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SUPPLIER EVALUATION

From an IKEA perspective

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Abstract

A cost reducing company such as IKEA, want to produce their products at the lowest possible price. The process of looking for the best alternative supplier when starting to produce a new product is time consuming. Sometimes it is impossible to find a supplier that matches their criteria, that doesn't need to be modified. If the supplier doesn't have the capital to invest in the alteration of the production plant, and if no external capital is found for the whole investment, IKEA needs to finance the loan to the supplier. IKEA intention is not to earn money on the interest of the loan; instead they want to gain value from an overall lower purchase price from the supplier. Before supplying the loan agreement some evaluation have to be made of potential suppliers that are of interest for IKEA.

Our task with this thesis is to form a model, which should include the most important factors to look upon when evaluating the best supplier alternative to invest in. We got this mission from the supplier financing division at IKEA.

The conclusion is that country analysis that represents a macro economic aspect is the first most important factor when analyzing suppliers in our model; closely followed by the micro economic aspects of the supplier, which include a financial analysis, production capacity etc. The final part of our model represents reliability, limitations and recommendations.

Key Words

Supplier Financing, Credit Risk, Country Risk, Performance Risk, Credit Model, Financial Statements, Return on Investment, Financial Key Ratios, Costs.

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1 Introduction

This chapter will provide a basic understanding about the background of the problem and make the reader familiar with IKEA as a company and in general describe the problem.

1.1 Background

When faced with the dilemma of choosing a topic for our thesis, we looked at alternatives for fitting all subjects that we have touched upon in our recent studies. We shared the interest of evaluation, which we wanted to be a part of our study. Our search started out with approaching a variety of international companies. After the search we came up with a handful of contacts, and we decided IKEA to be our best alternative to proceed with. The connection that we got at IKEA wanted us to write our thesis about their supplier-financing problem. They wanted us to investigate and identify the most crucial factors that could be applied when shopping around for the best supplier alternative.

1.2 History

Ingvar Kamprad, a young entrepreneur that started out in Älmhult, Sweden, founded IKEA in 1943. IKEA stands for Ingvar Kamprad Elmtaryd Agunnaryd, his initials plus the farm and village where he grew up in Sweden. IKEA started out selling pens, wallets, picture frames, watches etc, everything that they could get at a reduced price. They began to advertise in the local newspaper, and started out selling their products as a mail order company.¹

In 1948, IKEA started to sell furniture, which was produced in the surrounding areas around Älmhult. In 1951, there was a drastic change in the company; they decided to skip selling all items except the low-priced furniture products. At the same time the first IKEA catalogue was published. This was the year when IKEA changed their strategy to become what they are today².

¹ Björk, S (1998) IKEA, Entreprenören, affärsidén, kulturen, Svenska Förlaget

² www.ikea.com/history

In 1953, IKEA opened its first store in Älmhult, Sweden. This was like a showroom, so the customers could see and feel the products. The concept of the showroom became very popular and an advantage for the IKEA company. With the opening of a showroom IKEA could present their product in three dimensions: function, quality, and low price³.

In 1955, pressure from competitors was put on suppliers to boycott IKEA. This and several other reasons made IKEA start designing its own furniture. During the same period they got inspired by an IKEA employee on how to facilitate the transportation of their products. The brilliant idea of flat packaging was created, which led to further reductions in price for their products. By this invention they could ship more items in one truck, less storage space was required, labour cost was reduced, and transportation damage was avoided. This is an interesting part of the IKEA history where problems turned into opportunities.⁴

They are looking for the customer who is looking for value and is willing to do a little bit of work themselves, transporting the products and assembling the furniture for a better price. The business expanded and IKEA started to design and produce products with names Tore, Ögla chair, Klippan sofa etc that have become tremendously popular⁵.

IKEA's popular products led to a huge expansion and the first store outside Sweden opened in Oslo, Norway in 1963. This was followed by stores in Denmark, France, Germany, and Belgium and in 1983 six thousand employees worked for IKEA. Then in 1985, the first transcontinental store opened in the United States, which was followed by hundreds of new store openings in different countries around the world.

Today, 2003, the company had succeeded to open 186 stores in 31 countries on four continents; the Ikea group owns 165 of these stores, and the rest are owned

³ Salzer M (1994) Identity Across Boarder A study in the "IKEA WORLD", Linköping University

⁴ [www.ikea.com/ history](http://www.ikea.com/history)

⁵ Ibid

and operated by franchisees. This year IKEA employed 76,000 workers around the world.⁶

1.3 Understanding IKEA

To start the process upon choosing the most important factors when dealing with suppliers, we first needed to get an understanding of the company as a whole. We thought that it is of vital importance to understand IKEA's philosophy before getting started with the problem solution, so we started out our project with understanding the IKEA way.

IKEA want to offer low prices for well-designed and functional furniture products of good quality, manufactured under acceptable working conditions by suppliers that care for the environment.

The company has outlined their views in the document "The IKEA Way on Purchasing Home Furnishing Products". This document is their code of conduct that states the minimum demands expected of all IKEA suppliers. It defines IKEA's regulations regarding social and working conditions, child labour, environment and forestry⁷.

IKEA aims to build long-term relationships with suppliers that share their commitment to promote good practices, and who want to grow and develop together with IKEA. They expect their suppliers to respect fundamental human rights, to treat their workforce fairly and with respect. Suppliers are also obligated to continuously strive towards minimizing the environmental impact of their operations.⁸

The responsibility for developing the IKEA range rests with co-workers at IKEA of Sweden in Älmhult, The base range, which is the same over the whole world, and consists of around 10,000 products. They also have an additional range of products that is adapted for each individual country where stores are located. Their rationale behind their base range of products is that low prices make well designed, functional home furnishing products available to

⁶ Ikea, the Ikea group 2003, produced in September 2003 by PR & Communications, Ikea Services AB.

⁷ www.ikea.com/history

⁸ Ibid

everyone. This is what IKEA means by “democratic design”⁹, which also is their mission.

The company targets the customer who is looking for value and is willing to do a little bit of work serving themselves, transporting the items home and assembling the furniture for a better price. The typical IKEA customer is young low to middle income family¹⁰.

1.4 General Descriptions of the research problem

The production of a new product has to take different steps in the Ikea group before it is determined where to produce it.

When launching a new product the Business Area, IKEA of Sweden, holds the main responsibility. They then invite the Trading Areas (TA) in competitive bidding among them selves. This means that IKEA enhances internal competition among the trading areas to find the best possible supplier with the lowest possible price. This is a unique process in which the TA works closely with their suppliers to help them modernize and develop their production and in return give IKEA a competitive retail price advantage. Such an advantage can sometimes only be reached with some alteration to the existing plant or to build a new plant from start. In such cases IKEA can, if external financing as the only source of financing will be too expensive, help to finance such a project. The process in which IKEA does that is subject to change due too that the capital investments in the future are projected to increase. Thus, the gain of every investment will decrease and it’s therefore essential that the Supplier Financing will increase their monitoring and follow up of the approved credits, which today are almost nonexistent.¹¹

⁹ Björk, S (1998) IKEA, Entreprenören, affärsidén, kulturen, Svenska Förlaget

¹⁰ www.ikea.com/history

¹¹ Örjan Jonsson, Manager Supplier Financing, IKEA, 7/10 2003

2 Problem Statement

In this chapter we will explain the concept of the Supplier Financing unit within the IKEA group and narrow our problem and develop our main purpose for this thesis

2.1 Supplier Financing

IKEA uses its Supplier Finance unit to enhance and create competitive advantage among its suppliers. The tendency that IKEA can see for the future is a movement from investment in Bottleneck¹² removals to larger capital investments¹³. There are several reasons for this but one of the major causes for this is the quite large exploration of Russia that IKEA is currently undertaking¹⁴. For this radical change in the future the demand for closer follow up in the given credits becomes crucial. Since the Supplier Finance unit does not operate like a bank with interest margin spread, as the main source of fund the income must come from other sources. Today such a source is the purchase price for IKEA of the product, which is compared to the best alternative. IKEA gains from lower purchase price in the long run, which gives them value of their supplier financing operations. The current analysis method of IKEA for credit approval procedure is customized for the lower capitalized investments such as bottleneck removals. Thus the problem for the future is how to evaluate credit applications and follow up there of. The problem at hand for IKEA is to re-evaluate its current method and develop it to meet future demands.

2.2 Problem Specification

When IKEA start producing a new product, they search for the best supplier alternative in terms of the lowest purchase price. Sometimes it is impossible to find a supplier that meets their criteria, although production plants can be

¹² See Appendix

¹³ According to Örjan Jonsson

¹⁴ Hansson, R. (2003), IKEA bygger sitt största köpcentrum i Ryssland, 27/10, Dagens Industri.

2. Problem Statement

altered prior to start producing a new product at the price demanded by IKEA. The modification of a production plant can be costly, and sometimes the producer needs to borrow money so they can adjust their production to meet the demands set by IKEA. Usually they can borrow money from a local bank or some other financial institution, but sometimes external financing is not possible due to the cost of capital, and the possible risks involved. When such a situation occurs, the solitary alternative left is that the customer, in this case IKEA, lends money for a low interest rate so the supplier will have the capital needed to make the adjustments that are necessary. Before IKEA lends money to a new supplier, they need to write a contract so they will gain from their investment in terms of lower cost per unit produced, and other terms that state that they will be able to buy products from the supplier for a specific price, during a period established by the terms of the contract.

Usually there can be several different suppliers that can be of interest for IKEA. These suppliers have to be compared to each other, so that the supplier that will be chosen delivers the product at the lowest possible purchase price for IKEA, all else being equal. Hence, IKEA is looking to achieve economies of scale to the absolute extent possible.

Before making the judgement which supplier to choose, they need to evaluate the supplier. Such an evaluation can be quite tricky to make, and there are many factors that affect the final decision of which supplier to choose before making the loan to that specific supplier.

This is what our research study will elaborate on, how to make the judgement about which supplier to choose and establish the most important factors to make that judgement upon before you lend money to a specific supplier.

2.3 Purpose of the study

The purpose with our study is to establish a model that touches upon which factors that are of importance and how they should be ranked in terms of significance when a decision is made of which supplier to choose, when lending money.

2.4 Research Questions

What factors are of importance and how will they be ranked in terms of significance?

How can such factors be structured, in a model, and exploited?

3 Theoretical Framework

The theory that will be mentioned in this chapter of our research paper will touch upon some of the subjects that are of relevance when establishing the crucial factors for our research.

3.1 Global Forces

Decreasing costs in production, are essential to companies as well as being ahead of competitors in terms of price-cutting, it is of vital importance that they follow the four driving forces of globalization. These four forces is described by Nahmias as:

Global market forces

Global cost forces

Technological forces

Political and macroeconomic forces¹⁵

3.1.1 Global market forces

As domestic market matures, and new competitors enter the markets, profit margins decline. Companies have to search for new, less-developed markets to open their operations. They also have to adapt their products to the new markets to fill the consumers preferences. Products have to be customized to be competitive in some markets.

3.1.2 Global cost forces

The manufacturing process is different around the world, and costs are different. When global manufacturing cost increases, company's have to search globally for new production alternatives to reduce their overall production cost. This is why developed countries search for less-developed countries to locate new production plants in. This process has increased rapidly the last years, because improvements in education etc have increased in countries like Malaysia and Singapore. The availability of labor in former communist

¹⁵ Nahmias, S. 2001, Production and Operations Analysis, 4th edition, McGraw-Hill

countries has become available for foreign competition, as in former Soviet Union, and other countries such as China, and India. These countries have an enormous development potential with huge resources of labor. Tax rates are also a reason why companies choose foreign countries to base their factories in, since this can reduce their costs to a giant extent. Companies seek alternatives for decreasing their overall cost, which will contribute to their survival in today's competitive marketplace.

3.1.3 Technological forces

The rapid growth in information technology (IT) have made globalization easier, since a company's different departments need to keep close contact with each other, the advancement in IT technology have made the geographical location of less importance. Advancements in manufacturing and logistics have also contributed to the globalization phenomena, since it has been made easier to build plant and produce products in different countries. The technology knowledge in some countries is higher which can make it of an importance to locate R&D in specific countries.

3.1.4 Political and macroeconomic forces

Trade agreements have helped to bring down barriers for international trade, and made cross-boarder trading much more beneficial. The World Trade Organization (WTO) and other Co-operation across borders like the European Union have made it easier to trade goods between countries that are members of such an organization. Government policies also play a major role in international trade, for example the Chinese government provides substantial incentives for outsiders to arrange partnerships with Chinese organizations. Other examples of countries that offer incentives for foreign investments include Thailand, Malaysia, Mexico, and Ireland. Political instability will impact the willingness of foreign investors substantially, as the case with Africa. The exchange rate risk also is of major importance when investing in another country, which can have considerable impact on the costs, and profits of a company. This risk can be reduced by the use of derivative instruments like Swap's and options, and it can be eliminated entirely if both countries, exposed to the risk, are members of the European currency.

3.2 Risk Factors

There are many risk factors that are of importance to touch upon when deciding to make an investment. Risks have always been associated with the concept of investing both at macro and micro levels. In our research project we thought it of importance to view risk from an overall perspective.

3.2.1 Credit Risk

The issue of any credit analysis is, of course to evaluate the ability and willingness of the customer to pay the interest and amortization for the loan on hand. This is difficult in a domestic company evaluation, and becomes even more complex when it comes to cross border companies. According to Schaeffer, credit risk can also be defined as “Customer risk or commercial risk and refers to the risk due to the insolvency or other financial problems of the debtor. It is of importance for the creditor to know whether the debtor has the financial capacity to pay the loan on hand, which is looked upon nearer on the following standpoints”^{16 17}

Identify, verify, and understand the customer’s financial condition.

Compare current performance with past performance

Compare performance with other customers from the same country or region.

