volvo Trucks. We recorded the interviews, which allowed us later on to go back and re-hear the answers to be able to simplify and increase the reliability of the transcription from the interviews. The interviews sometimes involved examples and discussions, this to make sure we did get a correct understanding. The interview guide was always the base upon which the follow-up questions were made.

Interviews were conducted with a controller and a project leader at Volvo Trucks. The controller is a member of a control group within the corporation and has been with the corporation since 2002. The project leader works in one of Volvo Trucks departments and has been within the corporation since 2004. Both interviewees' possess master degrees. After an agreement it was decided that the interviewees would be anonymous. Manly due to the argument that the answers given otherwise would be considered a statement from Volvo Trucks as a corporation, rather than from persons working at Volvo Trucks. In the text below we will name the project leader P and the controller C.

2.6 The quality

Choosing a qualitative method, reliability becomes an issue we had to face. Another researcher´s opportunity to repeat the study with similar result is the essential part of reliability (Merriam, S.B. 1994). Translation was a possible source of error as the interviews

were conducted in Swedish. We have managed this source of error by recording the interviews, orally render their answers if their answer were not totally clear to us during the interviews and have presented the thesis to the interviewees so they could express their thoughts and objections.

3. Theoretical Framework

3.1 The Financial Crisis

The global financial crisis began in the U.S. in spring 2007 as a result of the so-called sub-prime loans, which simplified could be explained as high-risk loans to homebuyers with poor economic conditions (Rosen, H. 2008). In autumn 2008, much of the world was rapidly drawn into an economic downturn. The banks became more restrictive in their lending and many companies had trouble financing their operations. Various support packages were launched by the U.S. government to rescue financial institutions, but a short time later, Lehman Brothers would file for bankruptcy and this is considered the start of the financial crisis (Bessis, J. 2010).

Sweden was prior to the financial crisis in an economic boom with rising stock prices, increasing property prices, growing employment and a thriving economy with record profits. In the fall of 2007 this economic boom was stepwise replaced by an economic turndown, characterized by liquidity shortages and total market stagnation. In autumn 2008 the crisis reached its` climax and the term "financial crisis" was heard in every news coverage. (Backstrom, A. & Forsell, J. 2008)

The Swedish banks were affected both directly and indirectly by the financial crisis. Not only had several major Swedish banks investments in U.S. securities, including Lehman Brothers. Another major problem was that the crisis undermined the confidence in the security market and that the banks no longer trusted each other (Riksbanken, 2008a). A lack of confidence arose because investors did not know from where claims originated. The crisis of confidence made investors reluctant to lend capital. This created funding problems for the Swedish banks (Konjunkturinstitutet, 2008b).

Although the crisis initially was mainly a problem for the banks, it led to problems in the credit market, which also caused problems for other corporations (Riksbanken, 2008b). Corporation's new orders fell sharply in 2008 and 2009 (SCB, 2010). The increased funding costs and reduced orders forced many corporations to cut back operations and redundancies rose sharply in 2008 and 2009 (Arbetsförmedlingen, 2010).

So Sweden was affected by the global financial crisis and economic downturn mainly through tighter credit conditions, higher interest rates for households and firms and falling asset

prices. In the case of corporations, these tighter credits created difficulties in both implementing investments and also in handling already ongoing operations payments. Even for the creditworthy, conditions tightened in contrast to a normal cyclical downturn. Higher interest rates also affect the investment opportunities for businesses when funding costs rise (Konjunkturinstitutet, 2008a).

In addition to higher interest rates and tighter credit conditions, falling asset prices are also associated with financial crisis. Due to reduced appetite for risk, shares are sold in favor of less risky investment options, which lead to falling share prices (Konjunkturinstitutet, 2008a). The Swedish stock market fell by over 40% between early 2008 and early December 2008 (Österholm, P. 2009). With falling stock prices, for corporations it is not only difficult to finance investment and current payments with borrowed capital, but it also becomes even more difficult to finance the same with capital through new issues (Konjunkturinstitutet, 2008a).

As a consequence of the financial crisis it can be assumed that corporations in Sweden during this period did meet the following conditions:

- Liquidity shortage for financial institutions, due to tightening of credit conditions
- Increases in interest rates
- Low stock prices and thus more difficult (expensive) to raise equity capital (new issue).
- A generally lower demand on products
- Bad debts. Bad debts became more prevalent.

(Konjunkturinstitutet 2008a)

Summary/Conclusion: The above section describes what happened during the financial crisis and what effects that had on Swedish corporations in general. The financial crisis influenced the following factors; market stagnation, increased interest rate, lower product demand and more difficulty to borrow capital.

This general view of the financial crisis gives us an understanding of the impact it had on corporations and their projects which helps us in our analysis and discussion were we compare Volvo trucks project approach prior, during and post the financial crisis. It also gave us questions to our interview guide whether the financial crisis effected how projects were assessed or not and by what factors project risk were assessed.

3.2 Risk

The traditional view of risk is the possibility that something undesirable will happen (www.ne.se; 2012). This show it´s generally accepted that risk only can lead to negative consequences and Vaughan (1997) defines risk as: “risk is a condition in the real world in which there is an exposure to adversity in the desired outcome that is expected or hoped for”. One can also have a project point of view regarding risk, were risk is expressed as the inability to achieve the desired result within cost and time frames. Holton, G.A (2004) defines risk as an exposure to a proposition of which one is uncertain and by that clarifies that risk entails two essential components; exposure and uncertainty.

Previous studies show that investments risk assessment is the biggest problem when it comes to making decisions. There is also a big difference in how risk itself is assessed at a project. Many corporations use the same discount rate in all types of projects, without evaluating the projects own characteristic (Graham, J.R. & Harvey, C.R. 2001).

Corporations manage risk at two levels, at corporation level with focus on investment processes, and in a specific investment decision. There is no strict line between these two levels of risk, as they are linked together. The beta-value can for example relate to the marginal risk of a particular investment decision as well as how the corporation measures their risk on an overall level. Risk is one component in the markets required rate of return on the corporation. The market have become a collective term for the actors that buy, sell and manage stocks, options, bonds and other derivatives on the stock market and similar markets (Sandahl, G., & Sjögren, S. 2005).

The most common way to consider risk within a corporation is to adjust the cost of capital for the project, which then can be applied in discount models used as a base for investment and project decisions. Discount rate models provides a base for value-adding decision, but can also be attached to the risk by using simulation techniques to describe the likely outcome and then risk adjust the discount factor (Sandahl, G., & Sjögren, S. 2005). Given that a project has the same risk as the corporation as a whole, the weighted average cost of capital (WACC) should be applied to the given project as the discount rate to evaluate the project. If a projects risk differs from the risk of the corporation, the corporation should use another discount rate than the wacc (Berk, J., & DeMarzo, P. 2007).

Corporations seek projects that earn more than the projects weighted average cost of capital. Corporations have to consider that projects` have different risks than the corporation as a whole, a project with higher risk then the corporation in average must therefore earn a higher rate of return than the corporation. Each project must be evaluated at the cost of capital that reflects the systematic risk of its operating cash flows as well as the financial leverage appropriate for the project (Copeland, T., Weston, F., & Shastri, K. 2005).

Experience and tradition is of great importance when making investment/project decisions in Sweden, which is linked to local, national and cultural tradition. Corporations in the UK have a closer correlation in their calculations to the in theory advocated methods. In Sweden it is more common that corporations adjust its calculations due to project risk then due to corporation risk (Sandahl, G., & Sjögren, S. 2005).

Summary/Conclusion: The area of risk describes the components of risk and helps us understand the risk part of the financial crisis. It created questions for our interview guide regarding how Volvo trucks viewed both external risk exposer and uncertainty and its impact on the project approach. It also created questions for our interview guide whether Volvo Trucks used the same or different discount rate depending on the projects characteristics and also what models it uses for value adding decision.

3.3 Project Funding

Corporations receive investment funds from two classes of investors: creditors and shareholders. They provide debt and equity capital. Both groups expect to receive a rate of return that compensates them for the level of risk they accept. Debt holders receive a stream of fixed payments and can force a corporation to receivership or bankruptcy if they do not receive payment. Shareholders receive the firm's residual cash flows that remain after all other payments are done. Consequently the interest paid to debt holders is less than the required rate of return on equity because debt is less risky (Copeland, T., Weston, F., & Shastri, K 2005).

