Business and Financial Analysis of
‘Arctic Paper Munkedals AB’

Authors:
Glory Aigbefo
Mekonen Araia Asegheheyy

Supervisor: José Ferraz Nunes
Examiner: Maher Asal

University West
Department of Economic and Informatics
Master’s thesis in international Business 15 ECTS

Spring term 2011
Abstract

The thesis evaluates both the business and financial performance of Arctic Paper Munkedals AB. The company was founded in 1817 and is located in Munkedal, Sweden. The evaluation was achieved through ratio analysis of the annual reports of Arctic Paper Munkedals AB over a five-year period and business performance analysis using the balanced scorecard model. The data collections are from the annual financial reports for five years before the 2008 recession. Different financial ratios were evaluated such as short-term liquidity ratios, leverage ratios, profitability ratios, asset utilization and capital market ratios. The mathematical calculations were established for ratio analysis from 2003-2007 along with graphical analysis and comparisons. According to Altman (The Journal of Finance, 1968), observed evidence for five years prior to failure was cited as conclusive that ratio analysis can be useful in the prediction of failure.

The research paper also analyzes the business performance of Arctic Paper Munkedals AB using the balanced scorecard model. This model is a customer-based planning and process improvement system, with its primary focus on driving an organization’s change process by identifying and evaluating pertinent performance measures. It complements the traditional financial perspective with other non-financial perspectives such as customer satisfaction, internal business process as well as learning and growth. The balanced set of performance measures tells a concise yet complete story about the achievement and performance of the organization toward its mission and goals. It provides a holistic view of what is happening in the organization.
Acknowledgement

With most genuine gratitude we wish to acknowledge the support of our supervisors, Dr. José Ferraz Nunes and Dr. Akbar Khodabandehloo for their invaluable contributions and guidance offered to us throughout this research work. The challenging ideas, concepts and constructive feedback provided to us have greatly developed our skills in writing research papers and upgraded our knowledge. We wholeheartedly appreciate and say thank you for the relentless efforts, mentorship, and perseverance you have shown to us.

We also want to acknowledge all faculty and staff of Economics and IT at University West for their support throughout our Masters Degree programme in International Business. In addition, we would like to thank Bengt Jonson and Olle Sandén for their support and advice throughout the period.

Special thanks goes to the management and staff of Arctic Paper Munkedals AB, especially the Financial Manager, Magnus Hultman and the Accounting Manager, Michael Cronholm who have devoted their time to provide us with all the information we needed for the completion of this thesis paper.

We deeply appreciate our families and friends for their encouragement, moral support and love they have shown throughout this programme. All glory be to God!

God bless you all.

Glory Aigbefo

Mekonen Araia Aseghehey
**Table of Contents**

Abstract .................................................................................................................. i
Acknowledgement .................................................................................................... ii
Table of contents ...................................................................................................... iii
Abbreviations ........................................................................................................... v

1 Introduction ........................................................................................................... 1
  1.1 Background ....................................................................................................... 1
  1.2 Problem discussion .......................................................................................... 4
  1.3 Purpose ............................................................................................................. 5
  1.4 Research Questions ......................................................................................... 5
  1.5 Delimitation ..................................................................................................... 6
  1.6 Limitation ......................................................................................................... 6
  1.7 Outline ............................................................................................................. 7

2 Literature Review ................................................................................................. 8
  2.1 Models for ratio analysis ................................................................................. 10
    2.1.1 Liquidity Ratios ........................................................................................ 10
    2.1.2 Leverage Ratios ....................................................................................... 12
    2.1.3 Profitability Ratios .................................................................................. 13
    2.1.4 Asset Utilization Ratios .......................................................................... 14
    2.1.5 Capital Market Ratios ............................................................................. 15
  2.2 Theoretical review of traditional ratio analysis .............................................. 16
  2.3 Financial versus non-financial perspectives .................................................... 18
  2.4 Balanced Score card ....................................................................................... 20
  2.5 Theoretical review of Balanced Scorecard .................................................... 21
  2.6 Pestle Analysis ............................................................................................... 22
  2.7 Porter’s five forces model .............................................................................. 22
    2.7.1 Understanding Porter’s five forces model ............................................. 23