Assess the customer’s ability to pay¹⁸

3.2.2 Early Warning Signs

The ability to recognize the indications of financial instability as early as possibly is a key to successfully limiting losses. This is also much more difficulty when dealing with companies from other countries. There are some important issues that should be searched for when looking for signs of trouble, which are the following:

Changes in the payment patterns

¹⁶ Schaeffer M.S, (2001), International Credit and Collections: A guide to extending credit world wide, USA, John Wiley & Sons Inc. p 5

¹⁷ Fargo, L. (1996) Selling to the world, Wells, McGraw-Hill, p 251

¹⁸ Schaeffer M.S, (2001), International Credit and Collections: A guide to extending credit world wide, USA, John Wiley & Sons Inc.

New reports

Financial ratio analysis

Increase in the number of disputed payments¹⁹

3.2.3 *Country Risk*

When dealing with cross- border companies the most fundamental difference is the country risk. Therefore it is of vital importance to monitor the company you are dealing with in terms of country risk and to understand its various components. According to Schaffer that is: “When evaluating country risk you need to include such things as the country’s economy, legal system, political stability, social conditions, and trade-related matters in the present as well as from a historical perspective.”²⁰

There are companies that specialize in analyzing the likelihood of country risk. For some areas these are very imminent risks and a company should usually not consider extending credit without political risk cover to such geographical areas.²¹

3.2.3.1 *Economic Factors*

According to Schaeffer, when evaluating a country’s economy, it is of importance to look at the following five factors:

Currency exchange rates

Short and long-term interest rates

Gross domestic product (GDP)

The consumer price index (CPI)

The recent foreign investment activity

When evaluating these items, it is of importance to get a broad historical time perspective of a number of years to get an idea of a country’s economic stability²².

¹⁹ ¹⁹ Schaeffer M.S, (2001), *International Credit and Collections: A guide to extending credit world wide*, USA, John Wiley & Sons Inc p 6

²⁰ Ibid, p 23

²¹ Fargo, L. (1996) *Selling to the world*, Wells, McGraw-Hill, p 252

²² Schaeffer M.S, (2001), *International Credit and Collections: A guide to extending credit world wide*, USA, John Wiley & Sons Inc. p. 28

3.2.3.2 *Legal Issues*

When dealing with foreign creditors, a country's legal system and its view on foreign creditors play an important role. The creditors must know if and how the debt recovery system works in the particular country that they are investing in. The legal terms and conditions vary from country to country which makes an investment decision harder in international markets. There are countries that don't possess a legal system that deals with creditors in a fair way. According to Schaeffer the following problems may arise when dealing with foreign legal systems:

A lack of opportunity to have the case heard

The presence of severe bias towards foreign creditors

Or the lack of a working legal system to handle credit issues

For example, many African countries simply do not have a developed legal system that deals with foreign creditors²³.

3.2.3.3 *Political Risk*

This is the most important matter when evaluating country risk. There are several questions that should be asked when considering the country's political system.

Is the current regime pro-business

Are there other political parties?

How likely is it that the current regime will remain in control?

Is the military under control?

If the military is not under control, how likely is an insurrection?

How effectively does the government manage its economy?

Is it willing to make tough calls?

Political disruption will forever cause exporters problems²⁴.

Political risk Includes:

²³ Ibid p 25

²⁴ Ibid p. 23

Transfer Risk: Exchange Rate Risk (“Exchange-rate risk is the natural consequence of international operations in a world where foreign currency values move up and down. International firms usually enter into some contracts that require payments in different currencies”)²⁵, and the “enforcement of any law, order, decree, or regulation having the force of law occurring no later than the expiration of the maximum claim filing period, which prevents the deposit describing the item from being made”²⁶

Cancellation of License: Cancellation of either the import or export licenses²⁷

Embargo: The enforcement of any law, regulation, or embargo having the power of law that prevents the export of products or import of covered products to or from the countries involved in the transaction.²⁸

War/Civil Violence: War, Civil War, Revolution, or other civil disturbances that affect the relevant foreign country/countries, which prevents payments of credit, or shipment of products.²⁹

Illegal Foreign Government Intervention: Expropriation or arbitrary intervention of business by the government, or willful destruction by the government of the shipment of the products involved.³⁰

Sovereign Risk: Which is the risk of default of sovereign issuers, such as central banks or government sponsored banks. The risk of default often refers to that of debt restructuring for countries³¹

Other Political Risks Include:

Price Controls

Labor Disruptions

Remittance restriction

²⁵ Jaffe Ross, Westerfield, Corporate Finance, 6th Edition, McGraw-Hill, 2002

²⁶ Schaeffer M.S, (2001), International Credit and Collections: A guide to extending credit world wide, USA, John Wiley & Sons Inc. p.121

²⁷ Ibid

²⁸ Ibid

²⁹ Ibid

³⁰ Ibid

³¹ Bessis, J (2002), Risk Management In Banking, Second Edition, John Wiley & Sons, LTD, p.15.

Fiscal Changes³²

3.2.3.4 Trade Issues

The last area of country risk is the trade issue, which is a wide category that covers the major partners, trade agreements, and trading sanctions. Trade-related areas could be a country's devaluation, which will have an impact on the interest rates, especially the short term. "An example of this was in the late 90s when the Brazilian currency was devalued, and at the time Brazil accounted for over 40% of Argentina's exports"³³. This caused a substantial price increase for Argentina's goods. This threw the Argentinean economy into turmoil. Other trade related issues are the trade embargoes, which can cause troublesome business around the world. An example is when the U.S. government placed sanctions against India and Pakistan for their war in 1999³⁴.

3.2.4 Performance Risk

This risk exists when the transaction risk depends more on how the borrower performs for a specific project or operations than on its overall credit standing. Performance risk is very important when dealing with commodities. As long as the creditor receives the right commodities as stated in the contract at the right price and quantity and that the borrower pays the interest determined by the contract, then what the borrower does is of little importance.³⁵

3.3 Credit Models Domestic and International

The rationale behind credit evaluation is to make money. By lending money interest will be paid and the lender will make profit. However prior to issuing credits a risk assessment as well as credit approval of the creditor must be made to ensure that the credit taker will have sufficient means to repay the credit line

³² Copeland, T., Koller, T., Murrin J. (1996) Valuation, measuring and managing the value of companies, McKinsey & Company, Inc p.381

³³ Schaeffer M.S, (2001), International Credit and Collections: A guide to extending credit world wide, USA, John Wiley & Sons Inc.

³⁴ Ibid

³⁵ Bessis, J (2002) Risk Management In Banking, Second Edition, John Wiley & Sons, LTD, p. 16

and that the future will entitle him or her to do so. The word credit comes from the Latin word *credare*, which means faith³⁶

According to Sigbladh and Stenberg there are 3 main reasons for credit information:

Control of identification and facts regarding the company or person applying for credit.

Control of the companies or person's record of non-payment and solvency Credentials.

Gives you an overall view of the company/ person or if supplementary information has to be collected³⁷.

The structure of a well-defined domestic company credit information should according to the previously mentioned authors have a clear and coherent outline that can be seen in appendix section 8.3.

The rationale and background is that the credit information will be utilized within the boundaries of Sweden. For our purpose however, we have to look beyond these boundaries and put it in an international perspective. It is however crucial to understand the basics of the outline is to comprehend the issues of what good credit information should contain. We are utterly convinced that in Sweden where there is an open and democratic society with full disclosure guaranteed by law, all of the credit information can be gathered.

“Evaluating the creditworthiness of customers is never an easy task. When the customer is located in another country, the issue becomes more complicated. International credit professionals must deal with the fact that accounting standards in other countries are not the same as generally accepted accounting procedures (GAAP) and are typically less rigorous. Additionally, information available from credit agencies may not be as complete or as up-to-date as one would like.”³⁸

³⁶ Sigbladh, R., Stenberg, V. (2003) *Kredit Bedömning, Tredje Upplagan*, Näsviken, Björn Lunden Information AB

³⁷ Ibid

³⁸ Schaeffer M.S, (2001), *International Credit and Collections: A guide to extending credit world wide*, USA, John Wiley & Sons Inc.

The above statement is made by Mr. Lewis Flax who is the director of Marketing and Sales for Graydon America where he has specialized in export credit and international finance.³⁹

The source has however made two contributions on how to avoid pitfalls due to lack of information and documentation and move directly to the source of the companies creditworthiness. The two steps to follow can be seen below:

Bank reference information, prior to contacting the company's bank, a written permission to do so should be given by the managers of the customer company. If such is not granted then one can question the overall trustworthiness of the company. This is a very simple way when establishing the relevance of information that the customer company has provided the credit company with⁴⁰.

Management and ownership is of vital importance when it comes to credit worthiness. If the management and owners of the company have subsidiaries, affiliate or parent companies or interest in such, relevant information should, to the extent possible, be gathered so a total overall assessment can be made concerning the applying company⁴¹.

In accordance with experience and knowledge Mr. Flax has developed a checklist of what information should be disclosed by a company, when applying for a foreign credit. This is to make the necessary assessments of a company's creditworthiness, the checklist can be found in the appendix, section 8.4.

³⁹ Ibid

⁴⁰ Ibid

⁴¹ Ibid

3.4 Financial Statements

The financial statement reports a company's financial position and performance. Today's advanced technology has increased the importance of financial statement analysis. We are required to sort through tons of information to gain insight into a company's current and future development.⁴²

“Analysing financial statements helps us to sort through and evaluate information, focusing attention on reliable information most relevant to business decisions. We use and rely on financial statements in making important decisions. Shareholders and creditors assess future company prospects for investing and lending decisions”.⁴³

There are numerous diverse types of companies around the world, and they have different operations. Company statements are different from company to company, but the main point is the same; that is to have a balance between their assets and (liabilities and stockholders equity) in the balance sheet, and to come up with the net income in the income statement, and finally to establish cash flow patterns in the statement of cash-flows.

3.5 Analysing Performance

There is no definite way to value a company or project. The value of a company or project will depend on numerous factors: the stage of the development, the company's market position, the future prospects for the market sector in which the company operates, the eventuality of needing further capital to achieve its objectives, and of course if there are any other capital providers that will be able to invest in the particular company.⁴⁴

There are four ways to evaluate a company's past performance: Free Cash Flow, Return on invested capital, economic profit, and key ratios. A combination of all four will be the best alternative for analysing historical performance, since this gives a broader insight into the company's past

⁴² Bernstein L.A, Wild J.J, (2000) Analysis of Financial Statements, McGraw-Hill.

⁴³ Ibid

⁴⁴ Bygravem W, M. Hay, M., Peeters, J.B, (1999) The Venture Capital Handbook, Biddles Ltd, Guildford and King's 1999

performance, which then is a key element to use when forecasting future performance.

3.5.1 *Free Cash Flows*

The free cash flow is a company's true operating cash flow. It is the total after-tax cash flow that is generated by the company and that is available to all providers of the company's capital, both creditors and the shareholders. It is essential to define the free cash flow properly to ensure consistency between the cash flow and the discount rate used to value the company or project.⁴⁵

3.5.2 *Return on Invested Capital*

Return on invested capital (ROIC), is a better analytical tool for understanding a company's performance than other return measures, because it focuses on the true operating performance of a company.⁴⁶ The ROIC can be defined as:

NOPLAT/ Invested Capital

3.5.3 *Economic Profit*

The economic profit measures the dollar value that is created in a year by a single company:

and can be calculated according to the following formula:

Invested Capital* (ROIC – WACC)

Or as: NOPLAT – (Invested Capital* WACC).

Weighted Average Cost of Capital (WACC) = “The average cost of capital on the firm's existing projects and activities. The weighted average cost of capital for the firm is calculated by weighting the cost of each source of funds by its proportion of the total market value of the firm”⁴⁷.

⁴⁵ Copeland, T, Koller T, Murrin, J (1996) Valuation: Measuring and Managing the Value of Companies, McKinsey & Company, Inc.

⁴⁶ Ibid

⁴⁷ Jaffe Ross, Westerfield,. Corporate Finance, 6th Edition, McGraw-Hill, 2002

According to Copeland, Tom, Tim Koller and Jack Murrin, *Valuation: Measuring and Managing the Value of Corporations*, 1994, there are some things to keep in mind when evaluating a company's historical performance:

- Lock back in time as far as possible, at least ten years. This will help you to understand if the company, and industry tend to revert to some normal level of performance over time and whether short-term trends are likely to be performing breaks from the past.
- Try to go deep into the value drivers as possible, getting as close to operational performance measures as possible.
- See if there are any radical changes in performance, if there are, identify the source of the change and determine if it is real or perhaps just an accounting effect and whether any adjustment is likely to be sustained.

3.5.4 What-If Forecasting

The ability of future cash forecast from the statement of cash flows can be subject to impact of unexpected changes, or events occurring in the future period. These events usually will make a significant change in the cash inflows or outflows. These events could include recessions, strikes, loss of major customer, and market shifts. What resources (internal and external) are available to respond to unexpected changes in cash flows? This kind of analysis is of vital importance in assessing the company's financial flexibility.⁴⁸

3.5.5 Length of Forecast

The most well known approach is to make the period of forecast as long as you think that the company will have rates of returns that are above a company's cost of capital. The forecast period should be as long as returns are sustainable to be over the cost of capital. When doubtful about how long a company will earn over its cost of capital, it is generally better to make a longer forecast than a shorter one. Usually forecasts of economic performance are not less than

⁴⁸ Ibid

seven years. It is best to put long-run forecasts into your continuing-value assumptions.⁴⁹

The last step in the forecasting process is to construct the free cash flows and the value drivers from the income statement and balance sheet and to evaluate the information from the forecast. The evaluation of the future performance of the company, should be done with the same method as was done in the past when evaluating historical performance. There are some questions that have to be answered in terms of how the value drivers will behave:

“Is the company’s performance on the key value drivers consistent with the company’s economics and the industry competitive dynamics?”

“Is revenue growth consistent with the industry growth? If the company’s revenue is growing faster than the industry’s, which competitors are losing share? Will they retaliate? Does the company have the resources to manage that rate of growth?”

“Is the return on capital consistent with the industry’s competitive structure? If entry barriers are coming down, shouldn’t expected returns decline? If customers are becoming more powerful, will margins decline? Conversely, if the company’s position in the industry is becoming much stronger, should you expect increasing returns? How will returns and growth look relative to the competition?”