Projects undertaken by the corporation must earn enough cash flow to provide the required rate of return to creditors, repayment of the face amount of debt, and payment of expected dividend to shareholders. The cost of capital is the minimum risk-adjusted rate of return that a project must earn in order to be acceptable. The investment decision cannot be made without knowledge of the cost of capital (Copeland, T., Weston, F., & Shastri, K 2005).

Corporations should have a debt to equity ratio equal to the operating risks of the corporation. If a corporation has “too much” equity it results in an unnecessarily high cost of capital. We get a situation where corporations should do more investments and accept more project that has an expected positive outcome until the desired debt to equity ratio is reached. Investments and projects should be within the corporations` core activities, why profitable investments might be rejected not only due to the lack of capital but because of the nature of the project or investment. When desired debt to equity ratio isn’t achieved, one has seen a demand for higher dividends or share buybacks within Swedish listed corporations (Hellman, N. 2005).

Over time the different ownership groups' influence on listed corporations has increased, resulting in a higher pressure to maximize shareholder value. In financial theory this view is strongly rooted and some of the positions in arguments such as corporation should be focusing its resources to core activities have a bearing on corporate investment and financing policies. The increase in shareholder focus has given the shareholders a greater influence than before over the corporations’ investment and project approach (Hellman, N. 2005). Criticism rises, as is discussed by Segelod (2000) regarding the pressure from a shortsighted stock market that does force corporate managers to priorities short-term profits.

Summary/Conclusion: Investors are exposed to risk and requires return that compensates them for their risk. The cost of capital should compensate the investors for their risk. Projects return should therefore, at a minimum, equal a projects cost of capital. Risk influence the investors required return (or cost of capital), which in turn dictates the conditions for a project. The financial crisis meant uncertainty and higher risk, which should equal a higher cost of capital.

This section helps us answering the research question by giving rise to several questions for the case study regarding how the financial crisis influenced the risk and cost of capital. We will examine how Volvo Trucks choose to handle this increased risk and cost of capital in their approach to projects prior, during and post the financial crisis. This allowing us in the discussion and analysis to connect the financial crisis with the cost of capital, and its impact on Volvo trucks project approach.

3.4 Resource allocation process

Segelod (2002) has identified following seven factors as determinants of design for the

resource allocation system in traditional manufacturing industries.

- Planning processes: Business planning system and a budgeting control system.
- Identification of strategic investments: Strategic investments should be separated and referred upwards for approval.
- Pre-approval control: A well-developed system of preapproval review should exist. A request has to be approved by a large number of executives and staff representatives through its way upwards in the hierarchy.
- Capital budgeting routines: Written manual that stipulate all the formal requirements of an investment. This is important for the control of investments and to create a common language to discuss investment issues.
- Investment criteria for tangible investments: The PBP criterion and a DCF criterion such as the NPV or IRR.
- Co-ordination of investments: Handled centrally by middle managers and corporate staff.
- Investment review: Requests for investments should be reviewed through a pre-approval review system, investments are monitored during implementation, and larger investments also post-audited.

(Segelod, E. 2002)

Investments are made in all industries, but their volume and composition varies, as do corporations´ tools for control. The character of the resource allocation system is determined by size and composition of investments, the time horizon, the measurability of investments and the need to co-ordinate investments and the visibility of strategic investments (Segelod, E. 2002). Corporations make a distinction between strategic investments and operational investments. Administrative procedures are used to make sure that strategic decisions are taken before operational decisions. Strategic investments are more centralized than other types of investment decisions because top management want to make sure that the investment is in line with previously approved strategies. If an investment differs, management want to consider it more careful (Segelod, E. 1997).

The composition of investments in Swedish industry has shown an increase in volume of intangible investments. Today around one-third of investments consists of fixed investments, one-third of investments in R&D and another third of investments in machinery consists of investments in computerized equipment. Capital budgeting becomes less important as the weight of intangible investments increases. Corporations with large investments in R&D,

marketing investments and in-house training consider the traditional measure as inadequate and have created new processes to approve these types of investments. Traditional capital budgeting criteria and capital budgeting manual have a more important role in corporations that make large fixed investments (Segelod, E. 1998b).

Today, almost all major Swedish corporations have a multi-divisional structure. There are three main levels in divisional groups: corporate, divisional, and business levels. Corporations with substantial fixed investments that have decentralized their evaluation, usually put their capital budgeting practice in writing, in an investment manual (Segelod, E, 1998b)**.** Segelod (1997) conclude that all major Swedish corporations with a high volume of fixed investments, i.e. the engineering, electro-engineering, chemical, pharmaceutical, forest, steel, metal, and power industries, as well as some of the conglomerates and construction groups do have such an investment manual.

Summary/Conclusion: This section connects the effects of the financial crisis with the resource allocation process of corporations. By knowing the different components in the resource allocations process we will be able to ask and understand the way resource allocation process have been managed over time.

We will examine whether Volvo Trucks did adapt to the financial crisis and did this by altering the variables in the resource allocation process to be able to coop with the changing conditions. By understanding the different components in the resource allocation process we can subsequently focus, in our empirical study, on certain parts (investment manual) and how they are managed. This creates questions for our case study regarding the resource allocation process prior, during and posts the financial crisis. The answers will allow us to reach conclusions and answerer our research question.

3.4.1 Investment Criteria

The models are developed, with the theory working as the fundamental base, to achieve the general wealth maximization for the owners (shareholders) of the corporation (Sandahl, G., & Sjögren, S. 2005). Among academics the discount model, net present value, is the most advocated investment model. Even though it is developed for decision-making during stable conditions it still works in situations including uncertainty (Hamberg, M. 2005). Present value model assumes that investments net present value is the initial investment plus the expected future cash flows discounted back to today using a discount rate that include the risk the

investment generates (Sandahl, G., & Sjögren, S. 2005).

The decision rule for discounting models is simple, if the value of the future cash flows is greater than the initial investment the investment is implemented, otherwise rejected. Although the model is developed for decisions made under certainty, it is also useful under uncertainty, i.e. situations where the decision maker only knows the probabilities of various future events. The most prominent assumption in the present value model is that of value maximization, which is that the decision maker only cares about if the economic unit's value is maximized. The monetary value of the investment produces is compared to the risk and the investment is carried out when the present value is positive (Sandahl, G., & Sjögren, S. 2005).

The formal requirements for the payback period vary between 18 months and three year, but in times of recession the period has been shorter. Factors influencing the payback period are company strategy, country risk, and the expected economic life of the investment. Studies have shown that companies in financial difficulties require shorter payback periods (Segelod, E. 1998a). In times of lower revenue it has been noticed that corporations have a higher tendency to use sophisticated methods. Sophisticated methods are considered to be the ones that calculate discounted cash flows in some manner. It has on the other side been considered that strict procedures are decreasing flexibility for the corporation`s management group in times of uncertainty, when quick adaption is desirable. Strict procedures has also been noticed to be repressive for corporations in times of high growth (Sandahl, G., & Sjögren, S. 2005).Using a certain method does not necessarily mean that the decision that is made is based on that calculation, or that the method criteria`s is met or even that the method is used in a correct way (Sandahl, G., & Sjögren, S. 2005).

The differences between theory and the models promoted by theory, and reality are called the “theory praxis gap” and have been noticeable in several studies. In a financial theoretical perspective, the explanation for this gap is that the knowledge in understanding, knowing and using sophisticated investment tools are not sufficient within corporations. Experience from failures has created mistrust from the corporation management group towards calculations and reports from the volatile stock market. Forecasts can be mistaken, especially if the projects do change over time. The corporation management groups worry increase as the payback time does, even though the NPV might be positive, resulting according to theory to unnecessary high costs in attempts to reduce risk, by using higher return rate demands and diversification (Sandahl, G., & Sjögren, S. 2005).