3 Research Methods ............................................................................................... 25
  3.1 Approach ......................................................................................................... 25
    3.1.1 Quantitative Approach ............................................................................ 25
    3.1.2 Qualitative Approach ............................................................................. 26
3.2 Data Collection ................................................................. 26
3.3 Data Analysis ................................................................. 27
3.3.1 Models for ratio analysis ............................................. 27
3.3.2 Model for Bankruptcy test (Altman’s Z-score) .................. 30
3.3.3 Model for Business Analysis .......................................... 31

4 Results and Analysis .......................................................... 33
4.1 Ratio analysis ................................................................. 33
4.1.1 Liquidity Ratios .......................................................... 33
4.1.2 Leverage Ratios .......................................................... 36
4.1.3 Profitability Ratios ....................................................... 40
4.1.4 Asset Utilization Ratios ................................................ 43
4.1.5 Capital market ratios .................................................... 46
4.2 Bankruptcy test (Altman’s Z-score) .................................... 47
4.3 Business Analysis ........................................................... 48
4.3.1 Mission Statement of Arctic Paper Munkedals AB ............. 49
4.3.2 Internal controls .......................................................... 49
4.3.3 Customer service ......................................................... 50
4.3.4 Innovation and Learning .............................................. 51
4.3.5 Summary of Business Analysis Report ............................ 52

5 Conclusions, Recommendations and further research ................ 54
5.1 Conclusion ................................................................. 54
5.2 Recommendations ........................................................ 57
5.3 Further research ............................................................ 58

References ........................................................................... 60

Appendix
Appendix-A (Research Interview Questions) ............................ 63
Appendix-B (Income & Cash flow statements) ............................ 69
Appendix-C (Balance Sheet) .................................................. 70
Abbreviations
ISO – International Standards Organization
FASB: The Financial Accounting Standards Board
CFO: Cash flow from operating activities
MDA: Multiple Discriminant Analysis
1. Introduction

A firm’s financial statements are like an optical lens. If you know how to look through them, you can more clearly see what is going on at the firm. Has profitability improved? Are customers paying their bills more promptly? How are the operations at the manufacturing plant financed? What is the financial performance of the company for a particular period of time? Financial statements hold the answers to these and other questions. They can tell us how the company got to where it is today, and they can help us forecast where the company might be tomorrow (Revsine, Collins & Johnson, 2002). The introduction part of this thesis discusses the background on financial analysis, defines the problem and the research questions and also states the purpose of this research as well as the limitation/delimitation and general outline.

1.1 Background

Financial accounting for the most part is concerned with the accurate recording and computing of the various financial transactions of an organization over a period of time. The financial accounts of an organization must adhere to accepted accounting standards and practices, and will be subjected to auditing procedures to ensure their probity. The financial performance is undoubtedly fundamental to the continuing operating of any corporation. It is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm’s overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

The design, implementation and use of adequate performance measurement and management frameworks can play an important role if organizations are to succeed in an increasingly complex, interdependent and changing world (Bititci & MacBryde,
2002). There are many different ways to measure financial performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used, as well as total unit sales. Furthermore, the analyst or investor may wish to look deeper into the financial statements and seek out margin growth rates or any declining debt. Companies must use their resources effectively and productively if they are to compete in an increasingly competitive globalized economy. Effective performance measurement can support this competitiveness. To be able to do this, companies must know the factors that influence their performance and manage these factors in an effective manner. The separation of ownership from management may give rise to a situation where the owners and managers are not perfectly aligned in their business and financial objectives, the so-called agency problem (Eiteman et al, 2010).