- “How will technology changes affect returns? Will they also affect risk?”
“Can the company manage all the investment it is undertaking?”⁵⁰

3.6 Inflation

“Inflation can be explained as an increase in the amount of money in circulation, resulting in a fall in its value and rise in prices”⁵¹

⁴⁹ Bernstein L.A, Wild J.J, (2000) Analysis of Financial Statements, McGraw-Hill.

⁵⁰ Ibid

⁵¹ Jaffe Ross, Westerfield, Corporate Finance, 6th Edition, McGraw-Hill, 2002

3. Theoretical Framework

When making financial forecasts it is better to estimate in nominal rather than real currency units. To be consistent with each other, both the free cash flow forecast and the discount rate should be based on the same general inflation rate. When forecasting individual line items, they could have specific inflation rates that are higher or lower than the general rate.⁵²

Nominal interest rate = Interest rate unadjusted for inflation⁵³

Real interest rate = It is interest rate expressed in terms of real goods; that is, the nominal interest rate minus expected inflation rate.⁵⁴

$$\text{Real interest rate} = \frac{1 + \text{Nominal interest rate}}{1 + \text{Inflation rate}} - 1$$

It almost hold true that: Real interest rate = Nominal interest rate – inflation rate

The cash flows are expressed in nominal terms if the actual dollars to be paid out (received) are given, and are expressed in real terms if the current purchasing power of the cash flow is given.⁵⁵

Nominal interest rates reflect lenders future expectations of inflation. Lenders expect to be compensated for losses due to inflation as well as default and market risk.

⁵² Bernstein L.A, Wild J.J, (2000) Analysis of Financial Statements, McGraw-Hill.

⁵³ Jaffe Ross, Westerfield, Corporate Finance, 6th Edition, McGraw-Hill, 2002

⁵⁴ Ibid

⁵⁵ Ibid

3.7 Financial Key Ratios

A ratio analysis can be used as an extra tool when evaluating a company or project.

There are several risk factors that have to be considered when dealing with credit information and making future projections of companies and their total value.

3.7.1 Risk Measures

Such risk measures used by banks that can be viewed, as key ratios according to the authors Hempel and Simonson are Liquidity Risk, Interest Rate Risk, Credit Risk, and Capital Risk⁵⁶.

Liquidity risk can be seen as bank's cash in hands to meet cash outflows and loan increases with actual cash in hand. A proxy for such a measurement would be a short-term asset⁵⁷ in relation to deposits. The same ratio is used by companies and can according to Finandshandboken be viewed as risk of financing. Such a crisis can according to the same book be caused by foreign exchange fluctuations or national crises⁵⁸. Liquidity risk can also be viewed as the inability to raise funds at normal cost⁵⁹

Interest rate risk is changes or fluctuations in rates and its implications of returns and cost. For banks this ratio is especially important due to the fact that the main income for banks and lending institutions comes from interest margin spread from deposits and lending⁶⁰. For non-bank companies this can also have an implication if the rate of loans moves upward very rapidly when invested capital is not gaining as expected⁶¹.

⁵⁶ Hempel, GH, Simonson DG, (1999) Bank Management Text and Cases, 5 th Ed. USA, John Wiley & Sons Inc.

⁵⁷ Ibid

⁵⁸ KPMG Financial Services Consulting (2001), Finandshandboken, Kritiandstads Boktryckeri.

⁵⁹ Bessis, J. (2002), Risk Management In Banking, USA, John Wiley & Sons Inc. p. 16

⁶⁰ Hempel, GH, Simonson DG, (1999) Bank Management Text and Cases, 5 Th Ed. USA, John Wiley & Sons Inc.

⁶¹ KPMG Financial Services Consulting (2001), Finandshandboken, Kritiandstads Boktryckeri

Credit Risk is viewed as the inability of a borrower or credit taker to pay the interest, principal or both. For the bank this will mean loss of income as well as for non-banking companies. There are however two sides to credit risk. The first being risk *of* default which is as stated above and the second being the risk *at* default. The risk *at* default is depending on the exposed amounts minus any interest and principal previously paid⁶².

Capital Risk can be defined as how much value of a bank's assets may decline prior to put things the depositors in danger⁶³. For non-banking companies such a risk could be foreign exchange risk with assets in a foreign country.

3.7.2 *Financial Health Ratios*

This part will be dedicated to the financial health ratios to give a broader understanding of which they are and why they are utilized and what can be interpreted from them in terms of the financial well being of a company and from that assess if they are eligible for a credit approval or not.

According to Bertoneche and Knight financial ratios are the primary tools for assessing financial health from financial statements⁶⁴. They continue to argue that there are four sets of ratios:

Profitability Ratios

Efficiency Ratios

Financial Leverage Ratios

Liquidity Ratios⁶⁵

⁶² Hempel, GH, Simonson DG, (1999) Bank Management Text and Cases, 5 th Ed. USA, John Wiley & Sons Inc. p 68, KPMG Financial Services Consulting (2001), Finandshandboken, Kritiandstads Boktryckeri p 26

⁶³ Ibid

⁶⁴ Bertoneche, M., Knight, R., (2001), Financial Performance, Butterworth Heinemann, Great Britain. P. 74

⁶⁵ Ibid, p 74

3.7.2.1 Profitability Ratios

3.7.2.1.1 Profit Margin

This ratio is quite straightforward in which we are looking for the profit in respect to sales. It is defined as Net Income / Revenues. That is Net income after all costs are deducted from the income statement. The percentage ratio that will come out after this calculation will show how much profit on every currency unit spent. When analysing the profit margin it is of vital importance to measure that against other types of profit measurement when these are indications of cost structure within a firm.⁶⁶ The profit margin can also be referred to as the Net Margin.⁶⁷

3.7.2.1.2 Gross Margin

The gross margin is drawn from the income statement and is calculated as revenues – cost of goods sold. The margin then is put in perspective to revenues thus, gross margin/ revenues. This gives an understanding of how much the mark-up is from the cost to sales⁶⁸.

3.7.2.1.3 Return on Assets

In heavy industrial companies a large amount of capital is needed to invest in machinery and technical improvement. This means that when revealing the return on assets, which is defined as: EBIAT⁶⁹/ total assets, we can find out how well the assets are used in terms of operating profit. Thus how well utilized they have been. By emphasizing EBIAT the focus will be on the profit of operation excluding the capital costs of investments less any taxes⁷⁰. Return on assets can also be utilized as Net income/ Assets to reveal the financial health after interest and taxes are paid. This gives the opposite measurement of

⁶⁶ Ibid

⁶⁷ Hempel, GH., Simonson DG., (1999) Bank Management Text and Cases, 5 th Ed. USA, John Wiley & Sons Inc

⁶⁸ Bertoneche, M., Knight, R., (2001), Financial Performance, Butterworth Heinemann, Great Britain. P. 74

⁶⁹ Earnings before interest after taxes

⁷⁰ Bertoneche, M., Knight, R., (2001), Financial Performance, Butterworth Heinemann, Great Britain. P. 74

the EBIAT version letting the interpreter as now more about the interest and tax payments of the company⁷¹. This can also be referred to as Return on Investments to conclude with the above stated how well utilized a company's assets are and as they are deemed as investments, when speaking of total assets, the return on such investments⁷².

3.7.2.1.4 Cash flow return on assets

In recent years cash flow analysis has increased report of cash flow from companies. This means that cash flow from operations will be used instead of EBIT. Cash flows are used to reveal cash changes in the operations of a company.

For the purpose of this ratio analysis we will use operating cash flow, which can be calculated accordingly:

Net Income + Non cash items + change in working capital⁷³.

3.7.2.1.5 Return on Equity

This is perhaps the most utilized of all ratios in terms of wealth for owners of a company. Defined as Net Income/ Shareholders' equity it reveals how much money is earned on the basis of their owner. Hence, how much of each earned currency is going back to their owners⁷⁴. According to Hempel and Simonson ROE is the mother of all ratios from which the implicit result of revenue, operational efficiency, financial leverage and tax planning can be drawn⁷⁵. The "ratio tree" conducted by Bertoneche and Knight also illustrates this⁷⁶.

⁷¹ Hempel, GH., Simonson DG., (1999) Bank Management Text and Cases, 5 th Ed. USA, John Wiley & Sons Inc

⁷² Bertoneche, M., Knight, R., (2001), Financial Performance, Butterworth Heinemann, Great Britain.

⁷³ Ibid p 60

⁷⁴ Ibid p 79

⁷⁵ Hempel, GH., Simonson DG., (1999) Bank Management Text and Cases, 5 th Ed. USA, John Wiley & Sons Inc. p, 61

⁷⁶ See Appendix

3.7.2.2 Efficiency Ratios

*Efficiency ratio can be viewed as an extenuation of the ROI and ROA due to its nature, which according to Bertoneche and Knight is: "... how effectively capital is employed within the firm."*⁷⁷ *The focus will be on how the capital has been working in the firm to produce profits and larger scale volumes.*

3.7.2.2.1 Asset turnover ratio

Defined as Revenues/ Total assets, the interpretation that can come from such a calculation is how the revenue as total is per currency invested in total assets.

Thus, if the revenues were to be \$ 130000 and total assets hold a value of 125000, the asset turnover ratio would be:

$130\ 000 / 125\ 000 = 1.04$. Which, would imply that each individual asset, in the total ramification of assets, is generating \$ 1.04 in revenue. Depending on industry, highly capitalized or low capitalized, the asset turnover ratio is expected in the lower segment as well as higher respectively⁷⁸.

3.7.2.2.2 Days Sales in Receivables

Defined as Revenues / 365 it gives the average revenues per day. Then we take accounts receivable / average revenue per day. This reveals the time the average customer of the company takes prior to clearing his balance⁷⁹. Hence, this is a two-step approach of calculating accounts receivables.

⁷⁷ Bertoneche, M., Knight, R., (2001), Financial Performance, Butterworth Heinemann, Great Britain., p. 80

⁷⁸ Ibid p. 81

⁷⁹ Ibid p. 82

3.7.2.3 *Financing Ratios*

This is to exposure the financial structure of the company, are they using debt financing or own capital.

3.7.2.3.1 *Debt Ratio*

This ratio exposes the amount of debt a company possesses as their fund of source. Defined as Total Liabilities/ Total Assets. The second way of calculating this is to take the finance bearing liabilities, i.e. such debt that bears interest and take that in proportion to total assets. By applying both of them a clear view of the loan structure of the company will be revealed. One should bear in mind, however, that emphasizing the latter would dramatically lower the ratio⁸⁰.

Another way of the debt ratio is comparing debt to equity, which will examine how much debt a company has to its equity. Debt equity ratio is defined as Debt/ Equity.

3.7.2.3.2 *Leverage Ratio*

This ratio can also be referred to as the equity multiplier. Defined as Total Assets/ Equity it defines how much of total equity is used in assets and finance. Hence, how much of the shareholders' money are being used in asset investment and underlying production as a result of asset investments⁸¹.

3.7.2.3.3 *Interest Coverage*

Defined as EBIT⁸²/ Interest expense exposes a company's ability to pay interest expense. The emphasis of this ratio is to see that a company has the capability to earn money from its operation so that it covers its interest exposure⁸³.

⁸⁰ Ibid p. 84

⁸¹ Ibid, & Milgram, P & Roberts, J. (1992) Economics, Organization & Management, New Jersey: Prentice Hall

⁸² Earning before interest and taxes

⁸³ Milgram, P & Roberts, J. (1992) Economics, Organization & Management, New Jersey: Prentice Hall

3.7.2.4 Liquidity Ratios

These ratios tell us how good companies are at meeting short-term obligations, such as telephone bills etc. These ratios are often considered or associated with net working capital, which is current assets – current liabilities. The rationale behind this is that current means is by definition within a year and such obligations should be met by current assets⁸⁴. This is defined by the Current ratio, which is defined as Current Assets/ Current Liabilities, which tells us how much we have in assets to meet the obligations of liabilities. If the ratio is below 1 this means that a company has no current assets on hand to cover the current liabilities. There are various benchmarks depending on industries, however for industrial industries it was in 2001 2:1⁸⁵. This ratio can also be recalled as the short-term solvency⁸⁶ ratio.

3.8 Price

“Where pricing is a key to market differentiation and competitiveness, a major means of strategy evaluation is the cost of products delivered to the customer”⁸⁷
There are many ways one can evaluate production/operations strategy, here are the most important:

Cost

Profitability

Quality

Customer satisfaction⁸⁸

We will only concentrate on the costs since IKEA is a cost reducing enterprise. There are several factors that contribute to the costs of a product:

⁸⁴ Ibid

⁸⁵ Bertoneche M., Knight, R., (2001). Financial Performance. Butterworth Heinemann, Great Britain, p. 86

⁸⁶ See Appendix

⁸⁷ Nahmias, S. 2001, Production and Operations Analysis, 4th edition, McGraw-Hill

⁸⁸ Ibid

3.9 Direct Costs

Direct cost of production includes cost of equipment, materials and labor.⁸⁹

“The direct costs are so called since they are directly tractable to a product.

The allocation of these costs across products is an important process to establish the profitability of each product line and it is usually based on a careful analysis of the various activities in the manufacturing process”⁹⁰

According to Nahmias there are many costs underlying the direct costs that will be explained numerically below⁹¹.

3.9.1 *Smoothing Costs*

Smoothing costs are those costs that will evolve if the factory changes the production levels from one period to the next. Example: increasing the size of the work force.

3.9.2 *Holding Costs*

Also called (carrying cost or the inventory cost) are the costs that accrue as a result of having too many assets tied up in inventory. Some of these are:

Cost of providing the storage space to store the items

“Taxes and insurance

Breakage, spoilage, deterioration, and obsolescence”

Opportunity cost that can be gained from an alternative investment

3.9.3 *Shortage Costs*

In some situations it may be necessary to sustain shortages; a negative level of inventory represents these shortages. Causes of shortages can be when forecast demand exceeds the capacity of the production facility or when demand is higher than anticipated.