In a questionnaire study on Swedish corporations by Sandahl and Sjögren (2002) the payback model was found to be most commonly used. It was found to be the most common first choice, most common single choice (only using one method) and most common second choice. In theory payback is considered a measure of liquidity rather than a measure of profitability. These results show signs of the "theory praxis" gap, but the fact that payback is the most common second choice corresponds well to theory. NPV is the second most used method with a frequency of 50% of the corporations. Totally 65% of the corporations in the study did use some sort of discount model, with IRR being the third most common method. The use of discount models, so called sophisticated models was more common among the bigger corporations while accounting based methods were more common in smaller corporations. In the study the authors also noted that the higher up in the corporation a decision was made the sophisticated models were used to a higher extent. One could also notice that it was clearly more common to adjust the cost of capital for an investment or project, considering its specific risk among them that did use sophisticated methods (Sandahl, G., & Sjögren, S. 2005).

Summary/Conclusion: This section explains the models used for project assessment and how they are used and altered depending on market and corporation conditions. In theory all investments with a future cash flow exceeding the initial investment should be conducted. This is known as value maximization. Reality is not that simple and management worry tend to increase as payback time, and with that uncertainty, does. This might explain why payback method is the most common choice, even though it is more useful for measuring liquidity then profitability. The use of sophisticated methods increases higher up in the corporation.
Given that the financial crisis increased uncertainty and created liquidity shortage, we will examine its influence on the methods used for project assessment.

Sophisticated methods are more commonly used when a corporation has lower revenue but these methods also decrease flexibility during uncertainty. This gives us questions for our case study interviews to help us understand eventual changes in Volvo Trucks investment manual, when the revenue decrease and the uncertainty increase as a result of the financial crisis. By understanding the general time frame for payback period and the factors influencing the required payback time, we will by examine the changes and reasons for the made changes to get empirical material to answerer our research question and its sub questions. It also gives us a base for our analysis and discussion to draw conclusion from it.

3.4.2 Investment manual

Corporations with many and large projects and investments often have an elaborate investment and project manual`. Here the criteria that must be met are described, the lifetime of the investment/project and how the initial investment, revenues, costs and the residual value should be calculated. The manual states how the investment/project should be evaluated, how the request should be made and how large the investment amounts are allowed to be for a decision maker at a certain level. A basic knowledge in investment calculation is assumed (Segelod, E. 2005). The manual also covers those formal decision routines that are common to the decision making group and the type of appraisals that are decentralized; more advanced appraisals are made by, or in cooperation with a staff unit. The decentralization of capital investment appraisals has led to more sophisticated systems for pre-approval control. This need to control investment requests submitted lower down in the corporation has also led to the adoption of simpler evaluation routines, which are understood by all and which allow little room for manipulating the result of the appraisal (Segelod, E 1998a). These written procedures for investment manuals were introduced so requests from various proponents could more easily be compared and ranked (Renck, O. 1966). Over the decades a shift has taken place. Investments have gone from an accounting based definition to a project investments approach, which can include costs for marketing, education and the run-in costs throughout the project (Segelod, E. 2005).

Today the investment manual is important for strategic planning and the creation of a mutual group language regarding capital investments. Today, corporate managers put more focus on assessing business strategies and investments programmes and less on evaluating individual investment projects. However, major investment requests still need to be submitted to and formally approved by the head office (Segelod, E. 1998a)

Most major Swedish groups prefer strategic control and practice capital rationing for investments that do not need corporate level approval. While strategic investments, which require group level approval might sometimes be approved for strategic reasons even if they have a payback period and IRR, way outside what is normally considered as acceptable (Segelod, E. 1998a).

A majority of the manuals explain how the hurdle rate, or cut-off rate should be determined. Some corporations use a rate differentiated with regard to country, and other use a common group rate. The group rate is determined as a WACC based on accounting data. Corporations with a differentiated rate use a rate based on the cost of loans in local currency

adjusted with a risk premium around 3%. The hurdle rate varies largely between 10–30%, and is lower in groups that base the rate on the cost of borrowing (Segelod, E. 1998a).

Summary/Conclusion: Investment and project manuals state criteria for the project request and evaluation. This enables easier comparisons between different project requests and gives a sophisticated preapproval control. The investment manual is used for strategic control, planning and the creation of corporation understanding regarding investments. This enables management to focus on strategies rather than evaluation of individual projects. The investment manual is a tool for implementing the corporation's strategy and making sure that the investments at lower levels are in line with corporate strategy.

The financial crisis influenced the product demand, interest rate and the ability to raise capital. This gives us questions regarding its effect on Volvo Trucks strategy and its investment manual, as a tool for its strategic implementation. We will examine the investment manual`s role in Volvo Trucks prior, during and past the financial crisis to gain knowledge of whether the financial crisis did affect the criteria and requirements of the investment manual. This information we will use in our upcoming analysis and discussion to be able to draw conclusions that will help us answerer our research question.

4. Case Study

4.1 The investment manual

The controller C starts by explaining the investment manual for Volvo Trucks. They use an investment manual, which divides a project into separate stages. This manual includes every step from the initial phase till the end phase. This manual creates the formal process that guides the project from the first phase called pre-study, until the seventh phase called follow-up and the gates, five in total, a project have to pass to enter the next phase during the project (see figure 1 below). Both interviewees explain that the model works for most kinds of projects. It involves checklists and the material the project leader has to prepare for the control group that evaluate the project leaders proposed project. They both state that the model involves the whole cost recovery, return on investment, etc. The model is used throughout the whole corporation, and all projects follow this specific model from beginning to end of a project. The model creates a standardized way of work enabling comparison between projects in an easier way then otherwise possible.

P explains that he in phase one, called pre-study, comes up with a project idea that can be a solution to a demand and start planning the time schedule, budget, implementation and most of all the business value of the project. At the first gate, the project leader presents his idea to a control group of people as a request to carry on with it. The gates fill the function that a project has to pass through to be able to carry on to the next phase. The control group is individuals with authority to make decisions. The control group consists of same members at every gate of the project but the members of a control group depend on the size and nature of a project, for a big project it might be the board of the company that is the control group. At the gates the control group makes sure the project leader follow corporation strategy, that the project has a demand at the business, the project modal is followed and that the project shows positive signs in accordance to it. The control groups' purpose at the first gate is to approve the business value of the request and to decide which solutions to a demand to investigate further.

Interviewee P clarifies that if the project goes through the first gate, then the project continues to phase two: concept study. The project leader will then initiate a feasibility study. If the results of the study are favourable then the project will go into phase three, development. This could involve the development of a product or a process. At the second gate the control group chooses and freezes one solution to a demand, and approve its ways

of working in combination with technical concepts. The chosen project continues past gate two and enters phase four, called final development, were deployment plan and product or process is approved and ready for deployment. The phases and gates to come after, makes sure project is ready for deployment and in the end validate that the business objectives are achieved. At each gate the project leader has to present the project and how the project is proceeding, deviation from time schedule, budget, what resources that are needed to carry on with the following phase, as well as how different parts are proceeding. Volvo Trucks use green, yellow, red and stop to describe different parts of the project and the project overall to decide on how they proceed in the project. If one part in the project shows a stop sign the project cannot continue to the next phase, something has to be done for the project to be able to continue.