History has proved that accounting scandals had lead to collapse of companies in the past amid revelations that it hid debt and inflated profit for years. Such fraudulent act has forced companies to go into bankruptcy. It is worth mentioning that the issues surrounding accounting scandals among other factors include the failure of auditing firms to act independently in dealing with audit clients. Prestigious auditing firms, such as Arthur Andersen, missed the violations or minimized them possibly because of lucrative consulting relationships or other conflicts of interest. Enron and WorldCom can be mentioned as examples. The fraud, deceit and failure of the multitude of company’s governance practices and financial performance resulted in the bankruptcy of the firm. It not only destroyed the wealth of investors, but the careers, incomes, and savings of so many of the basic stakeholders. Investors want a sound financial performance i.e. a strong predictable earnings and sustainable growth in addition to transparency, accountability, open communication and effective company governance. “Prior to the development of quantitative measures of company performance, agencies were established to supply a qualitative type of information assessing the creditworthiness of particular merchants” (Altman, 1968).
Early studies indicate that good governance and financial performance does indeed attract international investors’ interest.

In contemporary times, the stakeholders in the success of firms has expanded beyond the shareholders to include interest groups, employees, government, the local community as well as providers of debt finance. The process of evaluating businesses, projects, budgets and other finance-related entities is to determine their suitability for investment. Typically, financial analysis is used to evaluate whether an entity is stable, solvent, liquid, or profitable enough for investment (www.investopedia.com). Performance evaluation of a company is usually related to how well a company can use its assets, shareholder equity and liability, revenue and expenses.

Financial ratio analysis is one of the best tools of performance evaluation of any company (Hossan & Habib 2010). Bob Reiss (2010) while writing about managing numbers stated that “numeracy--thinking in numbers--is a vital, vital skill” in managing business. The “numbers” can be seen in the audited financial statements which is prepared annually in line with statutory requirements. In a survey by McKinsey in 2009, it was noted that all eyes are on corporate-finance departments as they are asked to cut costs, reassess risks, and cope with the deep uncertainty generated by the current economic crisis.

Arctic Paper Munkedals AB is located in Munkedal, about 100 km north of Göteborg, is one of the most beautifully-situated paper mills in the world. During the last 20 years there have been major investments, and the mill today is one of the most environmentally-friendly paper mills in the world. It produces high-quality uncoated graphical paper under the brand name Munken. Today, Arctic Paper Munkedals AB is one of Europe’s leading manufacturer of uncoated paper, with significant exports to many parts of the world. They have about 350 employees and 85 % of the production volume goes for export. The largest markets are Germany, Sweden, the
UK and the Benelux countries. The production capacity is approx. 160 000 tons per year and it is ISO 14001 certified (environmental management system).

1.2 Problem discussion

Arctic Paper Munkedals AB is under the group, Arctic Paper SA. The group currently has four paper mills, in Sweden (two paper mills), in Poland and in Germany. During the period of this case study, the company was 100% family owned. However, after this period, the majority shareholder of Arctic Paper in Munkedal is the Swedish company Arctic Paper AB, while 25% of shares are in the hands of stock exchange shareholders (www.arcticpaper.com). This paper studies the performance of the company for the years 2003-2007 when the company was fully under family ownership. In companies in which ownership is separated from management, aligning the goals of management and ownership is difficult. Such ‘agency problem’ may arise when there is a conflict of interest between creditors, shareholders and management because of differing goals. Can an analysis of the annual report among other things show how well the management has kept their promise of shareholders wealth maximization and to other stakeholders? Hossen & Habib (2010) stated that ‘financial ratio analysis is one of the best tools of performance evaluation of any company’. Altman (1968) also affirms that ‘...ratio analysis can be useful in the prediction of failure (bankruptcy test).’ Lack of timely, accurate and up-to-date financial statements to company’s stakeholders, creditors can negatively impact on the reputation of the company which in turn can limit the investment from prospective investors. Building the confidence level of the stakeholders by providing accurate and reliable financial statements will position the company to improve its financial performance and attract investors. Measurement has been recognized as a crucial element to improve business performance (Sharma, 2005).

For sustainable company’s profitability and good performance in the long run, there is a need to equally consider the non-financial perspectives such as customer
satisfaction, internal control process and learning/growth. This research paper will adopt the balanced scorecard model for business analysis purpose of Arctic Paper Munkedals AB. Here the concept of "balance" refers to the need of using different measures and perspectives that tied together give a holistic view of the organization (Kaplan and Norton, 1996).