⁸⁹ Ibid

⁹⁰ Bertoneche M., Knight, R., (2001). Financial Performance. Butterworth Heinemann, Great Britain

⁹¹ Nahmias, S. 2001, Production and Operations Analysis, 4th edition, McGraw-Hill

3.9.4 Regular Time Cost

This is the cost of producing one unit of output during regular working hours.

3.9.5 Overtime and subcontracting costs

These are the costs of production of units that are not produced on a regular time basis.

3.9.6 Control Costs

“Is the cost of maintaining the inventory control system. A system in which more inventory is carried does not require the same level of control as one in which inventory levels are kept to a bare minimum. It can be less costly to the firm in the long run to maintain large inventories of inexpensive items than to expend worker time to keep detailed records of these items”⁹²

3.9.7 Cost Drivers

“As profits are squeezed, firms seek not only to expand markets, but also to reduce unit costs. This is the primary reason developed countries locate facilities in less developed countries”⁹³

⁹² Ibid, p. 196

⁹³ Ibid, p.348

4 Methodology

The purpose of this section of our paper is to give details of our research project. We will begin by describing our research strategy and method that have been used, followed by the collection of data and finally we will investigate the validity and reliability of that data.

4.1 Research Strategy

According to Bassey the definition of research is a systematic, critical and self-critical enquiry, which aims to contribute to the advancement of knowledge and wisdom.⁹⁴

There are five different research strategies' that can be used when writing a thesis: case study, experiment, survey, archival analysis, and history.⁹⁵

We have used the case study approach in our research strategy, due to the fact that our results will be based on the suitability of factors and their rank of significance. Thus, a simulated real life case is the best fit for our findings and our own judgments of how their investment decisions should be evaluated.

According to Bassey there are three different categories of case studies: Theory-seeking and theory testing case studies: which can be explained as particular studies of general issues that lead to unclear propositions or unclear generalizations and transmitting these, and their context and the verification leading them to interested audiences.

Story-telling and picture drawing case studies: narrative stories and descriptive accounts of educational events or projects, which deserve to be told to interested audiences, after careful analysis.

Evaluative case studies: enquiries into educational projects or events to determine their worthwhile ness, as judged by analysis by researches, and convey this to interested audiences.

⁹⁴ Bassey, Michael. (1999), Case study Research in educational settings. Open University Press, Philadelphia.

⁹⁵ Yin, R. K. (1994) Case Study Research: Design and Methods, 2nd edition, London.

Our research strategy is best fitted into the evaluative case study approach, since we have judged and analyzed our evaluation based on the factors that we have established and then applied these factors in order of significance to a case supplied by expert people at Ikea.

4.2 Research Method

When trying to establish if our paper would take a quantitative or qualitative method we had to view the entire problem from a two way street. The result that we will try to explore from our factors and their importance will be a qualitative decision based on quantitative facts. This has caused some confusion for us; therefore it is of thorough importance that we distinguish between the two approaches and how they are in fact related for our problem.

According to Kvale, the qualitative is aiming at the art and collection of something, whereas quantitative is aiming at how much, how large and the amount of something.⁹⁶

Therefore, it would be reasonable to think that results and findings in a quantitative approach would be more reliable and more comprehensive when compared with qualitative facts. This assumption is based on the rationale that numbers and figures are more consistent to work with, and perhaps not so influenced by personal judgment of the researcher. This puts greater emphasis on our own subjectivity towards our problem.

In our problem this becomes painfully real when looking at the base from which we will draw our findings. As seen in the problem section of our paper, we will establish the factors based on qualitative gatherings that then will be applied in a quantitative measure to conclude the final results. It is of essence in the qualitative part when establishing our factors that we keep our objectivity to the total extent, so that the final result, based on quantitative methods, will not be influenced.

⁹⁶ Kvale, S. (1997), *Den kvalitativa forskningsintervjun*. Studentlitteratur, Lund.

4.2.1 Data Collection

There are two types of data, secondary and primary. Primary data is explained as the word states in the order of itself, data collected for the first time. This can be done through interviews, surveys, or just a statement from your self based on your own experiences. Secondary data is on the other hand an extension of what primary data is. Hence, that is what can be collected from books, articles, newspapers, and other sources where someone else than the collector has written or established the fact.

4.2.2 Primary Data

As mentioned previously, primary data is the first time collection. In our study the use of primary data has been utilized to a minimum. The only direct impact of primary data in our paper is an ongoing conversation with the manager of supplier financing unit within the IKEA group. This is not a formal interview however, but rather a discussion over time related to issues with our findings.

4.2.3 Secondary Data

The theoretical framework, earlier discussed, will make the foundation of our factors and they stem from secondary sources such as books, articles, and the World Wide Web. The main usage of secondary data has been literature. That is due to the fact that we are not experimenting in a unique area, since the area of company evaluation within the finance industry is widely used. We are however trying to customize a pattern of significance in which order to apply our factors, in international credit worthiness that will be adapted to IKEA's evaluation operations. It has therefore been deemed by the authors that the use of secondary data is the most widely accepted source of facts since there are hundreds of volumes written within this area.

4.2.4 Reliability

The concept of reliability rests on assumption that the result can be repeated. Thus, will the research produce the same result if it is repeated?⁹⁷ The concept of reliability for our concern is troublesome since our result will be based on

⁹⁷ Merriam S. B, (1988), Fallstudien som forskningsmetod, Studentlitteratur, Lund.

the significant pattern of the factors developed by the authors and thus their subjective interest and knowledge of the subject area. It must also be understood that the result will be based on extensive analysis from the authors and it would therefore be reasonable to think that the concept of reliability of this thesis is very hard to measure. The concept for our purpose however, seems quite clear, the authors can say from their own subjective knowledge and understanding in the subject matter that the result would be that same if repeated and thus we can assume the thesis to be reliable. If someone else, however, makes the same analysis based on our model the result would be somewhat different based on that person's subjective approach of handling and analyzing the subject matter at hand.

4.2.5 Validity

There are two types of validity, external and internal. Internal validity is concerned with the results connection to reality and external validity if the results obtained are applicable to other circumstances than the research at hand. Hence, how general are the results.⁹⁸ The result of the established factors and their importance fit both categories. The result is drawn from a real life simulated case which would then lead to the assumption the result would hold in a real world situation. Furthermore would the result be highly generalized as well as very specific depending on how the person at hand performed the analysis and to what extent that person has the knowledge of the result.

4.2.6 Method discussion

As mentioned previously IKEA's unit of Supplier financing has explicitly applied the problem for the thesis. The difficulty at the beginning of the thesis was to decide which path to take under the somewhat vague problem definition supplied to us. The main issue for the supplier financing group is currently: "Did we get what we wanted", when investing in a supplier? This is a rather broad statement that we were forced to deal with, and they wanted us to come up with the most important factors, which included the steps to take when choosing of the best supplier alternative. They informed us that they were not interested in the profit that they would get from interest when supplying a

⁹⁸ Ibid

supplier with a loan, rather they were interested in the cost reduction received from their investment, ultimately resulting in a lower purchase price for Ikea.

In order to rank the significance of the factors and thus in which order to exploit them, we have decided that the best way of doing this is to build a model in which the significance of the factors are ranked in subsequential order of importance.

The model that will be presented in chapter 5, will act as a guideline of how a supplier evaluation can be done.

Currently the company works with a type of model not known to us as a result of the silent structure. The only thing revealed us was that they use a cash flow analysis when investigating this problem matter.

It is always hard to deliver a result that will have impact on the problem itself when the real problem is set by the authors and not by the suppliers of it.

Furthermore is communication a crucial element under the silent structure and thus disclosure of information. Perhaps the result would be different under diverse circumstances where the silent structure would not have been hard as steel. Hence, we see a clear issue with the result that we will present and the expectations from IKEA.

The approach of analyzing investment alternatives is very subjective, due to the information gathered in each scenario. In a real case scenario, companies such as IKEA will have access to all financial information, and past performance of different production companies and factories. This fact would of course increase the reliability and the easiness of our analysis. Whether as a lender or investor you have an intention to generate interest, dividend or in this case the benefit from decreased cost of production. When looking at it from an IKEA perspective we will have to think cost effective, and investment in a new plant or in new machinery will have to generate something to be beneficial. Also, it is of importance to weigh the best alternative against each other.

We observe that there are two main limitations to our research study. The first one is the subjective nature of humans. What the authors deem as important information some one else might see as pure nonsense. Furthermore no country is like the other nor is any company like any other. With this in mind we will

4. Methodology

try to stay as objective as possible when interpreting information. The second limitation is the lack of information, due to the silent structure of IKEA. This is IKEA's inability to disclose information that would have a great impact on our testing of our factors and the result stemming from such testing.

5 Analysis

In this section we will discuss our factors, further explaining our findings and how they have been categorized in terms of significance and how we have worked towards the result that will be presented.

5.1 Model Development

The fact that we have decided to put the factors in a model is to give a visual outline of their importance and how they should be exploited. The thesis started out stating that the most important factors should be used to reflect company evaluation from the perspective of international creditworthiness and the potential value it could bring to IKEA. The value created for IKEA comes from lower purchase price of the products, which stems from a reduction in cost patterns from the supplier, as well as economies of scale by the supplier. As explained previously, we have chosen to view the model from a macro as well as micro economic perspective. The factors also have to be compared to each other to create the best possible alternative for IKEA. We have therefore established factors that should reflect both the macro as well as the micro economic perspective. The factors that have been chosen of importance and significance are Country analysis broken down into three sub parts: *General, Domestic, and Economic*.

By doing so we cover the potential risks of a country as well as the future projections of it. When it comes to the micro level it is of importance to remember that IKEA put its focus on long-term relations with its suppliers. Not only does the potential supplier need to have a solid financial foundation, they also need to have the capacity of increased production and the facilities and equipment supporting such increased production demanded by IKEA. Therefore the next coming factors will be financial analysis broken down into three subcategories: *Pro forma, Cost Structure, and Key ratios*, The next factor is the Production Capacity and that is broken down into three sub categories: *Location, Plant suitability, and equipment*. The final step in our evaluation model is the final analysis, which includes *reliability, limitations, and recommendation*. Reliability refers to establishing that the facts given by the applying company are trustworthy and coherent and limitations refer to what ever may limit the result in the recommendation part.

5.1.1 Order of Significance

The development of the order of significance has been developed with the basis of exploiting the theoretical framework of our thesis. We have decided that country analysis with its three subcategories is the most important and that financial analysis and production capacity have to be treated alike. Why we have not distinguished between financial analysis and production capacity refers directly to IKEA's philosophy of building long-term relations and exploits the benefit of the lowest possible purchase price.

The first factor in our model in terms of level of significance is the most important and reflects the macro economic perspective, namely the country analysis. This is because of the level of disturbances in the world today. Today there are so many conflicts around the world, and countries suffer from terrorism, which can lead to retaliation such as Afghanistan and Iraq.

The choice of country analysis as the most important factor is not only to assess the domestic situation in terms of disturbances, but also to enlighten the overall economic prosperity of the country as well as the general investment climate.

We have chosen to divide the country analysis into three subcategories to look upon in our model. We have done this in order to get a coherent view as possible of a country.

The next coming factors refer to the micro economic perspective. The factors underlying this category are directly connected to the supplier, and its performance, both in terms of financial prosperity and production capacity levels. It would have been preferred to distinguish between the two, and put them in separate orders in terms of importance. However, since IKEA is a cost reducing company, trying to build long-term relationships with its suppliers, the two factors become equally important. To get a clear view of the important point referring to both factors they have been divided into three subcategories

each. This will ensure that the vital information needed to make the final judgement will be revealed.

Financial Analysis has been divided into the following three sub categories: Pro Forma, Cost Structure, and Key Ratios. To get a clear view of the applying company as a whole, prior financial statements have to be collected and used to develop projections of the future. For this purpose we have established a pro forma income statement. This will not only be the basis of the analysis but also the benchmark when it comes to follow up. Hence, the projections will along the journey be compared to real statements to see if the supplier is in line with projections. The cost structure will reveal the historic, present, and projected cost structure of a supplier. This is not only for the purpose that IKEA is a cost driven company trying to reduce the suppliers cost pattern but also to reveal the most beneficial cost structure when comparing for best possible alternative. This should be done from both a variable - to a fixed cost comparison level. What we mean by this is that the supplier will have to focus and decrease their variable cost per unit when IKEA purchases large amounts of a new product, thus gain from economies of scale.

Key Ratios is a financial tool to assess the financial health of the applying company, and to give an overview of their development over the past years and how they will perform under projected targets. The key ratios are based on the collected financial statements and our pro forma statements. The key ratios give a more hands on approach and easiness to utilize.

The three sub categories under production capacity are to exploit all-round suitability of the production plant and its equipment. The subcategories are location, plant suitability, and machinery. The rationale behind all these are long-term relationships and to meet production demands set by IKEA. Location is of importance since it is easier to expand a production plant if it is for example located in a rural area compared to if it is located in urban area. The plant suitability refers to the overall condition of the plant, the size, and if it is suited for the production intended. The machinery category refers to the condition of the machines; it is of vital importance to investigate if the machines are up to date or if they have to be replaced. If new machines have to be purchased this can lead to an enormous amount of additional capital being invested in the plant.