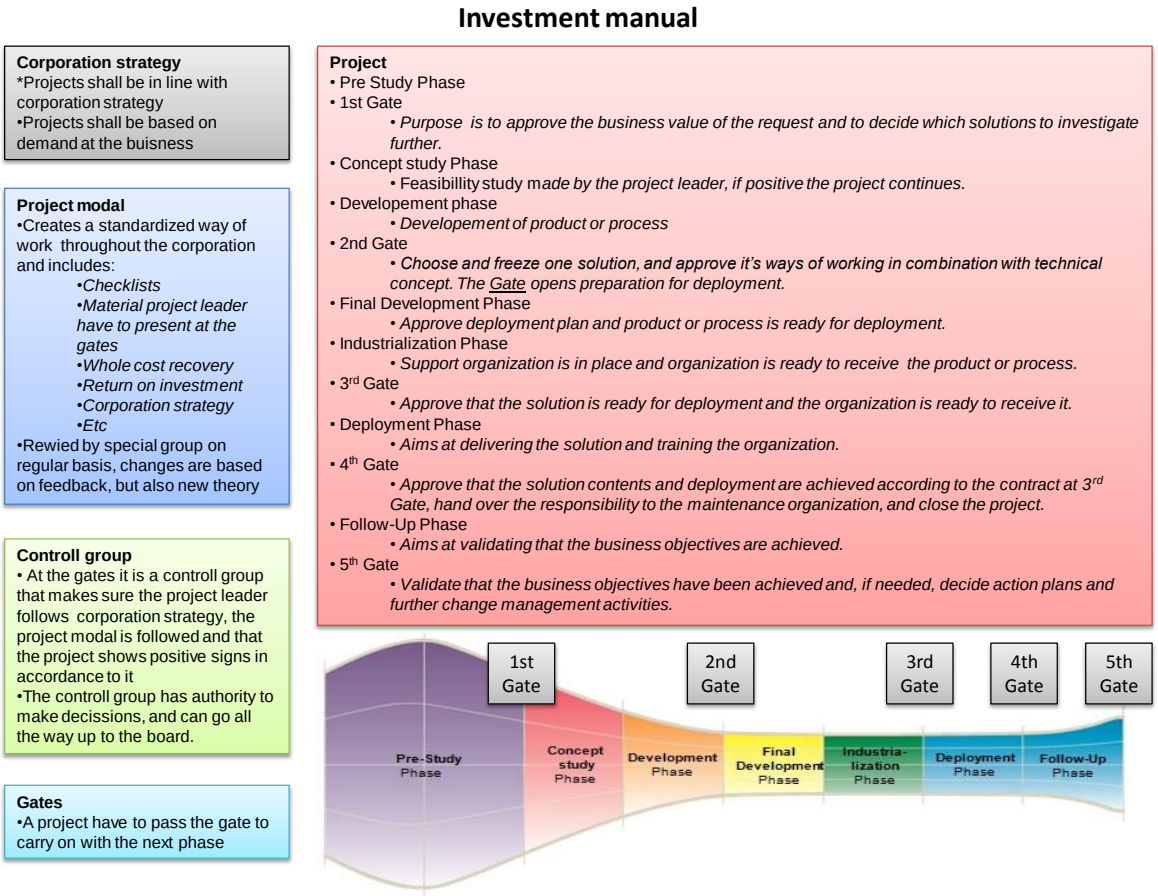

Figure. 1 Our illustration of Volvo Trucks investment manual

There is a group within the corporation responsible for the content of the investment manual and this group review the model on regular basis, C explains. He explains that the main reason for upgrade is based on feedback from the users of the investment manual but the model is also influenced by new theory from the academic world. They state that the content

of the model was not affected by the financial crisis but the members of the control group became more cautious to let projects pass the first gate.

The two interviewees explain that the corporation been using the same investment manual during their years in the corporation, and the basis for the model is the same now as it was before the financial crisis. Due to constant upgrades it is hard to say what specific changes that have occurred since they were employed in 2002 respectively 2004. They clarify, as mention above there has "*always"* been an investment manual at Volvo Trucks and by that may mean that there has been a standardized way to approach project for a long time. Projects should be in line with the company strategy and are driven by demand of the business, C explains. Both explain that when a business opportunity occurs a project should be initiated to realize this opportunity. It is according to P, the control group that make the decision regarding project funding which is dependent on the corporation budget. Both Interviewees state that minor projects do pass the gates more easily. Interviewee C explains that the final decision regarding major projects are made at a higher level and major projects go through a different process then other projects. A major project goes through a more sophisticated process then a minor does. So the demands on different projects do differ.

Summary/Conclusion: The project leader presents the project to a control group. This presentation should include all relevant facts about the proposed projects. The control group make sure that the project follows the corporation's strategy, payback period and other requirements. The members of the control group are dependent of the size and importance (related to costs of the project) of the project as members of the control group need to have authority to make decisions.

The investment manual contains guidelines and checklists from initial (pre-study) to end (follow-up) phase and is reviewed regularly. Upgrades are based on feedback from users and new theory. The content of the manual did not change during the financial crisis but the demands at the gates were adapted due to the impact of the financial crisis.

4.2 Cost of capital

Volvo Trucks cost of capital depend on the cost for its different sources of financing. This involves the cost of equity and the average interest rate on debt and bonds, P states. Then he continues and says that it is not only the pure cost of capital the corporation considers but

also the cost of administration of the capital, because there is a cost involved in the administration of creating the finance. Both Interviewees explain that the cost of capital today is 15% based on the guidelines that are set when the cost of capital is decided. In general the cost of capital varies over time between 12-17 %. According to C the cost of capital for projects is normally revised once per year and at that time new guidelines are given out. He also explains that the same cost of capital is used all over the corporation within a country.

Interviewee P explains that the financial crisis had a profound impact on the cost of capital, because the crisis made it harder to get capital. According to P the financial crises did result in increased interest rates, something Volvo trucks also experienced. The crisis created a market situation characterized by demand and supply, where the demand exceeded the supply which drove up the cost of capital. He explains that during the financial crisis the costs of capital increased and were adjusted upward. The main influence on the total cost of capital was the increase in interest rate. He continues that the cost of capital has a major influence on all projects that are driven by a financial incentive. *"The cost of capital is one of the most important parameter and something projects are totally dependent upon"* P states. The way of determining the cost of capital has been the same way as long as the corporation has employed the interviewees and both agree that this was not affected by the financial crisis.

Summary/Conclusion: Volvo Trucks cost of capital depends on the corporation's cost of equity and debt. The crisis increased the cost of capital, mainly through increased interest rates. This influenced the way projects were evaluated, because the cost of capital is something projects depend on. The financial crisis affected Volvo Trucks approach to projects through increased cost of capital.

4.3 Investment criteria

The interviewees state that the corporation applies capital budgeting methods for project evaluation but the choice of methods does vary. According to them the corporation mainly use the payback method and the net present value method. There are several reasons for the choice of capital budgeting method. Larger projects and strategic projects often involve the use of NPV method. Interviewee C explains that the choice of capital budgeting method also depend upon which part of the corporation the project belongs to and the nature of the

project. The financial parts of the corporation do use more sophisticated methods, which includes discounting methods.

Interviewee P state that when deciding upon capital budgeting method one parameter is the amount of invested capital but many times the most important factor is how fast the invested capital gets back to the corporation. Time is an important KPI (key performance indicator), which the corporation prefers to work with. According to both interviewees the most common choice of capital budgeting method is the payback method. Interviewee C clarifies the choice of capital budgeting method that the time aspect is a really important parameter and is often the driving force when the corporation aims for a harder priority between the projects. Both interviewees state that the corporation considers the payback method as a visual and user-friendly tool. Both conclude it´s vital that everybody within the corporation understands it and knows how to use it and that it is *easy* to measure how fast the corporation gets its capital back.

According to both C and P, Volvo Trucks had the same approach to capital budgeting methods prior and post the financial crisis. The approach was however different during the crisis, but this was according to them an extreme situation as a major part of projects undertaken during that time focused on cutting costs and doing it fast. During this period the most important capital budgeting method was the payback method. The accepted payback period was shortened during the financial crisis.

Summary/Conclusion: In project evaluation Volvo Trucks mainly use payback and net present value as capital budgeting methods. The choice of methods is influenced by factors such as project size and corporation strategy, department, nature of project and business climate. Payback is used because it captures the time aspect of projects and its simplicity, which makes sure that everybody understands it. The changing business climate during the crisis made Volvo Trucks focus on fast ways to cut costs. The increased focus on time and cost saving changed the approach to projects temporarily. During this period the time aspect was the driving force in project evaluation and the payback period was adjusted according to that. The crisis influenced Volvo Trucks approach to projects because the corporation had to adapt to the situation by adjusting the time aspect by which projects were evaluated.

4.4 Cutting costs

Both interviewees explain that during the financial crisis the corporation focus was to cut costs, mainly by decreasing the number of employees. By doing this the corporation ended up in a situation where it did not have enough manpower to create changes, P states. The project leader P explains that the resources for projects were very limited and that the corporation during this time limited the resource available for projects to one year. Both interviewees explain that the corporation made it really clear that given the resources at this point of time all investments should be paid back within a year. C, the controller, state that at this point the corporation was very narrow in its approach to projects. As the corporation simply did not have enough resources to initiate many projects and the payback period had been shortened it became a really hard priority among projects on which projects to accept.