1.3 Purpose

The purpose of this research paper is to carry out:

  
  - Describe the variation across the five-year period of study by using ratio analysis.
  - Bankruptcy test using Altman’s Z-Score.


1.4 Research Questions

In this thesis paper, the following research questions are formulated for the ratio analysis, qualitative analysis and for the Altman’s Z score bankruptcy:

Ratio Analysis & Altman’s bankruptcy test: the research questions for these are stated below.

- What are the short-term liquidity and leverage risks of the company?
- How efficient is the company in utilizing its assets?
• What is the profitability performance of the company?
• What is the result of Bankruptcy test using Altman’s Z-Score?

Qualitative Analysis: the research questions for qualitative analysis are stated below.

• What does Arctic Paper have in place to prevent fraud and minimize risk of financial loss?
• What efforts does Arctic Paper employ to satisfy its customers?
• What strategies does Arctic Paper employ to retain existing know-how and prepare for future quality improvements?
• Does the company’s customer satisfaction, internal process and future learning & growth are aligned with the company’s mission statement?

1.5 Delimitation

The scope of the research paper is:

• Business Analysis of ‘Arctic Paper Munkedals AB’.

1.6 Limitation

There are various types of financial ratios that can be used in analysing the company. Due to the scope of this work and limited time for this research paper, we cannot carry out extensive analysis. However, we have chosen ratio variants that satisfy the information provided by the financial statements. Due to the uniqueness
of the company, we are not able to compare the financial performance analysis of the Arctic Munkedals AB with another paper manufacturing company.

1.7 Outline

The research paper has five sections, that is, introduction, literature review, research methods, results/analysis and recommendations /conclusion/ further study. In the following sections, the various ratios and business models will be reviewed and discussed together with the research methods used in this study and how data is analyzed as well as the results and recommendations. The references of books, articles and other materials used as a reference guide are put in the 'appendices' part of the research paper.
2. Literature Review

According to Fraser & Ormiston (2011), business financial statements have both the potential of being maps and mazes. As a map, financial statements have the capability of representing a firm's financial health and assisting managers in decision-making. On the other hand, many factors like complexities in accounting policies underlying the preparation of financial statements can be overwhelming and intimidating (Fraser ibid). Financial statements and their accompanying notes contain a wealth of useful information and can be used to answer many questions relating to investments, profitability, liquidity, leverage and operating efficiency. Corporate annual reports contain among other reports:

- The balance sheet,
- Income statement,
- Statement of shareholders' equity,
- Statement of cash flows,
- Notes to the financial statements,
- "Management Discussion and Analysis,"
- The auditor’s report and any other discretionay item.

The balance sheet, also called the statement of financial position, contains "a summation of the assets owned by the firm, the liabilities incurred to finance these assets, and the shareholders' equity representing the amount of financing provided by owners at a specific date." The Financial Accounting Standards Board (FASB) defines assets as probable future economic benefits obtained or controlled by an entity as a result of past transactions or events. Liabilities are probable future sacrifices of economic benefits arising from an entity's present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events. Shareholder's equity is the residual interest in the assets of an entity that remains after deducting its liabilities (Revsine, Collins & Johnson, 2005; p159).
The operating performance of a business firm has traditionally been measured by its success in generating earnings (the "bottom line"). Investors, creditors and analysts eagerly await companies' income statements. Fraser & Ormiston (2011) noted that the quality of reported financial information is a critical element in evaluating financial statement data. Past financial performance, good or bad, is not necessarily a good predictor of what will happen with a customer in the future. Management can influence the outcome of reported earnings in ways that may not best represent economic reality or the future operating potential of the firm. This explains some of the accounting scandals in history and contemporary times. Some of these areas include; accounting choices, estimates and judgments, changes in accounting methods and assumptions, discretionary expenditures, non-recurring transactions, non-operating gains and losses, revenue and expense recognition that do not match cash flow.