5. Analysis

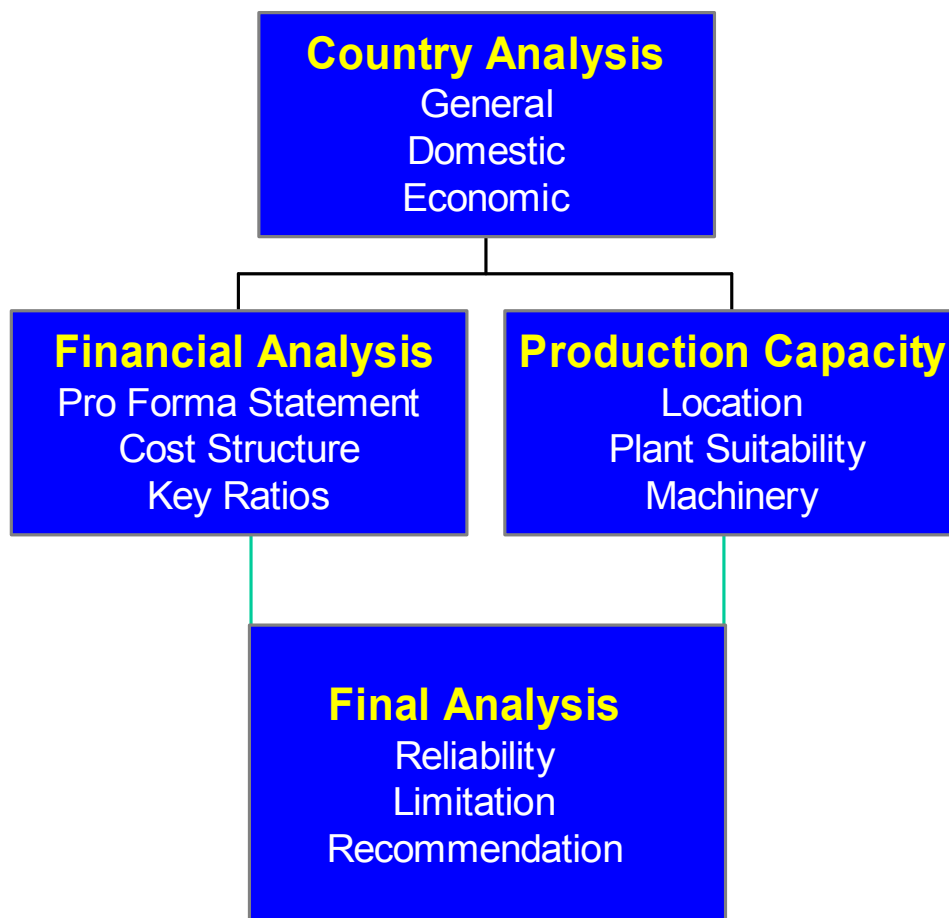
The final step of our model is not only to make a final recommendation based on the above-mentioned categories, but also to establish the reliability of the information provided by the applying company. Limitations refer to enlighten the decision maker of any limitation that might have an impact on the final decision.

Since the evaluation of IKEA's supplier should be looked as the best alternative supplier, the interpreter needs to compare the analysis between different supplier alternatives. When weighting the different suppliers against each other the goal is to come up with one, which then is approved to get the loan granted by IKEA.

5.2 Model Presentation

In this part we present the finished model and explain how the various components underlying the factors should be interpreted.

The Erik Hall Model



5.2.1 Country Analysis

Information that should be included in this part can be found on www.swedishtrade.se. The focus should be put on asking questions such as, stability of government, budget proposal, future projections, legal environment, and so forth. Anything that might have an impact on the investment decision should be included in the analysis. The information should be divided into three parts, General Information, Domestic Situation, and Economic Information.

By looking at this problem from an international perspective, which is what we have done, the part of country analysis becomes absolutely important.

From an international standpoint all this information can be quite hard to gather depending on which country or business is discussed. It has, however, been deemed by the authors that most crucial and important task for a credit valuation is to view the country of business and its potential risks. Even though the next coming factors, reflecting the micro economic perspective are of importance, they are of less significance. We see the country analysis as the main priority when establishing if a company will be approved or rejected. This is for the simple fact that taking all other steps into account a company can be seen to be one of the leading companies in its industry. If ignoring the country risk the lender might invest in a very risky country, for ex Afghanistan, where the potential risk the investor faces is somewhat larger than if the investment was undertaken in a country deemed less risky for ex, Turkey.

The country analysis is for the sake of the investor to get a clear view as possible of the country and the pro and cons of it in terms of general information, domestic stability, and the overall economy. We have put general information first so that one gets an understanding of the country prior to engaging in the more demanding areas as domestic stability and the over all economy. General information should contain information such as, inhabitants, currency, unemployment rate, number of political parties, major trade partners, legal system, monarchy or republic, and any other information that might be of interest to get a broad understanding of a country. The rationale behind this is to get a feel for the country prior to moving into the domestic stability which

5. Analysis

would include features such as: government and its stability, is the regime pro-business, recent elections, new legislation impacting on the business decision, government policy on economic issues, parliament mix, to give a view of the political stability of a country reflecting any risk issues.

The overall economy is to get a clear picture of how the country is doing in terms of growth and patterns for the general investment climate. Information that should be examined are features such as: currency exchange rates, interest rates, Gross Domestic Product, foreign investment activity, budget deficits, budget projections, consumer price index.

By using information such as the above we think that one would be rather well prepared to make an overall assessment of a country and any risks that might have an impact on an investment.

Why is this important? For example, country A and country B; country A has a stable government with elections every four years, and a balanced economy with future projections of a GDP increase of 2% per year the coming four years. There is little or no turnover in the government. Country B, however has recently announced its third reelection in the past five years, thus showing political instability, the macro economy of this country is down the drain, with a huge budget deficit. This simple example shows the utter importance of enhancing risk analysis of a country. It should be understood however that the real life is somewhat more complex in nature than the simple example above.

Information pertaining to the country analysis is gathered from www.swedishtrade.se where extensive country reports are available and developed by Dun & Bradstreet. This is a very simple and effective way of gathering information and should be utilized due to the fact that the Swedish Government finances it and therefore financed via taxes by the citizens of Sweden. All information one would need for a country analysis is available on this site and the people at the trade council are rather fast to apply updated information on the subject matter. Through utilization of the above sub factors with emphasis on a total analysis of the country of which the application adheres to, we believe one would be more knowledgeable of what to expect of the provided material of the applying company. Furthermore the risk exposure of the country would become quite clear and thus indirectly reject or approve an application and save both time and effort. This analysis becomes even more crucial when comparing two different suppliers in two different countries, then

this can, other things being equal, be the main analysis of choice when deciding in which supplier to invest.

5.2.2 Financial Analysis, Pro Forma, Cost Structure, and Key Ratios

In this part the subcategories of financial analysis will be stated and explanations of why they are of importance and how they can be utilized.

Pro Forma income statement has been developed for the essence of putting the investment on a yearly basis to get a broad view of the investment as a whole. Today IKEA uses cash flow statements on a monthly basis, which is excellent, and a reason why we have chosen not to work with it. Pro forma projections further provide the easiness of follow up both in terms of net income but also as a complement tool to a real income statement. The Pro forma will also act as the foundation of comparison in the cost structure and key ratios. This will further enlighten the position of the supplier both in current state and in the future. Thus the pro forma will act as a base for follow up, comparison and a total mirror of the overall financial well being of an investment. To further make the follow up and monitoring of an investment early warning signs should be applied. Early warning signs can be issues or changes in the supplier's behavior in areas such as: changes in the payment patterns, new reports, and increases in the number of disputed payments. This will further make the decision makers more alert to a supplier's financial progress

It should also be understood that IKEA by nature is a cost cutting company. We have therefore developed what we call the cost structure. This is to find cost patterns of a supplier and where costs have increased or decreased over the duration of the investment. It should also be investigated prior to making a final decision since a supplier might perform very poorly due to a high cost structure, which might be reduced with external help from IKEA. Costs of relevance are: smoothing cost, holding cost, controlling cost, and the identification of cost drivers. The costs of most relevance, we believe, are the smoothing cost and identification of cost drivers. Smoothing cost since the main purpose of an investment made by IKEA in a supplier is to alter, modify or in some way change the current production facilities of a supplier to increase

5. Analysis

the production output. The identification of cost drivers refers to the issue of variable and fixed cost included in the production. The more cost that can be reduced in both the variable and fixed level the less expensive per unit the production will become and ultimately the purchase price per unit for IKEA, hence achieving economies of scale. The cost driver can be said to be the value driver of IKEA.

The key ratios are thought to work as an assessment tool to both the pro forma statements and the cost structure. It will be a more hands on approach to identify certain key issues in terms of the overall financial well being as well as of the income in relation to costs. It should also be enhanced to utilize the overall risk of the investment. Certain ratios that are of special significance to this are: liquidity risk, profit margin, gross margin, return on assets, debt ratio, asset turnover ratio, and interest coverage. These ratios will give an indication of the overall utilization of a supplier's assets and operating income to financial cost as well as the mark up on prices. All this is of importance to IKEA since they want their supplier to achieve the most from the loan with the purpose of generating the lowest possible purchase price for IKEA.

The Income statement will also be utilized when analyzing the history of a company to get our perspective of the company's past development. The cost structure is mainly developed for two purposes, if the choice of lending stands between two similar companies the structure is easy to compare and the second being the strategic nature of IKEA. We also believe that the use of key ratios is a simple and usable hand on approach when analyzing a company and comparing those ratios to other companies that is of interest for credit approval.

To further establish general information of the company, we think that their main purpose of business and in which industry as well as establishing their position in that industry which is related to financial exposure potential profit and the overall climate of the industry. Information such as the company history, an overview of the owner structure of the company as well as viewing the overall credibility of the company is of importance.

General things of importance are the amount of the credit/ loan desired and the purpose of that loan, as well the company's overall financial position. By this we mean a statement written by the Chief Financial Officer, or similar person, to get their view of the companies' financial position current and projected. This would give indications of management's subjective thoughts for the future, hence over optimistic, pessimistic or just relevant. This could then be compared with the financial history of the company in relation to what was established in our pro forma statements. By doing so we are entirely convinced that the loan officer doing the projections of the company will get a coherent view of the company and would be able to position the management capabilities and whether they should be regarded with faith or with caution. One crucial thing that one should not forget is to look at the employees of a supplier and their various skills. They do not only reveal the competence possessed by the company, they will further reveal if the company will and can achieve its projected targets for which the loan is intended. If the company has a high turnover rate one could assume that there is some kind of unwillingness by the management in some area or that the company is not working actively with their employees. This will probably cause slower production than intended due to the learning curve as well as growth, and ultimately leading to greater risk of decreased revenue. Thus, the financial risk will increase.

5.2.3 *Production Capacity*

In this section of the analysis we explain what could be of interest to look upon from IKEA's point of view in relation to production capacity. We will examine and explain the three sub categories and why they are of importance as well as our rationale behind them.

The production capacity, as a factor, refers to the general condition of the plant and equipment. It should answer questions such as if the existing equipment is in such condition that the intended investments are sufficient to increase capacity, and what level of production capacity the plant is currently operating at. The location of the production plant is also of interest not only from a logistical point of view but also from an expanding perspective. If the plant is located in the proximity of a major city expanding would be both expensive, if

even possible, and certainly very limited with consequences of dividing the production plant from one existing to two with all the problems that would cause. If the plants on the other hand were located in a rural environment it would be deemed that expanding the plant would be made under no or little duress and at an expense well below the one of expanding in more urban areas. This is of interest for IKEA and refers directly to the intended production levels and the cost structure of a company. With relatively good conditions in the machine park and with a location beneficiary to expansion the production levels projected would be relatively easy to adhere to as well as future expansion of the plant. This could lead to a long-term relationship between the supplier and IKEA. Whereas an investment in a supplier located in the proximity of an urban environment with old machinery could lead to disaster. Hence, with old machinery the intended production volume would not be achievable due to the standard of the equipment. This scenario could of course also apply to a plant located in a rural area. As a proxy we see long term relations with suppliers as a good thing and with a company the size of IKEA we would argue that expansion possibilities would be one of the main criteria when choosing supplier. This is also reflected in the cost structure of a company since in general we can say that labor and rent are less expensive in rural areas rather than in urban.

5.2.4 Final Analysis

The final analysis is an overall summary of the main factors and the various findings stemming from the independent analysis of the factors. This should be the foundation of the final recommendation. Furthermore the final analysis should include reliability of the information and any limitations affecting the final decision.

This part of the total valuation is first and foremost to establish, based on the above criteria, if the application is to be rejected or approved. To measure this it has to be beneficial to IKEA. The first part of this section is to establish the reliability of the information provided by the applying company, which should be done during the duration of the analysis. All information applied to IKEA could be fake or bogus which would then indicate that the company is only out

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to fool the lender. Thus, the reliability of the disclosed information has to be strictly examined.

The second part should reflect any limitations that can have an impact on the final recommendation.

The recommendations are the final analysis in which the three main factors, country analysis, financial analysis, and production capacity are combined and weighted together. As stated prior we believe that the main factor in this analysis is the country analysis to get the macro economic perspective. This is due to our subjective view of the entire problem matter. As we see that an application can be rejected on a poor country analysis and thus, save both time and effort in further investigating the potential supplier. The financial analysis and production capacity has to be weighted against each other. If a company has great financial projections but poor on the production side the mission of IKEA to build long-terms relations might fail. Thus, the two factors have to be carefully weighted against each other and decided upon in each case scenario. So, we can establish that country analysis can be examined from a static perspective whereas the financial analysis and production capacity has to be examined from a case-to-case basis.

6 Illustration of Framework

In this part we will try to show how our model will be applied and test the credibility of it and from that make the foundation of our result. The analysis will be made in accordance with the model developed by the authors for this specific purpose.

6.1 Case Scenario

In Appendix 8.1 we can see the full case study. This is the guideline of what we know: Existing exposure is 2.5 M Euro. Additional Investment is 1 M Euro. IKEA has made a purchase commitment of at least 4 million Euro/year between FY 04 to FY 08. By assumption country Y has been set to Poland. Loan fully repaid May 08. Projected sales volumes to total exposure is:

(m euro) FY 03	FY 04	FY 05	FY 06	FY 07
IKEA				
Exposure 2.5	2.5	2.875	2	1.125
Purchase N/A	2.7	5	6.2	6.2
<i>Other</i>				
Exposure N/A	2 747	8481	373 899	541 409
Purchase N/A	1	1.8	1.9	1.9

Thus, the main purpose is to establish if an extra investment of 1 million Euro will be beneficial to IKEA and what the gains would be. This comparison has been divided into two parts. The first being, Pro forma analysis in which we will compare the existing exposure of 2.5 million Euro, to the alternative of the new exposure of 3.5 million Euro. In this part we will also compare a cost structure analysis. The second analysis will be a comparison of key ratios which will give a valid and perhaps more coherent picture of the two alternatives.