Today the payback period is back to normal which means that the corporation is involved in a lot more projects, according to P. Then he continues and says that when the allowed time frame for the payback period increases so does the number of possible projects to get engaged in. During the financial crisis the payback period did decrease but today it has increased and there is no change to how is was prior to the financial crisis.

Summary/Conclusion: Volvo Trucks had to cut costs and therefore decreased its manpower, which resulted in loss of resources and competence. The corporation limited resources available for project to one year and all projects had to be paid back within that time frame. Given this frame the corporation prioritized really hard when it choose between projects to engage in.

4.5 Projects

Interviewee P states that a project both demand resources and competence and that the given resources at the time depend on the business situation. If Volvo Trucks is performing well then the corporation will have capital to expand and engage in both more and larger projects with longer time frames. Interviewee P also means that an important factor is how much equity the corporation possesses. Volvo Trucks must take into account how long they would last if the corporation ends up in a situation where it has to finance its own business. Interviewee P means that the corporations' equity plays an important part in the kind and amount of projects undertaken. According to P it is easier today for Volvo Trucks, just as before the crisis, to raise capital to projects as they can finance a bigger part by debt, and the corporation does a lot more investments now then during the financial crisis.

Interviewee C explains that the corporate strategy changed, mainly the short run tactical planning due to the corporations business situation. If the business is performing well the corporation knows that it will have a steady cash flow to finance projects and in this situation the corporation is not hampered by insufficient equity. Then he continues and states that on the other hand if the business is not performing well the situation for projects is reversed.

"We found ourselves in a situation where we did not earn any capital, but still had costs, which made the corporation leak cash" C explains with P concurring.

Both interviewees explain that the allowed time frame for projects is for Volvo Trucks a clear way to communicate and set the frame for what kind of projects that are prioritized at the moment. The interviewees say that different pay back periods equal the possibility for different types of projects to be accepted. If the payback period is shortened, bigger projects is less likely to be accepted, as they need a longer payback period. Then they continue and say that it was clear for the whole corporation that a project has to be paid back within the given time frame. All projects that cannot meet the given time frame have to be put aside.

Summary/Conclusion:
Volvo Trucks earnings dictate the resources available for projects. The business climate and the corporation`s available capital sets the frame for the number and nature of the projects undertaken. A steady cash flow and adequate own capital give the corporation the means to engage in more, larger and longer projects. Uncertain cash flows and inadequate own capital reverses the approach to projects. During the crisis the corporation had a negative cash flow, which was accompanied by a decrease in the corporation's available capital. To cope with these circumstances Volvo Trucks focused its short run strategy on cutting losses. One way of realizing this was by altering the frame and thereby the allowed conditions for the capital budgeting methods the corporation made sure that projects aligned with short-term strategy. Volvo Trucks use projects as a tool to implement its short-term strategy for both expansion and downsizing.

4.6 Project risk

According to both C and P all projects are evaluated on individual basis but through the corporation's standardized system. They state that it is up to the project leader to calculate

the specific project risks and to create a risk list that consists of the risks that can affect the project or business case. Then it is up to the control group to make a decision to go through with the project or stop it. This decision is influenced by what factors the project leader present and is affect by the business environment. But P clarifies that it is always a question of priority, where do the corporation gain most given its resources at the moment. Both interviewees mean that there is never enough competence to go through with all projects.

A project is evaluated based on its risk. The risk of a project is evaluated by a control group that assess the project leaders risk list. All kinds of risks are put together to create a consolidated risk picture. Both interviewees agree that another factor that influence whether the project is accepted or not, is who the project leader is perceived. Both C and P underline the importance that the control group have confidence for the project leader. The project leader's personal relationship with the decision making people within the corporation do impact the project evaluation process, both interviews conclude.

Both interviewees state there is a standardized way for post-evaluation of projects, but the size and strategically importance of projects are factors that determine to what degree and extent this is executed. The importance of post-evaluation does decrease with smaller projects, they conclude. The interviewees cannot distinguish any difference regarding how projects are post-evaluated before and after the financial crisis.

Interviewee P recalls that during the financial crisis the order book went from eleven months to zero within a week and that this had an impact on the corporation. The whole business situation changed because the corporation could not sell any products and were thereby unable to get capital. Interviewee P explains that because Volvo Trucks sell capital-intensive products it´s of utter importance that the potential costumers are able to finance their purchases by ability to borrow capital. In this situation the customers could not get capital to finance their purchases. Both interviewees agree that Volvo Trucks ended up in a situation where it was leaking cash but not earing any. The interviewees states that regardless if the corporation produce products or not, it still cost a great deal of capital just to own the corporation. To cut costs the corporation immediately fired all hired personnel and declared that every expansionary project were excluded and only cost saving projects were up for discussion, the interviewees conclude.

Both interviewees state that the business climate creates the corporations situation and depending on the climate the corporation priorities and allocate its resource to different kind

of projects. Before the financial crisis the corporation prioritised growth projects but when the crisis struck the focused changed to projects with shorter time frame and cost saving approach. Today Volvo Trucks focus on expansionary projects and the given time frame goes beyond the allowed one during the crisis, the interviewee's conclude.

Summary/Conclusion: The purpose of a project should be to maximize to use of corporation resources and make sure this aim is met. Volvo Trucks has a standardized system through which all projects are evaluated. The business environment, the individual projects risk and the relationship between the people involved in the process is all factors that influence the evaluation of the project. The financial crisis created a situation in which Volvo Trucks cash flow became negative. When the focus of projects changed from growth to down sizing, the corporation's evaluation system made sure that projects were aligned with this new paradigm.

4.7 The financial crisis affect today

Both interviewees mean that the corporation has learned from the crisis and this has an effect on projects. Volvo Trucks have for example adopted a different employment and personnel policy and there is more focus on flexibility within the corporation today. This means that 15% of all personnel are hired from external sources, the interviewee's state. The corporation think it is worth paying the extra cost in exchange for the ability to cut these personnel cost in the future, if it becomes necessary. It's the corporation's employees that make up its intellectual capital and it is these employees competence that are necessary for projects.

4.8 Case study summary

Volvo Trucks investment manual include the way a project is processed from beginning to end, with different phases and gates, including check lists and the aspects to look at for the project leader and the members of the control group. The control group make sure that a project is in line with corporation strategy and based on demand of the business. The purpose of a project should be to maximize the use of corporation resources and to make sure that this aim is met. Volvo Trucks have a standardized system through which all projects are evaluated. The business environment, the individual projects risk and the relationship between the people involved in the process is all factors that influence the evaluation of the project.

Volvo Trucks earnings dictate the resources available for projects. The business climate and the corporation's available capital set the frame for the number and nature of the projects undertaken. Projects are used as a tool to implement corporation short-term strategy. The demand at business changed during the financial crisis, which forced the short-term strategy to alter for Volvo Trucks. Decrease in demand and increased cost of capital, due mainly on increased interest rates did reflect on Volvo Trucks approach to projects. The content of the investment manual did not change but less resources, changed short-term strategy, higher cost of capital and shorter payback periods resulted in higher demands for a project to pass the gates.

During the financial crisis Volvo Trucks cash flow became negative which was accompanied by a decrease in available capital. This change in business climate forced Volvo Trucks to put focus on cutting losses and fast ways to cut costs, which included decreasing its manpower, which resulted in both loss of resources and competence. The time aspect was the driving force in project evaluation and the payback period was adjusted according to that. Same capital budgeting methods were used (mainly net present value and payback), but Volvo Trucks limited project resources to one year and projects had to have a payback period of maximum one year.

5. Discussion and Analysis

The financial crisis influenced the situation and business climate for corporations in Sweden. The crisis created a situation in which corporations experienced liquidity shortage, more difficulty in raising capital, increasing interest rates and a lower demand for their products (Konjunkturinstitutet 2008a). Volvo Trucks did experience an increase in cost of capital due to higher interest rates, and the demand for the corporation's products did decrease as presented in our empirical findings.

The financial crisis can be viewed as the start and base for our case study, where the subject of interest is Volvo Trucks. Our aim is to understand the impact the financial crisis had on Volvo Trucks project approach. To meet our aim, we will compare Volvo Trucks project approach during the crisis, with its approach prior and post the financial crisis. By doing so our goal is both to understand the financial crisis impact at the time of the crisis and to understand the long lasting impact it did have on Volvo Trucks project approach. The below figure illustrates the financial crisis influence of factors that affected Volvo Trucks project approach.