In analyzing businesses, it is essential that the financial statement analyst considers the qualitative as well as the quantitative components. The higher the quality of financial reporting, the more useful will be the information for business decision making (Fraser & Ormiston, 2011). Secondly, financial statement analysis provides information to many stakeholders in the firm which enables them to adjust their relationship with the firm accordingly. For instance, creditors (trade creditors, banks etc), are ultimately concerned with the ability of the firm to make interest and principal payments on borrowed funds. Most investors consider the security/shares of the firm for purchase or liquidation when estimation of the company's future earnings stream indicates high returns in relation to the risk taken. Using historical financial data to forecast the future, one can determine if the investment is sound. Management looks at the financial statement data to determine how well the firm performed and why? What are the strengths and weaknesses of the company's financial position? What changes can be implemented to improve future performances? (Fraser & Ormiston, 2011). Many tools and techniques can be used to convert financial statement data into formats that facilitate the evaluation of a firm's financial condition and performance. Financial statements of only one accounting
period would be of limited value when there would be no reference point for
determining changes in a company’s financial record over time.

This research will pick out some of the tools and business models in evaluating the
performance of Arctic Paper Munkedals AB from 2003 to 2007. For financial analysis,
it will be categorized under five headings:
- Short-term liquidity ratios
- Leverage (capital structure) ratios
- Profitability ratios
- Asset utilization ratios
- Capital market ratios

2.1 Models for ratio analysis
The quantitative analysis will use the following ratios:

2.1.1 Liquidity Ratios
Liquidity ratios are used to assess the ability of the firm to meet its short-term
financial obligations when and as they fall due. These ratios are of prime interest to
short-term lenders. Short-term liquidity ratios are numerous. The common ones are:

a) Current Ratio
It is also called working capital ratio. Current ratio helps in assessing the health of a
company by understanding how easily the firm can turn assets to cash to repay
short-term obligations.

The current ratio may be expressed as: Current assets ÷ Current liabilities

Current assets are composed mainly of cash, short-term marketable securities,
accounts receivable, inventories and prepaid expenses. Current liabilities are
composed mainly of accounts payable, dividends, taxes payable and short-term bank loans. Depending on the industry a ratio of 2:1 is a good one. However, if two similar companies each had 2:1 ratios, but one had more cash among its current assets, that firm would be better able to pay off its debts quicker than the other.

The current ratio has long been considered as a good indicator of the firm's liquidity but it is limited by the nature of its components (Fraser & Ormiston, 2011). It is susceptible to "window dressing"; that is, it is susceptible to manipulation intended to approximate a "desirable" current ratio. Also, the balance sheet is prepared as at a particular date and the actual amount of liquid assets may vary considerably from the date on which the balance sheet is prepared. Furthermore, accounts receivable and inventory may not be truly liquid because it may be bad debts, inventory of inferior value or obsolete items.

b) Quick (Acid-Test) Ratio

It is a more rigorous test of short-term solvency. This ratio subtracts inventories from current assets, before dividing that figure into liabilities. The idea is to show how well current liabilities are covered by cash and by items with a ready cash value. Inventory, on the other hand, takes time to sell and convert into liquid assets. Companies like to have at least a 1:1 ratio, but firms with less than that may be well if they turn their inventories over quickly.

The quick ratio may be expressed as: Quick Assets ÷ Current liabilities

Quick assets are composed of cash, short-term marketable securities and receivables. The quick ratio is intended to focus on immediate liquidity. Both the quick ratio and the current ratios have been criticized for failure to incorporate information about the timing and magnitude of future cash flows (Riahi-Belkaoui, Ahmed, 1998).
c) Cash conversion cycle
The cash conversion cycle or net trade cycle helps the analyst understand why cash flow generation has improved or deteriorated by analyzing the key balance sheet accounts (i.e. account receivable, inventory and account payable) that affect cash flow from operating activities. It comprises three ratios as shown below:

\[
CCC = \text{Average collection period} + \text{Days inventory held} - \text{Days payable outstanding}
\]