Due to lack of information made available to us a certain assumption has been made:

Poland has been chosen as country since the products will end up in Germany and Poland's major trade partner, in export, is Germany, also IKEA produces some of their furniture products there today.

Since Ikea already has established a Cash Flow statement for the production plant, which is done on a month to month basis, we thought it is of great importance to create a pro forma income statement on a year to year basis based on the figures that were generated from the case and the already established cash flow statement. We thought that it was of importance to perform two types of income statements, and compare those two with each other. The first one is done from the 2.5 million Euro exposure loan supplied by IKEA to the production plant, whereas the second one is created based on the additional investment made in 2005, that will add up to a total exposure of 3.5 million Euro. Assumptions pertaining to the financial analysis are: a total operating expense between 8-10 % of sales, and they have been distributed accordingly from that percentage to: 40 % to sales and marketing expense, 55 % administrative expense, and 5 % to research and development.

We have also added a general fee for accountants, lawyers etc of 4,000 Euros per year.

We have also assumed that the loan supplied from other sources, will charge the company interest of 7 % on an annual basis.

Since this analysis is based upon the fact that the production plant is located in Poland, we have used the tax reduction from 27 % to 19 %, from the fiscal year of 2005. These figures are based on our country analysis that was made on Poland.

We have assumed straight line amortization on the Ikea loan in the first income statement of 2.5 million loan exposure, and on the second income statement with 3.5 million exposure, we have assumed that the amortization will be 625 000 Euros in the first year and then increase to 875 000 Euros in the following three years, and then in the fifth year the additional 250 000 Euro will be amortized. For the other loan we assume to amortize as much as 1 179 283 Euro in the first year in both income statements, this is due to the fact that we know that the production plant will be exposed to additional loans in the coming years, and this loan can be seen as decreasing amortization.

Our income statements are made on an annual basis, and we only had annual information for the years from 2004 to 2007, which we have based our analysis on.

6.2 Country Analysis

In this part of the analysis we will investigate the country of Poland, and make a risk analysis of how their economy will evolve in the future. This country analysis is based on facts from the Swedish Export Council.

6.2.1 General Information

We have chosen to make our first sub factor under country analysis to general information. Included in general information are things such as: currency, GDP, GDP/ capita, inflation, and major export markets. We have done this so that the person conducting the analysis will get a feel for the country in terms of key issues that are related to domestic stability and the over all economic situation and as well as getting an understanding of the country. The general information can be found in appendix 8.2.

6.2.2 The Domestic Stability

The latest government election was held in September of 2001 and the latest presidential election was held in October of 2000. The government was a coalition consisting of 3 parties out of the total 7 represented in the house of parliament. In March of 2003 one of the parties left the coalition and the mandate period for the government has been very unstable, mainly due to corruption.

Currently Poland is negotiating for membership in the European Union and in the election, held this summer, 59 % of the people with the right to vote participated and some 77 % said yes. Based on the result in the EU election and the latest instability in the government the head of Government, Leszek Miller, conducted a vote of confidence for the sitting government in the parliament and won by a majority of the votes, greater than the support the governments holds in the parliament.

6.2.3 The Overall Economy

Since the early 90ths the economy has moved rapidly from a plan to a market economy. Nowadays, the private sector stands for around 70% of the GDP

(Gross Domestic Product). The downturn in the world economy has affected Poland's economy in the past years, and the growth rate has been weak. The GDP per capita is about 40% below the average for the rest of the EU countries. The unemployment rate lies around 18.7% (August 2003), which is very high. The inflation rate is very low around 0.8 % and their export development is striving towards a positive pattern. The industrial production increased by 10% in July. The overall growth rate for the economy is projected to be around 3 % for the year of 2003. A positive aspect in the economy is that the taxes for companies will decrease from 27 % to 19 % in 2004. In 2006 a general tax on industrial buildings of 2 % of total value will be implemented. Their budget deficit will grow to around 5 % of their overall GDP in 2004. The government debt is growing towards the 60 %, of the GDP, roof that is set by the constitution, which it is not tolerated to exceed. In May 2004, Poland will join the EU, which means a lot of fees for the country.

In May of 2003 the finance minister, Kolodko, resigned from his position. The result from this was a swing in the budget for 2004 from a restrictive political economy to a more expanding economy led by minister of economy Hausner. The result from this change has projected a budget deficit of 45.4 mrd. Zloty. This will lead to an increase in GDP projections from 4.8 % to 5.3 %. The budget is based on a growth rate of 5 % and an unemployment rate of 17.8 %, which is projected to decrease to 15 % at the end of 2006. The government's strategic projections for the future are that the government debt will remain high until 2007 and an entrance is projected into the EMU 2008. The main source of income in the proposed budget will be privatizations of state owned companies.

Poland's largest natural resource is coal. By tradition this has been the largest energy source of the country. The country also processes smaller quantities of crude oil, natural gas, and iron. However, both the use of coal as an energy source and the export thereof has declined rapidly during the past years. The use of coal as energy source is undergoing changes where the emphasis is put on oil and natural gas. An agreement has been reached with Denmark who starts delivering natural gas during 2004. The largest supplier of Natural gas to Poland is Russia. The agreement between Russia and Poland was reviewed last

year, which lead to a quite large reduction of the import of natural gas from Russia.

6.2.4 *Summary*

Poland is under some political pressure due to domestic corruption and the upcoming entrance into the European Union. However, with the recent EU election the government won a vote of confidence in the parliament along with the budget plan, proposed by minister of economy Hausner, this has been accepted by the parliament and resulted in some political stability of the country.

The private sector accounts for some 70 % of the nation's GDP. This indicates that the country has transformed their economy from state owned companies into privately owned. The tax bracket of companies in Poland is currently 27 % but will be reduced to 19 %, which suggests that future investments and settlements of production plants in the country would be beneficial from an after tax profit point of view. The current GDP is some 40 % below the average GDP in the EU. This indicates that future exploration of the country both in terms of production efficiency and investment is needed. The barrier of entrance to the country are quite low due to the fact that they are looking for new investors and the new budget proposal will have its major income from privatization of state owned companies. The entrance in the EU will further enhance trade with Poland since they will adapt to EU standards and eventually in 2008 they are hoping to join the EMU. This will simplify trade with their largest trade partners both in currency terms and in trade barriers, such as customs.

The current unemployment rate in Poland is 18.7 % which is a two way street for the country. This indicates that if foreign companies would like to invest in the country there is a large workforce available at quite low salary rates. This will however change as more people get a job and in a longer perspective gets more harmonized with the standards of the EU. This will however take some years, which can be seen as a good thing for companies investing in the country. For Poland however they are missing a lot of income due to the fact that people are dependent on the government for income instead of being employed and paying tax. We believe however that in the future the emphasis

of privatization will increase the workforce bringing the unemployment rate down, which will eventually increase the government's income through taxes.

Hence, as we see it, regarding the future for foreign companies investing in Poland there are several advantages. The foremost important factor, being the cost structure for a company operating in Poland. The salaries are projected to stay quite low and in favor of the companies due to the high unemployment rate. Furthermore the tax bracket for companies will be lowered from its current 27 % to 19 %. The recent stability in domestic politics and the entrance into the European Union further enhances the investment climate since the government has put itself in a position in which they will become highly dependent on foreign investors. This means that they will have the opportunity to lobby decisions that will be in favor of investors and company owners. The only grey cloud on the horizon is the energy source, which has become dependent on foreign supply. Hence, previously they could decide the domestic price themselves whereas they now are dependent on market forces. This along with the huge budget deficit could cause problems for companies in the country since the government in the future will have to increase taxes to get the budget in balance. This is however only speculation for the future and we are wholly convinced that the current strategic path chosen by Poland and its government will enhance the growth rate of the country and thus, attract foreign investors boosting the economy in the long run.

6.3 Financial Analysis

The next step in our model is the financial analysis, where we will continue with analyzing the financial statements for the production plant that we are dealing with in this case analysis. Ikea supplied us with both real and fictive data. We were given a real case scenario with some shadowed figures, and a cash flow statement that was established based on a pro forma basis from the middle of the fiscal year of 2003 to the middle of the year of 2008.

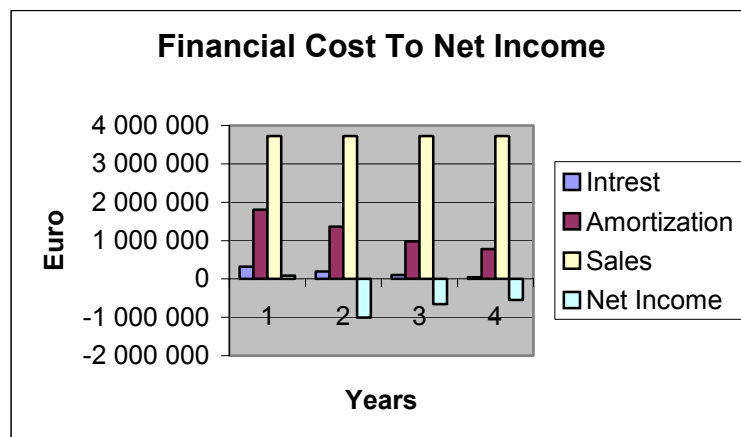
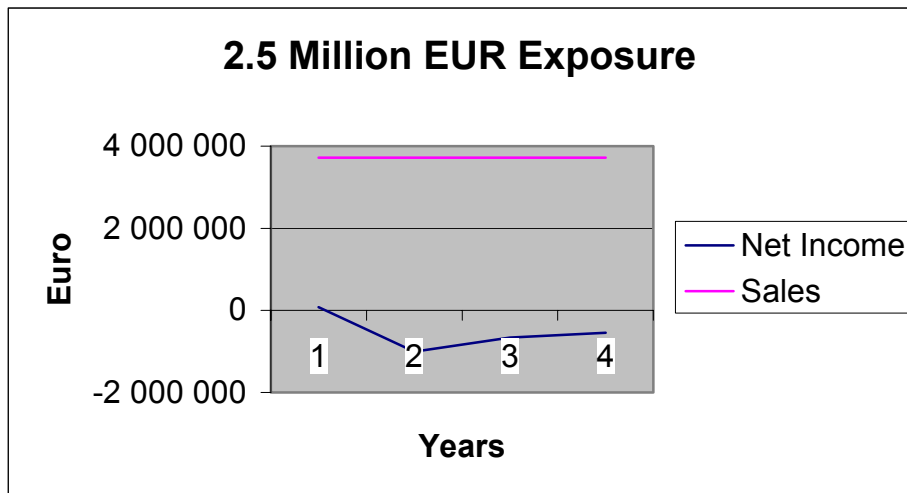
6. Illustration of Framework

6.3.1 Pro Forma Analysis 2.5 M Euro

2,5 M Euro Exposure Pro Forma Comp X	FY 04	FY 05	FY 06	FY 07
Sales	3 720 883	3 720 883	3 720 883	3 720 883
less Cost of Goods Sold	3 015 038	3 015 038	3 015 038	3 015 038
Main raw material	<i>1 150 109</i>	<i>1 150 109</i>	<i>1 150 109</i>	<i>1 150 109</i>
Oth. Mat	<i>251 320</i>	<i>251 320</i>	<i>251 320</i>	<i>251 320</i>
Salaries direct (production)	<i>589 550</i>	<i>589 550</i>	<i>589 550</i>	<i>589 550</i>
Energy	<i>1 024 059</i>	<i>1 024 059</i>	<i>1 024 059</i>	<i>1 024 059</i>
= Gross Profit	705 845	705 845	705 845	705 845
less Operating Expense	428 800	428 800	428 800	428 800
Repair maintenance & tools	<i>15 000</i>	<i>15 000</i>	<i>15 000</i>	<i>15 000</i>
Sales and Marketing	<i>163 920</i>	<i>163 920</i>	<i>163 920</i>	<i>163 920</i>
Administration	<i>225 390</i>	<i>225 390</i>	<i>225 390</i>	<i>225 390</i>
Research and Development	<i>20 490</i>	<i>20 490</i>	<i>20 490</i>	<i>20 490</i>
Other	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
less Merger Cost (lawyer, accountants)	<i>4 000</i>	<i>4 000</i>	<i>4 000</i>	<i>4 000</i>
plus Other income, property plan and equipment	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
= Income before Financial Income and Income Taxes	277 045	277 045	277 045	277 045
plus Financial Income (Net)	1 960 000	270 000	150 000	0
IKEA	<i>1 300 000</i>	<i>0</i>	<i>0</i>	<i>0</i>
Other	<i>660 000</i>	<i>270 000</i>	<i>150 000</i>	<i>0</i>
= Income before Income Taxes and Interest and Amortization	2 237 045	547 045	427 045	277 045
less Interest Expense	319 666	192 240	102 715	42 852
IKEA	<i>125 000</i>	<i>93 750</i>	<i>62 500</i>	<i>31 250</i>
Other	<i>194 666</i>	<i>98 490</i>	<i>40 215</i>	<i>11 602</i>
less Amortization	1 804 283	1 359 000	980 535	779 147
IKEA	<i>625 000</i>	<i>625 000</i>	<i>625 000</i>	<i>625 000</i>
Others	<i>1 179 283</i>	<i>734 000</i>	<i>355 535</i>	<i>154 147</i>
= Income Before Tax	113 096	-1 004 195	-656 205	-544 954
less Tax	<i>30 536</i>	<i>0</i>	<i>0</i>	<i>0</i>
= Net Income	82 560	-1 004 195	-656 205	-544 954

6. Illustration of Framework

2,5 million exposure from Ikea, 5 % annual interest, amortization 4 years: This is our first income statement analysis, where we used the 2.5 million Euro loan exposure. The sales are constant over the four years, which means that they will produce and sell the same quantity over the four years. This also indicates a growth rate of zero. Figures are the same for the years down to the financial income for the company. We can interpret from the statement that the financial income, which is mostly from loans, is very high in year 2004 (1 960 000 Euro), and it decreases rapidly to 270 000 Euro in 2005, and to 150 000 Euro in year 2006, and finally it's zero the last year. As can be seen, this produces a positive net income of 82 560 Euro in 2004, and the rest of the years the company produces negative net income figures. This scenario is very troublesome for a small production plant that operates at these production levels. This scenario doesn't seem to have a bright future looking at the income statement. This means that there is no room for price advantages for Ikea on their purchase price and their current exposure of 2.5 million Euros are at stake.