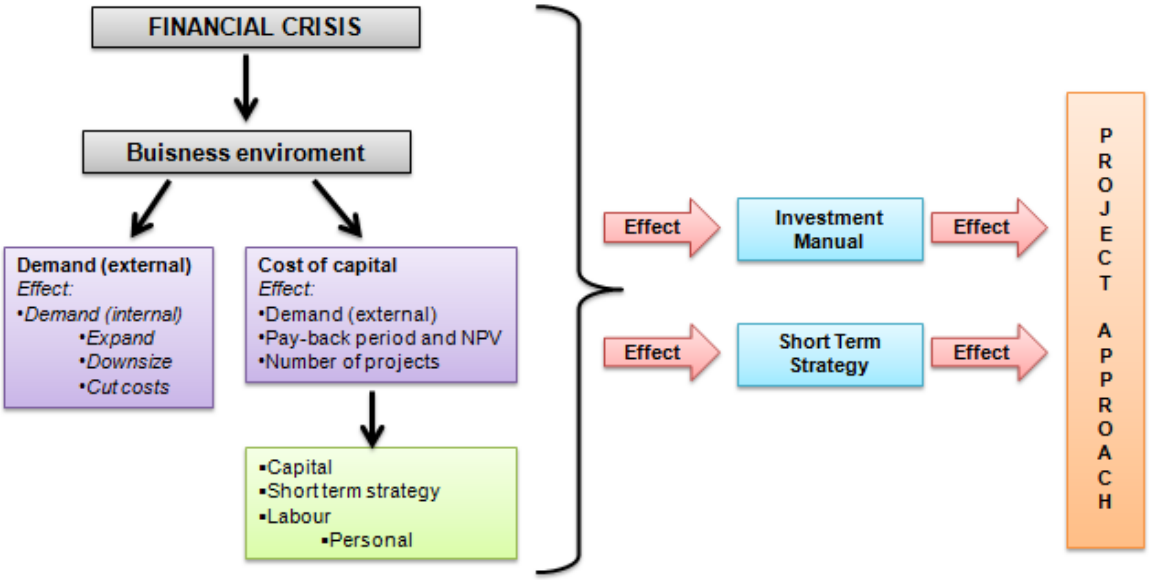

Figure.2 Our illustration of the financial crisis effect of Volvo Trucks project approach

The financial crisis did affect the business environment for Volvo Trucks. The business environment influenced both the demand for the corporation`s products and its cost of capital. Several aspects combined, as was described in the case study and will be analysed in this chapter, influenced the project approach.

The change in the business environment had an impact of the cost of capital, both for Volvo Trucks and its customers. Because the market participants experienced a lack of trust for each other, due to the uncertainty regarding who had bad debts and who had not, the cost of capital increased for all market actors. As the cost of capital increased the demand for Volvo Trucks products decreased, as it became more expensive for its customer to borrow. The increase in cost of capital also affected the corporation`s own capital, because as the interest increased it became in short term more profitable to use internal instead of external funds for financing the business. The phrase “cash is king” was suitable during the financial crisis. The increase in cost of capital did thereby decrease the amount of projects that were initiated and able to pass through the first gate at Volvo Trucks. Another factor, besides the cost of capital that also influenced the number of initiated projects was the payback period. As the cost of capital increased the necessary payback period also increased for projects and the NPV of projects decreased. At the same time the required payback period was shortened at Volvo Trucks due to the increase in cost of capital. This due to the fact that when the cost of capital went up the demand went down, increasing the cost and lowering the profitability. As the cash in-flow dropped, which influenced the corporation`s own capital negatively, the need for a decreased cash outflow become necessary. To enable this Volvo Trucks had to cut cost and decrease losses.

Volvo Trucks needed to adapt its short-term strategy to be able to cut cost and losses. This is related to when the external demand changes, customers demand for the corporation`s products change, so does the internal demand of the business. During the financial crisis the internal demand was to cut costs and to downsize. One-way of doing this was to dismiss employees. When the demand for Volvo Trucks products decreased, so did its need for manpower. The decreased manpower meant that the corporation lost resources and knowledge, which resulted in that fewer projects were possible to implement due to lack of resources and knowledge. When the demand later increased, so did the need for manpower, but this time the requirements for manpower were met through agency.

To coop with the above factors Volvo Trucks had to adapt its short-term strategy. The focus of the short-term strategy was to cut costs, downsizing and only allowing projects with a limited payback time, twelve month or less. These factors did also affect the investment manual, which the short-term strategy is a part of. The investment manual was not only affected by the short-term strategy, but also through the changed in cost of capital that increased the payback period and lowered the NPV of projects. This, combined with the fact

that the demand for the corporation`s products at times were non-existent had an impact of Volvo Trucks approach to projects during the crisis.

5.1 Financial Crisis

The financial crisis did impact the business climate. The business climate in turn dictates the corporation's situation and therefore the corporation makes changes in its short run tactical strategy to cope with the given business climate. The short run strategy dictates what the corporation priorities and chooses to allocate its resources to. This involves projects, because projects should be in line with corporation strategy and are driven by the demands at the business, we conclude. So by setting the strategy, the corporation is applying what Segelod (1998a) calls strategic control for investments. This is according to the author the preferred way for most major Swedish groups to apply strategic control.

5.2 Investment Manual

By applying the same investment model throughout the whole corporation, Volvo Trucks make sure that all projects follow a standardized way of work. Segelod (1998a) states that the investment manual usually is designed at corporate level and aims to inform lower levels how an investment request should be designed and processed. We conclude that this enables comparison between projects in an easier way then otherwise would be possible. A mutual investment model also gives a better overview of the projects in the corporation and creates a common language so managers at different business units can read, understand, learn and supply feed-back.

Volvo Trucks constantly encounters changing market demands, which affect its tactic and strategy. To implement tactic and strategy Volvo Trucks sets appropriate criteria, guidelines and budgets that are communicated to the project leaders and the control group. The implementation of projects and the projects that are accepted are influenced by the project leader, which takes these new guidelines into consideration when planning new projects. By setting the frame for projects by criteria, guidelines and budget that are based on Volvo Trucks strategy, the corporation aims to make sure projects are adapted to market conditions. In comparison with the financial crisis, Volvo Trucks budget was bigger both prior and post. Today the demands for Volvo Trucks products were/are higher and the cost of capital are lower. Criteria's and guidelines therefore put focus on growth and on expansive projects.

The financial crisis created new demands of the business, which forced Volvo Trucks to adapt its short-term strategy. The short-term strategy was compounded by Volvo Trucks long term strategy and tactics, which was adapted in accordance to market and market situation. We conclude that one of the objectives of the corporation's investment model is to standardize the work with projects and to achieve an overview of the corporation. This enables the corporate level to ensure that the corporation`s strategy is followed. The purpose of the investment manual is thereby dual; it gives guidance for the individual projects and monitor that projects are in line with corporate strategy. Segelod (1998a) states that today's investment manuals focus on strategic planning and aims to create a mutual language regarding investments. Today corporate managers put more focus on assessing business strategies and investments programmes and less on evaluating individual investment projects (Segelod, 1998a)

Volvo Trucks choose to upgraded its investment manual on a yearly basis, instead of adapting a new investment manual. Therefore we assume that it is easier for the employees to adapt to small continuous changes of the model, compared to a totally new model. The corporation thereby makes sure the employees recognize and understand how the model works. It should out of this reason, according to us, be easier for the employees to work with changed criteria. The time from change of the criteria until employees work according to them should thereby be shorter. So when Volvo Trucks change its short-term strategy and tactics the implementation should be easier, which makes the corporation more agile to changing market situation and demands.

We conclude that Volvo Trucks choose to face changes in its demand market by altering its guidelines and criteria for projects, which then are communicated to all levels within the corporation. The investment manual seems to stay the same in regard of decision levels, with no signs from our interviews for either more top or bottom steering depending on market situation. The changes that are made to the decision system seem to mainly originate from changes in budget and availability of capital, which seems to be correlated to Volvo Trucks short-term strategy. The market demand is thereby affecting the decision system without any real changes to the investment manual, a bit like driving a car in rain or sunshine.