Where:
Average collection period = Net accounts receivable ÷ Average daily sales
Days inventory held = Inventory ÷ Average daily cost of sales
Days payable outstanding = Accounts payable ÷ Average daily cost of sales

2.1.2 Leverage Ratios
Leverage ratios are used to assess the long-term solvency risk of the firm, that is, its ability to meet interest and principal payments on long-term obligations as they become due. These ratios are of prime interest to long-term lenders and bondholders.

a) Debt-to-Equity Ratios
There are two possible debt-to-equity ratios:

i) Long-term debt to equity = Long-term debt ÷ Shareholder’s equity

ii) Total debt to equity = (Current liabilities + long-term debt) ÷ Shareholders’ equity

Both debt equity ratios express the degree of leverage in the capital structure of the firm. They are also used as a measure of the financial risk associated with the common stocks of the firm (Riahi-Belkaoui, A. 1998).
b) Debt ratio = Total liabilities ÷ Total assets  
c) Times interest earned = Operating profit ÷ Interest expense  
d) Cash interest coverage = [CFO + interest paid + taxes paid] ÷ Interest paid  
e) Cash flow adequacy = [Cash flow from operating activities i.e. CFO] ÷[Capital expenditure + debt repayments + dividend paid]  

2.1.3 Profitability Ratios  

The profitability ratios portray the ability of the firm to efficiently use the capital committed by shareholders and lenders to generate revenues in excess of expenses. It measures overall efficiency and performance. These ratios are consequently of interest to both shareholders and bondholders.  

a) Rate of Return on Assets  
The rate of return on assets, also called the rate of return on investment (ROI) is the ratio that measures the efficient use of the assets by the firm to generate earnings.  

\[
\text{Return on Assets} = \frac{\text{Net earnings}}{\text{Total assets}}
\]

b) Return on Equity  
This ratio indicates how efficiently the capital supplied by the common stockholders was employed within the firm.  

\[
\text{ROE} = \frac{\text{Net earnings}}{\text{Shareholder's equity}}
\]

c) Gross profit margin, operating profit margin & net profit margin  
These three ratios represent the firm’s ability to translate sales to profit at different stages of measurement.
- The gross profit margin, which shows the relationship between sales and the cost of products sold, measures the ability of a company both to control cost of inventories or manufacturing of products and to pass along the price increases through sales to customers.

\[
\text{Gross profit margin} = \text{Gross profit} \div \text{Sales}
\]

- The operating profit margin, a measure of overall operating efficiency, incorporates all the expenses associated with ordinary business activities.

\[
\text{Operating profit margin} = \text{Operating profit} \div \text{Net sales}
\]

- The net profit margin measures profitability after consideration of all revenue and expense, including interest, taxes, and non-operating items.

\[
\text{Net profit margin} = \text{Net earnings} \div \text{Net sales}
\]

2.1.4 **Asset Utilization Ratios**

These ratios are intended to convey various aspects of operational efficiency. Some examples of asset utilization ratios are: accounts receivable, inventory and payables turnover ratios. These three ratios measure how many times, on average, accounts receivable are collected in cash, inventory is sold and payables are paid during the year. These three measures are mathematical complements to the ratios that make up the cash conversion cycle.

a) Account receivable turnover:

The accounts receivable turnover is an indicator of the efficiency in the collection efforts of accounts receivable.

\[
\text{Account receivable turnover} = \text{Net sales} \div \text{Net accounts receivable}
\]
b) Account payable turnover
The accounts payable turnover is an indicator of the efficiency in the payment to creditors.

Account payable turnover = Cost of goods sold ÷ Accounts payable

c) Inventory turnover
It is used as an indicator of operational efficiency.

Inventory Turnover = Cost of goods sold ÷ Inventory

d) Fixed asset turnover
The plant assets turnover is used as a measure of the relationship between sales and the plant assets used by the firm for its operations.

Fixed asset turnover = Net sales ÷ Net property, plant & equipment

2.1.5 Capital Market Ratios

These ratios measure investors’ response to owning a company’s stock and also the cost of issuing a stock.