The interpretation of the above graphs can only support what was stated in the pro forma analysis. The first graph shows the constant sales figure in relation to net income. What we can conclude from that is that the company is under current cost structure not able to produce sufficient operating income to create a positive net income. Thus, as amortization and interest increases the financial cost is not in balance with the production levels.

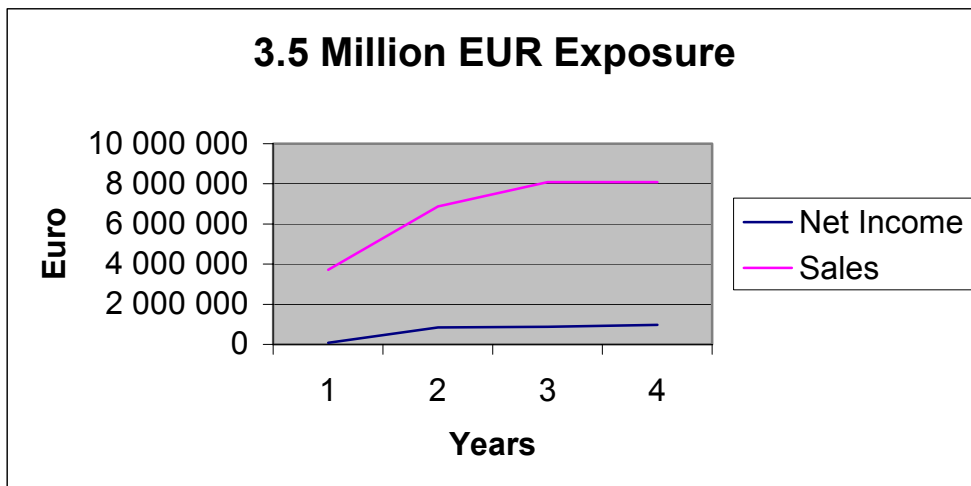
This is also revealed in the second where we can see the relationship between net income and financial cost and the pattern is quite clear. When the amortization and interest cost is high the negative income is also quite large whereas when amortization and interest is decreasing so is the negative net income. The conclusion from this is that current production capacity cannot support the financial costs that they have. Thus, should they invest in an additional machinery to increase production and would that support the financial cost?

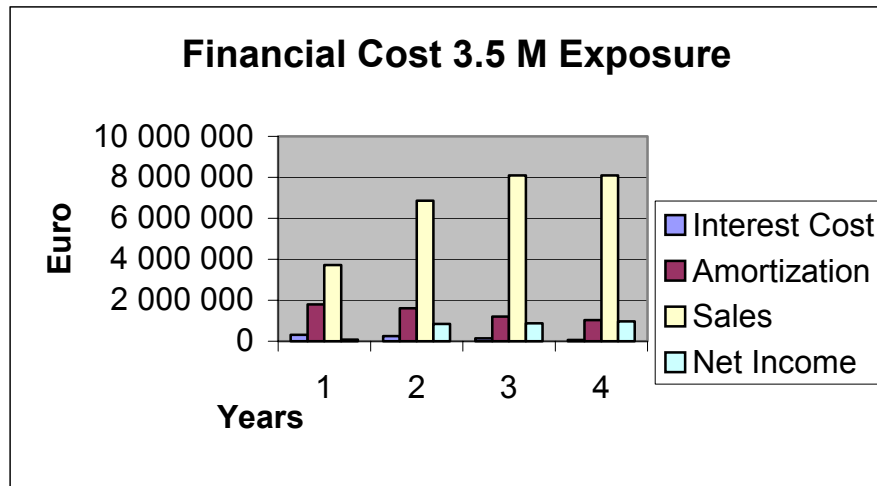
6. Illustration of Framework

6.3.2 Pro Forma Analysis, 3.5 M Euro

3,5 M Euro Exposure Comp. X	FY 04	FY 05	FY 06	FY 07
Sales	3 720 883	6 867 088	8 094 024	8 094 024
less Cost of Goods Sold	3 015 038	4 752 626	5 292 288	5 292 288
Main raw material	<i>1 150 109</i>	<i>1 860 326</i>	<i>2 032 956</i>	<i>2 032 956</i>
Oth. Mat	<i>251 320</i>	<i>476 109</i>	<i>561 600</i>	<i>561 600</i>
Salaries direct (production)	<i>589 550</i>	<i>810 225</i>	<i>877 500</i>	<i>877 500</i>
Energy	<i>1 024 059</i>	<i>1 605 966</i>	<i>1 820 232</i>	<i>1 820 232</i>
= Gross Profit	705 845	2 114 462	2 801 736	2 801 736
less Operating Expense	428 800	493 200	511 200	511 200
Repair maintenance & tools	<i>15 000</i>	<i>20 000</i>	<i>20 000</i>	<i>20 000</i>
Sales and Marketing	<i>163 920</i>	<i>187 680</i>	<i>194 880</i>	<i>194 880</i>
Administration	<i>225 390</i>	<i>258 060</i>	<i>267 960</i>	<i>267 960</i>
Research and Development	<i>20 490</i>	<i>23 460</i>	<i>24 360</i>	<i>24 360</i>
Other	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
less Merger Cost, lawyer, accountants .	<i>4 000</i>	<i>4000</i>	<i>4000</i>	<i>4000</i>
plus Other income, property plan and equipment	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
= Income before Financial Income and Income Taxes	277 045	1 621 262	2 290 536	2 290 536
plus Financial Income (Net)	1 960 000	1 270 000	150000	0
IKEA	<i>1 300 000</i>	<i>1 000 000</i>	<i>0</i>	<i>0</i>
Other	<i>660 000</i>	<i>270 000</i>	<i>150 000</i>	<i>0</i>
= Income before Income Taxes and Interest and Amortization	2 237 045	2 891 262	2 440 536	2 290 536
less Interest Expense	319 666	242 240	140 215	67 852
IKEA	<i>125 000</i>	<i>143 750</i>	<i>100 000</i>	<i>56 250</i>
Other	<i>194 666</i>	<i>98 490</i>	<i>40 215</i>	<i>11 602</i>
less Amortization	1 804 283	1 609 000	1 210 535	1 029 147
IKEA	<i>625 000</i>	<i>875 000</i>	<i>875 000</i>	<i>875 000</i>
Others	<i>1 179 283</i>	<i>734 000</i>	<i>335 535</i>	<i>154 147</i>
= Income Before Tax	113 096	1 040 022	1 089 786	1 193 537
less Tax	<i>30 536</i>	<i>197 604</i>	<i>207 059</i>	<i>226 772</i>
= Net Income	82 560	842 418	882 727	966 765

3.5 million exposure from Ikea, 5 % annual interest, amortization 4 years: This is our second income statement analysis, where we used the 3.5 million Euro loan exposure. The company have also amortized 250 000 Euros, and paid an additional 12 500 Euros in interest for the year of 2008. The sales are increasing over the first two years, and are constant the last two years, which means that they will produce and sell an increased quantity over the four years. This also indicates a positive growth rate. Figures are the same for the years down to the financial income for the company. We can interpret from the statement that the financial income, mostly from loans, is very high in the first year, and will increase in the second by one million Euros. This will increase production capacity and net income, and the company will be able to pay off their loans and interest to Ikea. As we stated before they will have to pay some of the loan and interest in 2008, which will be achievable in this case scenario. The loan and interest will totally be paid off at the end of May according to the case supplied by Ikea. This means that there is a span for price advantages for Ikea on their purchase price, and furthermore the current exposure of 2.5 million Euros is secured.





The interpretation of the above graphs can only support what was stated in the pro forma analysis. The first graph shows the increasing sales figures in relation to net income. What we can conclude from that is that the company under this cost structure will be able to produce sufficient operating income to create a positive net income. This, despite the increase in financial leverage, indicates that the additional investment of new machinery has increased production capacity to such an extent that the company is showing positive net income.

When making a cost structure comparison between the two scenarios, we can see that the costs are higher overall for the second scenario. If starting with the cost of raw material it has increased in the second scenario since they have also boosted their production volumes. This also leads to higher costs for other materials that are included in the production process. As can be seen from the statements the salaries increased in the second scenario, this is because the factory needs to pay for more working hours when they have increased the production capacity. Energy levels are also higher in the second scenario, which is normal because of the increased manufacturing, which will lead to higher energy costs. Also the operating expenses increased in the second scenario. In this analysis the gross profit is so much better in the second scenario relative to the cost that they are possessed with, compared to the first so a cost comparison is somewhat irrelevant in this case study. Although it would be of much more interest if this production plant was to have been compared to another similar one with almost the same net income. In that case it would be beneficial to look at which cost structure would have been most

beneficial. In this case it is irrelevant because it is so obvious that IKEA should go for the second alternative, the one with the 3.5 million Euro loan exposures.

This is also revealed in the second where we can see the relationship between net income and financial cost and the pattern is quite clear. Amortization and interest cost are marginally higher than the 2.5 million exposures, and the additional investment has boosted sales figures so that the investment is worthwhile. The conclusion from this is that new production capacity can support the financial costs that they have.

6.3.3 Key Ratio Analysis

2,5 M Exposure	FY 04	FY 05	FY 06	FY 07
Net Profit	2.20%	-2.60%	-17.63%	-14.65%
Gross Margin	18.96%	18.96%	18.96%	18.96%
Interest Coverage	6.99 X	2.84 X	4.16 X	6.46 X
3,5 M Exposure				
Net Profit	2.20%	12.30%	10.90%	11.95%
Gross Margin	18.96%	31%	34.60%	34.60%
Interest Coverage	6.99 X	11.93 X	17.41 X	33.76 X

The key ratios used have been utilized for the purpose of what they reveal. The net profit gives the interpreter an indication of how much of each 100 in sales is directly generated in income, whereas the gross margin gives an understanding of the cost structure and in particular the direct cost of a company. This is also an indication of how much the difference between cost and how much in percentage increases to make a charge up, hence the profit per item. The interest coverage reveals how many times an investment or interest payments are covered by operating income. The larger the interest payments are, and the less the operating income the more potential trouble for the company to pay their financial dues to stakeholders. The analysis we can draw from the above comparison between the two exposure schemes is the following: With the 2.5 million euro exposure the projected future seems quite reluctant for the company even to the extent that Ikea's current exposure may be put under bad

debt. The net profit margin is in the lower region FY 04 and then it becomes negative FY 05- 07. Thus the company is making a loss of 2.6 euro in 05 and some 17 euro in 06. The gross margin stays the same, which can be expected with the same, projected cost structure and sales volumes whereas the interest coverage is increasing from a low of 2.84 in 05 to 6.46 in 07. This can be interpreted, as the company is moving towards better times after amortization period will be done at the end of FY 07. The only drawback of this however is that they need capital to cover this between the years of 04-07.

When interpreting the figures with 3.5 million euro exposure we can see that the company is doing much better, They are gaining in the net profit margin, have a quite steady gross margin pertaining to the cost structure and an interest coverage ending at some 33.76 times in FY 07.

The result from this as we can see it is that by investing in the new machine, thus lending an extra million, the production capacity will increase and with that sales and the economic stability for the company making it possible for Ikea to pursue their main focus namely lower purchase price. The supplier can on the other hand mark up their price to non-Ikea customers boosting its own profit by putting the Ikea price on strict cost/ price equilibrium. Thus, charge Ikea the price that will cover his total costs and sell the remainder at pure profit. Hence, by approving the extra 1 million euro Ikea will lower their purchase price and at the same time secure the already outstanding 2.5 million euro.

6.4 Production Capacity

Information is N/A from Ikea. We can only use the purchase volumes above and the quite large increase and from that make general projections. It is to be understood that the assumptions in this part are very vague but we can conclude that the plant and equipment seem to be in general and good condition due to the quite fast increase in Ikea's purchase volumes. The location is not speculated upon since we do not have any information whatsoever pertaining to this, nor can we speculate by looking at the provided information. Hence, we will not weigh this part very heavily into our final analysis but we are utterly convinced that if information were available it would have been of utter importance.

6.5 Final Decision

Prior to making the final decision of the total analysis there are some factors that have to be considered that could in one-way or another alter the decision. By not stating them the final decision would not be as clear and coherent as it could be. The factors that we have to consider are:

Reliability

Limitations

Recommendations

6.5.1 Reliability

This subject has been discussed earlier in the case but is of high importance to the total analysis. It refers to the trustworthiness of the provided information and thus if our projections are made on accurate information, this will become the foundation of our final decision. The case provided in this scenario is made up of fictitious facts and figures, which can lead to only one conclusion. The case provided is set to give as clear a view as possible of the real world, which would indicate that the figures and facts are reliable.

6.5.2 Limitations

Due to the nature of Ikea and its operations the thesis writers have not been given access to vital data for our analysis despite the fact that it is fictitious. We have neither income statement nor balance sheet to work with. Nor do we have any information concerning the production facility and its condition, location and production capacity. When assuming in which country to place our case company we decided that Poland was the best fit due to its location close to Germany and the fact that Germany is Poland's largest trade partner, in export figures.

Furthermore it is of vital importance for Ikea to compare the best fit for their investment. This is done by, analyzing the end price to consumers via index

prices. For our purpose we have not been able to do so since we only are viewing the investment from the supplier point of view. Hence, we have developed the cost structure analysis. The cost structure analysis had to be modified for our purposes due to lack of financial information of both our own case and competitors.

6.5.3 Recommendation

The most important issues for our case, viewing limitations, will be country analysis and financial analysis.