5.3 Risk Management

A corporation manages risk at two levels, one is how it manages risk at corporate level with focus on the investment processes, and the second is how it handles the risk in a specific investment decision. There is no strict line between these two levels of risk, as they are linked together. (Sandahl, G., & Sjögren, S. 2005).

We conclude that corporate management always is concerned about the corporation's total risk exposure and aim at all times to keep it at a specific level. When macro factors increased corporate risk as well as project risk, corporate management took action to push back the risk level to preferred level. The project risk was influenced by both external and internal demand as the competition increased both external and internal, in combination with an increase in cost of capital. When the cost of capital increased the availability of cash decreased, which made fewer projects possible. As a result of the increased cost of capital on the market, the demand for Volvo Trucks products went down. The competition increased as supply on the market initially was the same but the demand decreased, this created a surplus of products. At the same time fewer projects were carried out within the corporation, which increased internal competition for resources. To compensate for the increased risk corporate management changed the short-term strategy. The changes made in the short-term strategy are communicated to the project leaders and the control groups. The changes in short term strategy resulted in a shortened payback period and aim of projects changed to cutting costs and losses. This in turn affect the criteria in the investment manual as well as the way project leader and control group chose to conduct their work. The new payback criteria made payback time an independent variable and NPV a dependent variable of the payback time. The purpose of the shortened payback period was to decrease the uncertainty and thereby the project risk level. Specific investment decisions were affected by this new set of guidelines, which was something project leaders had to adapt to when considering projects. During the crisis corporate level managed the increased risk by dictating the conditions for the investment process.

It is clear to us that before the financial crisis the corporation strategy focused on expansion and did prioritize projects that created growth. During this period the allowed payback period was longer and the corporation was engaged in more projects. When the crisis then struck the corporation changed its short run strategy and shifted the focus from growth projects to cost saving projects with shorter time frame. There is well known fact that corporations often shorten their payback period in times of recession (Segelod, 1998a). Segelod (1998a) also says that the required payback period is shorter in corporations with financial difficulties.

Given our empirical material we can´t make a statement about the magnitude of the crisis impact on Volvo Trucks financial status, but we know that the crisis did have an impact and that might be related to the shortened payback period.

The allowed time frame for projects is a clear way for the corporation to communicate its strategy and also a way to set the frame for what kind of projects that are prioritized at the moment, given the business situation. Different payback periods give rise to different kinds of projects, and generally a longer payback period equals the possibility to choose from a wider range of projects, we conclude.

It is interesting to notice that according to the two interviewees the investment model for Volvo Trucks was not affected by the financial crisis. Instead the financial crisis created harder demands at the gates regarding which projects that were allowed to pass to the next stage, as the above mentioned shortening of payback time to a maximum of one year. This is a change in the variables of the investment model, even thought it might just be a temporary change, as the pay-back time today is longer. In theory corporation management groups worries tend to increase as the payback time does, even though the NPV might be positive (Sandahl, G., & Sjögren, S. 2005). According to Segelod (1998a) the formal requirement for payback period normally varies from 18 months to three years, and has been shorter in periods of recession. Factors influencing the payback period are company strategy, country risk, and the expected economic life of the investment. Studies show that companies in financial difficulties require shorter payback periods (Segelod, E. 1998a). This correlates with the situation for Volvo Trucks during the crisis. Volvo Trucks did shorten the payback as a part of the corporation`s strategy to cut back costs, manage the financial situation and decrease its risk exposure. As the business environment after the financial crisis then become more favourable the payback period has increased, allowing more projects to pass through the gates and be accepted. In theory payback method is considered a measure of liquidity rather than a measure of profitability (Sandahl, G., & Sjögren, S. 2005). This correlates with theory as payback in this case as was used as variable in the investment model, focusing on liquidity just as much as on profitability because of a situation characterized by limited capital, liquidity and a need for cost cuts.

Today compared to prior to the financial crisis Volvo Trucks have adopted a different employment policy. Today the corporation hires 15 per cent of its manpower from agencies and has thereby decreased its number fixed employees, compared to prior the crisis. This enables part of the manpower costs to change from a fixed cost to a variable cost, making

the corporation more agile to changes regarding the business environment and less cyclically dependant.

5.4 Capital Budgeting approach

At Volvo Trucks the choice of capital budgeting methods is based on several factors, mainly the size and nature of the project and at what level and part of the corporation the project is decided upon. Top managers, larger projects and at the financial parts of Volvo Trucks, sophisticated methods are used to a higher extent. This corresponds to theory stating that sophisticated methods are more commonly used at higher levels of a corporation (Sandahl, G., & Sjögren, S. 2005).

In a study of Swedish corporations by Sandahl and Sjögren (2002) payback method was found to be the most commonly used, the most common first choice, most common single choice (only using one method) and most common second choice. The second most common capital budgeting method was in this study NPV. Volvo Trucks use to biggest extent payback followed by the NPV method.

At Volvo Trucks an important factor in the investment decision is how fast the invested capital comes back to the corporation. According to Mao (1969) payback method incorporate factors discounting methods leaves out. Payback can be viewed as a risk measure that given the set time frame, minimize the risk of lost investment opportunities and uncertainty in an investment. Jagannathan and Meier (2002) state that when a corporation engages in a project the corporation locks part of its resources and this decrease the freedom of action, given that the available resources are limited. This was certainly the case in Volvo Trucks during the crisis. Payback time is a key performance indicator and during the crisis a dominating factor when the corporation aimed for a harder priority between projects. Due to the circumstances created during the financial crisis it is to us understandable why the corporation chose to shorten its payback time. Making sure the corporation was ready to handle eventual changes in the business environment. Another reason for the shortened payback period might have been that managers worry seem to increase with the time period to investment payoff (Myers, C.S., 1984). Myers (1984) underline that today's investments dictate tomorrow's opportunities, which according to us is most applicable to the conditions during the crisis. Given that the focus of Volvo Trucks projects were to cut cost and losses, it is to us logical that the corporation choose to not lock its resources in projects longer than

absolutely necessary. Volvo Trucks limited available resources for projects to one year and all investments had to be paid back within maximum one year. If Volvo Trucks anticipated a changed business climate, for example an increased demand for their products, it would have been very unwise to have locked its resources in downsizing projects and therefore not been able to rapidly implement the changes in their short-term strategy to capture these new opportunities. Therefore we think that a shortened payback time during recession makes sense.

It is however according to Sandahl & Sjögren (2005) noticeable that corporations have a higher tendency to use sophisticated methods in times with lower revenue, which do not seem to be the case of Volvo Trucks. For Volvo Trucks the capital budgeting method used is the same independent of revenue. During the crisis the payback period was however shortened as a part of changed short-term strategy. Volvo Trucks still used payback and NPV to the same extent as before, but as payback time was shortened it became more often than before the bottleneck of the two. The shortened payback period, during the crisis, meant in practice less focus on sophisticated discounting methods. The approach to capital budgeting methods as well as the actual capital budgeting methods is today the same as it were prior to the financial crisis, but was different during the financial crisis as more focus was put on the payback period.

Two questions that did rise in our minds, are why Volvo Trucks approach to the capital budgeting methods and why its investment model did not change as a result of the financial crisis? If the investment model in itself is flawless, why did then Volvo Trucks need to change its approach during the crisis? Would it not have been enough to keep going the same way, as the other parameters such as cost of capital would change and thereby giving the same result as a change of approach? The answer is that the crisis was an extreme period and that the change that was made put focus on cutting costs and shortening the required payback period, rather than to change the actual investment model. Why it also was natural as times become better for business to change back to its original state. The reason why so much focus was put on the payback period was a result of the rapidly increasing cost of capital, and the corporation needed to act rapidly to adjust to these circumstances.

6. Conclusion

To capture the changes to the project approach within Volvo Trucks we believe that the qualitative method is preferred. We made interviews with employees that possess adequate knowledge to meet our needs in accordance to the purpose of this thesis. This enabled us to capture the differences in project approach prior, during and post the financial crisis. This gave the spectrum we desired and created an understanding of the changes made to the corporation's project approach. By comparing theory with Volvo Trucks practice regarding their decision system and changes made to the investment manual. We have managed to fulfill the purpose of this thesis by describing how the financial crisis affected the project approach. It allowed us to answer our research question and the sub questions to the research question.