Poland today is a country under change. Not only are they struggling with huge budget deficit and EU membership negotiations, they are still undergoing change from a plan economy to a full western economy. All this has led to corruption and political instability. Despite all the negative factors there is light even in the darkest tunnel. The government has been somewhat stabilized by huge participation in the recent EU election and the win of the vote of confidence in parliament. The overall economy of the country is currently down the drain but the budget proposal for 2004 and their future projection seems quite good. The company tax will be decreased from current 27 % to 19 % in 2005. The GDP is 40 % below the average of the EU, which can be interpreted as huge growth potential as well as lower costs for investors, and exploration of new production facilities. Thus, potential high profit with export goods produced at a lower price than in the rest of the EU.

The financial analysis of the case is obviously clear. By investing an additional 1 million Euro Ikea will not only secure their current exposure of 2.5 million but will also have the opportunity of reduction in their purchase price which will benefit the overall strategy of Ikea and thus enhance the purpose of the investment. To reach the lowest possible price from its suppliers.

Hence, we recommend Ikea to go through with the investment since the country analysis has showed promising projections for the future with little to medium risk of not getting the desired lowest possible price out of the total project.

7 Conclusion

So at the end of this thesis paper we will give the reader the thoughts that we have around our research findings. The most important thing that we needed to answer in this thesis report was if our model did work?

We decided to use three factors to investigate in the subject of evaluation, these were *country analysis*, *financial analysis*, and *production capacity*. We think that these are the best guidelines to give when doing a supplier evaluation in this context. Our model is a simple tool to use, and to work with, and we think that it could be widely used. The answer to the question that we asked us is yes; the model did work in this one case scenario. This scenario was very basic however, and we couldn't use all the subcategories when applying the model to the case supplied to us by IKEA. This is because of the silent structure under which IKEA operates. We believe that our result provided under illustration of the framework will support guidelines to the supplier financing on how our model can be used and applied. Perhaps the result would be different under different circumstances where the silent structure would not have been hard as steel. The financial statements and production capacity were not known to us in this case scenario, and this has made our analysis quite weak. Due to the fact that we had to do a lot of projections in this case work we find our model to be a good toll for analyzing investment alternatives. The disclosure of information from IKEA, has been a great thief in this whole research study. We are however convinced that if our model should be used in the real world by IKEA, where they have access to all information that was missing in this case study, it should if applied with great subjectivity, generate reliable results. Our model is so basic that anyone that has general knowledge of the subject matter would be eligible to apply and generate reasonable results, after reading this thesis paper. The model developed is unique to the extent that it has been developed for the main purpose to fit the strategic needs of Ikea. With this said we are not in any way limiting the exposure and application of the model in other areas such as pure financial investment and financial yield thereof. We are convinced however that there are two main limitations to the model in this early stage of its development. That is that it has only been tested on one case in which all information was not presented, nor has it not been exposed to testing outside

7. Conclusion

the Ikea arena. Our recommendation is to follow our model, and use own intuitions and interpretations to conclude a final result of where to invest. In a real case scenario, companies such as Ikea will have access to all financial information, and past performance of different production companies and factories. This fact will of course increase the reliability and the simplicity of the analysis.

8 Appendix

8.1 Case Study Problem

Supplier (Country)

X (Y)

Sent for approval to:

Eriksson J, and Hallgren A, by application of the Erik Hall Model

Type of Agreement:

Loan

New Loan Amount in SEK:

1 MEUR

Max amount. To be paid out successively.
During first 6 months of FY 05

.

Existing Exposure:

2.5 MEUR (incl. not yet effected machinery payments (200 000 Euro))

Supplier Exposure incl. This Loan:

3.5 MEUR

Max amount.

Loan Period (Tot. Exposure incl. new loan):

Fully repaid May-08

8. Appendix

Interest: 5 % p.a. (indicative)

Purpose of Loan: Cash flow support for the start up phase.

Additional:

Request to postpone repayment of running leasing => repayment start approx. Jun. 2005.

Security:

Existing exposure (Leasing): Machinery is IKEA's property. Purchase Value: 2.1 MEuro.

New exposure: none (estimated payments balance 250 000 Euro).

Estimated Purch. Vol. Actual FY (FY 04): 2.0 MEuro

Purch. Vol last 3 call-offs (accumulated): zero (start up)

Purchase from ITSA (RMT) / Modul: zero

IKEA-WAY Status: Approved

Credit Exposure and Purchase Volume

History

Plan

In M Euro	FY01	FY02	FY03	FY04	FY05	FY06	FY07
Exposure (IKEA, end of FY)	-	-	2.5	2.5	2.875	2	1.125

8. Appendix

Purch. Volume (IKEA)	-	-	0	2.7	5.0*	6.2*	6.2*
Othe sales (non IKEA production)	-	-	0	1.0	1.8	1.9	1.9

*Additional machine (1 MEUR) required for these volumes.

IOS Purchase Strategy with supplier:

Purchase commitment for FY04 until FY08: 4.0 MEuro p.a.

Financial information/Risk Estimation:

See Income Statement Pro Forma Medium risk, but if the factory will run according to expectations, will have very good long-term business

At present the factory is in workable condition making trial production.

8.2 General Information Poland

Inhabitants: 38.2 million (2002)

Currency: Zloty

GDP (Gross Domestic Product): 187.8 billion USD. (2002)

GDP/capita: 4865 USD. (2002)

GDP growth: 1.6 % (2002)

Inflation: 2.0 % (2002)

Unemployment: 17.8 % (July 2003)

Export markets (by % of total): Germany 23.9, Russia 9.4, Italy 8.3, France 6.4, The UK 4.5, and USA 4.4.

8.3 Income Statement developed for the model

Sales
Cost of Goods Sold
 Main raw material
 Oth. Mat
 Salaries direct (production)
 Energy
= Gross Profit
Operating Expense
 Repair maintenance & tools
 Sales and Marketing
 Administration
 Research and Development
 Other
Merger Cost, bank cost lawyer, consultants, accountants etc.
+ Other income, property plan and equipment

= Income before Financial Income and Income Taxes
+ Financial Income loan (Net)
 IKEA
 Other
= Income before Income Taxes and Interest and Amortization
Interest Expense
 IKEA
 Other

Amortization
 IKEA
 Others
= Income Before Tax
Tax
= Net Income

8.4 Domestic Credit Information List

1. Summary (company name registered owner etc.)
2. Latest registered events
3. Credit worthiness
4. General information and history
5. Board of directors
6. Group / Affiliated companies
7. Year end closing and key ratios
8. Sundry economic information
9. Record of non-payment, other applications
10. Current history with credit companies
11. Appendix
12. Other information deemed to be of importance for credit approval⁹⁹

8.5 International Credit Information List

1. Name of company
2. Date application is completed
3. Company address
4. Telephone number
5. Fax number
6. Billing address
7. Company website
8. Name, title, e-mail address and phone number of person responsible for
9. accounts payable
10. Web address where status of payments can be checked
11. Type of business
12. Type of operation
13. Date of incorporation
14. Amount of credit desired
15. Nature of business
16. List of primary countries where the company does business
17. Name and title of person in charge of buying
18. Buyers primary shipping documentation instructions
19. Total annual sales
20. Full names of principal
21. Kind of business
22. Number of employees
23. Major products
24. Approximate square meters

⁹⁹ Sigbladh, R, Stenberg, V, (2003). Kreditbedömning, 3rd Edition, Näsvisken, Sweden: Björn Lunden Information AB.

25. Project Manager for which the credit is applied for
26. Name of subsidiary, affiliate or parent company
27. Preferred freight forwarder
28. Contact information to the above
29. Bank references
30. Vendor references
31. Statement of accuracy of information
32. Signature of officer with title, i.e. manager¹⁰⁰

8.6 Cash Flow Statement

Statement of Cash Flows

1. Net Income
2. Income (loss) applicable to minority interests
- Adjustment to reconcile net income to net cash provided by operating activities:***
3. Tax benefit relating to a special distribution
4. Gain on disposals of businesses
5. Depreciation and amortization of equipment on operating leases
6. Depreciation and amortization on fixed assets
7. Change in deferred taxes
8. Extraordinary item: Loss on early cancellation of debt
9. Change in financial instruments
10. (Gain) loss on disposal of fixed assets/securities
11. Change in trading securities
12. Change in accrued liabilities
13. *Change in current assets and liabilities:*
14. Inventories (net)
15. Trade receivables
16. Trade liabilities
17. Other assets and liabilities
18. **Cash provided by operating activities**
19. Purchases of fixed assets:

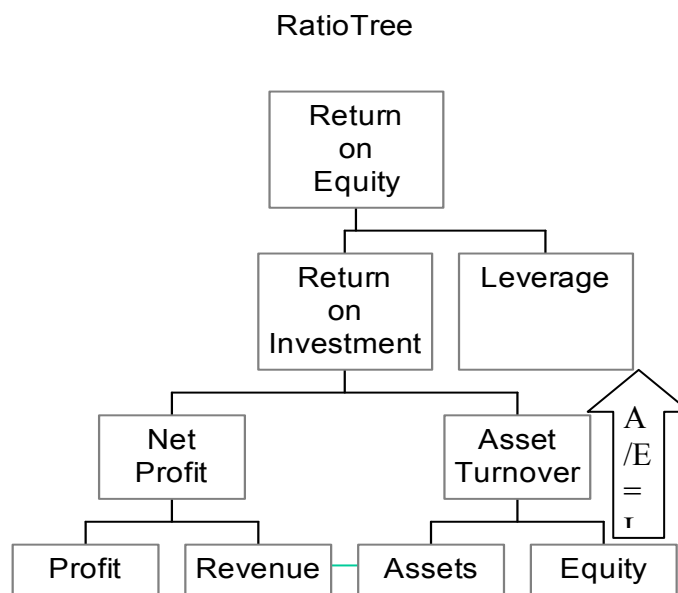
¹⁰⁰ Schaeffer M.S, (2001), International Credit and Collections: A guide to extending credit world wide, USA, John Wiley & Sons Inc. Ch. 3p 20

8. Appendix

20. Increase in equipment on operating leases
21. Purchases of property, plant and equipment
22. Purchases of other fixed assets
23. Proceeds from disposal of equipment on operating leases
24. Proceeds from disposal of fixed assets
25. Payment for acquisitions of businesses
26. Proceeds from disposals of businesses
27. Additions to receivables from financial services
28. Repayments of receivables from financial services:
29. Finance receivables collected
30. Proceeds from sales of financial receivables
31. Acquisitions of securities (other than trading)
32. Proceeds from sales of securities (other than trading)
33. Change in other cash
34. **Cash used for investing activities**
35. Change in commercial paper borrowings and short-term financial liabilities
36. Additions to long-term financial liabilities
37. Repayments of financial liabilities
38. Dividends paid (Financial Services: incl. Profit transferred from subsidiaries)
39. Proceeds from issue of capital stock
40. Purchase of treasury stock
41. Proceeds from special distribution tax refund
42. **Cash provided by (used for) financing activities**
43. Effect of foreign exchange rate changes on cash and cash equivalents
44. Net increase (decrease) in cash and cash equivalents
45. **Cash and cash equivalents at beginning of period**
46. **Cash and cash equivalents at end of period**

8.7 The Ratio Tree

As mentioned earlier the mother of all ratios Return on equity. To understand this some explanation is necessary. The ROE can be broken down into several components. The vitality of understanding this is the full picture understanding of companies' financial structure and health. This is best explained by studying the picture below:



To fully enhance the above graph consider the following:

Net Profit is defined as: $\text{Net Income} / \text{Revenues}$

Asset Turnover is Defined as: $\text{Revenues} / \text{Total Asset}$

Return On Investment is defined as: $\text{Net Income} / \text{Total Assets}$

Leverage is defined as: $\text{Total Assets} / \text{Equity}$

Return on Equity is defined as: $\text{Net Income} / \text{Shareholders Equity}$.¹⁰¹

Each of the above ratios is representing part of the 3 classes of ratios defined by the authors Bertoneche and Knight. Thus, by understanding the composition of the above tree one can get a quite clear view of the financial health of the company by applying the most utilized

¹⁰¹Bertoneche M., Knight, R., (2001). Financial Performance. Butterworth Heinemann, Great Britain

ratio, namely the Return on Equity¹⁰². The profit is applied in the same manner as Net income for the purpose of the above ratio tree.

8.8 Definitions

8.8.1 *Economies of Scale*

“The reduction in average cost that is achievable when a single product is made in large quantities”¹⁰³.

8.8.2 *Economies of Scale*

“The reduction in total cost that is achievable when a group of products are all made by a single firm, rather than being made in the same amounts by a set of individual firms”¹⁰⁴

8.8.3 *Vertical Integration*

Bringing two or more successive stages of production and distribution under common ownership and management. ¹⁰⁵

8.8.4 *Bottleneck*

The term bottleneck can be referred to the inability of a system of production to respond to sudden changes in demand, or if one vital part of the production does not have sufficient capacity compared to the rest of the production line.¹⁰⁶

¹⁰²Hempel, GH., Simonson DG., (1999) Bank Management Text and Cases, 5 th Ed. USA, John Wiley & Sons Inc.

¹⁰³ ¹⁰³ Milgram, P & Roberts, J. (1992) Economics, Organization & Management, New Jersey: Prentice Hall

¹⁰⁴ Ibid

¹⁰⁵ Milgram, P & Roberts, J. (1992) Economics, Organization & Management, New Jersey: Prentice Hall

8.8.5 *Solvency*

Having enough money to pay ones debt, the state of being solvent.¹⁰⁷

8.8.6 *Gross Domestic Product*

The GDP is a national measurement of a nation's well being in terms of growth. The GDP can be viewed from two stand points. The first being production measures GDP and how value added is used in various sectors, whereas the GPD from the expenditure side views how it is distributed in terms of consumption, export, and capital usage. Value added stems from hours worked which is adjusted to days of input compared to product output.¹⁰⁶ Thus, this is an average of output goods and services for an entire country, which indicates the financial well being of a country.

¹⁰⁶ www.scb.se/BNP

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