By analyzing the affects the financial crisis had on Volvo Trucks, we conclude that the main influence was the increase on cost of capital. The demand for Volvo Trucks products decreased and cost of capital increased, which affected the conditions for conducting business. The biggest changes in Volvo Trucks approach to projects during the financial crisis could be seen in the screening process made by the control group at the first gate. They became more cautious to let projects pass through. As the control groups job at the first gate is to approve the business value of the request and decide what solution to a demand to investigate further it also became logical that the projects that passed through the gate was focused on cutting costs, as this at that time was the biggest demand for Volvo Trucks. To handle the short-term increase in cost of capital during the crisis both the nature and time frame of projects shifted to projects that could cut costs, had resource requirements on below one year and a payback period of maximum one year.

The financial crisis long term impact on Volvo Trucks approach to projects is not that prominent. The most prominent lasting change due to the financial crisis is the personnel and employment policy of the corporation. Today labor is to a higher extent employed through external sources, transforming parts of the fixed costs into variable costs making the corporation more agile.

Changes to the investment manual at Volvo Truck are incremental while the adaption to the market during the financial crisis needed to be radical. We therefore conclude that most of the affects the financial crisis had on the project approach at Volvo Trucks was short-term

affects. We believe the reason for this is that corporate management chose to change short-term strategy, which expressed itself in the screening process made by the control group at the first gate, rather than changing the investment manual. By this forcing project leaders and control group to adjust to the new guidelines in accordance to the new short-term strategy. This also enabled the corporation to re-adjust as soon as the business climate changed.

6.1 Future Research

We have come up with some ideas for future research during the process of writing this thesis. Our thesis regarding Volvo Trucks is focused on a production corporation. One idea is to do a more extensive research among Swedish production corporations another idea is to focus on the financial crisis impact on different business areas.

Suggested/ future research:

- A research, as this one including more Swedish production corporations
- Did the financial crisis affect the approach to projects differently depending on business area?

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Interview Guide

STEG 1, Praxis 2000-2008

1. Investerings manualen(generell investerings guide):

- Hade företaget en investerings manual 2000-2008?
- Fanns någon standardisering för äskade till project och investeringar i företaget åren 2000-2008?
- Hur var investering/projekt äskandet utformat (hur gick det till att få cash till projekt) åren 2000-2008?
- Vem bestämde gällande projekt?
    - Fanns budgetgränser för olika beslutsfattade på olika nivåer?
- Var kraven/investeringsmaualen olika beroende på projektets storlek?
    - Innehöll investeringsmaualen olika omfattade krav på beslutsunderlag beroende på projektets risk eller storlek åren 2000-2008?
- Beskriva innehållet i investeringsmaualen/alt. Få en kopia?
- När och av vilka (vem) förändrades/förbättrade investeringsmaualen?
- Hur förändrades investeringsmanulen under åren 2000-2008?
- Varför ändras innehållet/Vilka faktorer påverkar innehållet?
    - Konkreta exempel?

2. Kapital kostnad:

- Hur beräknades företagets kapital kostnad(WACC?) åren 200-2008?
- Ändrades kapitalkostnaden?
- Vilka faktorer påverkade kapital kostnaden 2000-2008?
    - Konkreta exempel?
- Påverkade kapital kostnaden projekt?
    - Konkreta exempel?

3. Investerings kriterier

- Hur utvärderades projektets (ja/nej till projektet) åren 2000-2008?
- Tillämpade företaget kapital budgeteringsmetoder vid projekt bedömning åren 2000-2008?
- Vilka metoder tillämpades 2000-2008?(IRR, NPV, PBP etc)
- Vilka faktorer påverkade valet av/hur bestämdes kapital budgeterings metod?
  (ex. konjunkturen, investeringens omfattning, strategi, risk, ekonomisk livslängd)

4. Projekt risk bedömning(specifik investerings bedömning):

- Separerades projekts specifik risk från företagets risk åren 200-2008?(WACC etc)
- Utifrån vilka faktorer bedömdes (projekt specifik) risk?
- Integrerades projekts risk i kapital kostnaden (via diskonteringsräntan)?

STEG 2, Praxis under finanskrisen

1. Investerings manualen(generell investerings guide):

- Hade företaget en investerings manual?
- Fanns någon standardisering för äskade till projekt och investeringar i företaget?
- Hur var investering/projekt äskandet utformat (hur gick det till att få cash till projekt)?
- Vem bestämde gällande projekt?
    - Fanns budgetgränser för olika beslutsfattande på olika nivåer?
- Var kraven/investeringsmanualen olika beroende på projektets storlek?
    - Innehöll investeringsmanualen olika omfattade krav på beslutsunderlag beroende på projektets risk eller storlek?
- Beskriva innehållet i investeringsmanualen/alt. Få en kopia?
- När och av vilka (vem) förändrades/förbättrade investeringsmanualen?
- Hur förändrades investeringsmanualen under finanskrisen?
- Varför ändras innehållet/Vilka faktorer påverkar innehållet?
    - Konkreta exempel?

2. Kapital kostnad:

- Hur beräknades företagets kapital kostnad(WACC?)?
- Ändrades kapitalkostnaden?
- Vilka faktorer påverkade kapital kostnaden?
    - Konkreta exempel?
- Påverkade kapital kostnaden projekt?
    - Konkreta exempel?

3. Investerings kriterier

- Hur utvärderades projektets (ja/nej till projektet)?
- Tillämpade företaget kapital budgeteringsmetoder vid projekt bedömning?
- Vilka metoder tillämpades?(IRR, NPV, PBP etc)
- Vilka faktorer påverkade valet av/hur bestämdes kapital budgeterings metod?
  (ex. konjunkturen, investeringens omfattning, strategi, risk, ekonomisk livslängd)

4. Projekt risk bedömning(specifik investerings bedömning):

- Separerades projekt specifik risk från företagets risk?(WACC etc)
- Utifrån vilka faktorer bedömdes (projekt specifik) risk?
- Integrerades projekts risk i kapital kostnaden (via diskonteringsräntan)?

STEG 3, Praxis 2009-2012

1. Investerings manualen(generell investerings guide):

- Har företaget använt en investerings manual 2009-2012?
- Finns någon standardisering för äskade till projekt och investeringar i företaget åren 2009-2012?
- Hur var investerings/projekt äskandet utformat åren 2009-2012?
- Vem bestämde gällande projekt?
    - Fanns budgetgränser för olika beslutsfattande på olika nivåer
- Var kraven/investeringsmanualen olika beroende på projektets storlek?
    - Innehöll investeringsmanualen olika omfattade krav på beslutsunderlag beroende på projektets risk eller storlek åren 2009-2012?
- Beskriva innehållet i investeringsmanualen/alt. Få en kopia?
- När och av vilka (vem) förändras/förbättras investeringsmanualen?
- Hur har investeringsmanualen förändrats under åren 2009-2012?
- Varför ändras innehållet/Vilka faktorer påverkar innehållet?
    - Konkreta exempel?

2. Kapital kostnad:

- Hur beräknades företagets kapital kostnad(WACC?) åren 2009-2012?
- Ändrades kapitalkostnaden?
- Vilka faktorer påverkade kapital kostnaden 2009-2012?
    - Konkreta exempel?
- Påverkade kapital kostnaden projekt?
    - Konkreta exempel?

3. Investerings kriterier

- Hur utvärderas projket (ja/nej till projektet) åren 2009-2012?
- Har företaget tillämpat kapital budgeteringsmetoder vid projekt bedömning åren 2009-2012?
- Vilka metoder tillämpas?(IRR, NPV, PBP etc)
- Vilka faktorer påverkar valet av/ hur bestämdes kapital budgeterings metod?
  (ex. konjunkturen, investeringens omfattning, strategi, risk, ekonomisk livslängd)

4. Projekt risk bedömning(specifik investerings bedömning):

- Separeras projekt specifik risk från företagets risk 2009-2012?(WACC etc)
- Utifrån vilka faktorer bedöms (projekt specifik) risk?
- Integreras projekt risk i kapital kostnaden (via diskonteringsräntan)?