Four market ratios of particular interest to the investor are:

a) Earnings per share (EPS) = Net earnings ÷ Average shares outstanding
b) Price/Earnings ratio (P/E ratio) = Market price of ordinary share ÷ EPS
c) Dividend payout ratio = Dividend per share ÷ EPS
d) Dividend yield = Dividend per share ÷ Market price of ordinary share
According to Fraser & Ormiston (2011), the analysis of any firm’s financial statements consists of a mixture of steps and pieces that inter-relate and affect each other. No one part of the analysis should be interpreted in isolation. Short-term liquidity impacts profitability; profitability begins with sales, which relate to the liquidity of assets. The efficiency of assets management influences the cost and availability of credit, which shapes the capital structure. Every aspect of a firm’s financial condition, performance and outlook affects the share price (Fraser & Ormiston, 2011).

To effectively analyse Arctic Paper Munkedals AB, it is essential to crunch the numbers in the financial statements using financial ratios, trend analysis, structural analysis, industry comparisons and most of all common sense and judgement. Information on the background of the company and the economic environment in which the firm operates should be integrated with the financial ratios to help analyse Arctic Paper’s performance over a five-year period and to assess their strengths, weaknesses and future prospects.

2.2 Theoretical review of traditional ratio analysis

Although extremely valuable as analytical tools, financial ratios also have limitations (Fraser & Ormiston, 2011). They cannot provide answers in and of themselves and they are not predictive so they should be used with caution and common sense in combination with other elements of financial analysis. Also, according to Fraser & Ormiston, there is no one definitive set of key financial ratios, there is no uniform definition for all ratios and there is no standard that should be met for each ratio. Furthermore, there are no “rules of thumb” that apply to the interpretation of financial ratios. Each situation should be evaluated within the context of the particular firm, industry and economic environment.
According to Altman (The Journal of Finance, 1968), "academicians seem to be moving toward the elimination of ratio analysis as an analytical technique in assessing the performance of the business enterprise. Theorists downgrade arbitrary rules of thumb, such as company ratio comparisons, widely used by practitioners. Since attacks on the relevance of ratio analysis emanate from many esteemed members of the scholarly world, does this mean that ratio analysis is limited to the world of "nuts and bolts"? Has the significance of such an approach been unattractively garbed and therefore unfairly handicapped? Can we bridge the gap, rather than sever the link, between traditional ratio "analysis" and the more rigorous statistical techniques which have become popular among academicians in recent years?" Altman (1968) assesses this issue, the quality of ratio analysis as an analytical technique, using multiple discriminant analysis in an attempt to predict corporate bankruptcy. "Observed evidence for five years prior to failure was cited as conclusive that ratio analysis can be useful in the prediction of failure. The aforementioned studies imply a definite potential of ratios as predictors of bankruptcy. In general, ratios measuring profitability, liquidity, and solvency prevailed as the most significant indicators. The order of their importance is not clear since almost every study cited a different ratio as being the most effective indicator of impending problems" (Altman, 1968). A firm with a poor profitability and/or solvency record may be regarded as a potential bankrupt.

According to Altman (1968), there are shortcomings inherent in any univariate analysis; a multivariate approach is more meaningful. Previous studies built findings and combined several measures into a meaningful predictive model. In so doing, the highlights of ratio analysis as an analytical technique is emphasized rather than downgraded. The question becomes, which ratios are most important in detecting bankruptcy potential, what weights should be attached to those selected ratios, and how should the weights be objectively established. Altman’s research resulted in the Z-score model which is widely accepted. He analysed the financial statements of sixty-six firms divided into two mutually exclusive groups: bankrupt and non-bankrupt firms (33 each). Altman arrived at the weights attached to each of the
variables in the Z-score model after extensive study. Further research resulted in different models for public companies, private firms and non-manufacturing companies/firms in emerging markets. The Multi-Discriminant Approach (MDA) technique has the advantage of considering an entire profile of characteristics common to the relevant firms, as well as the interaction of these properties. For the purpose of this paper, we will focus on Altman's MDA model for private firms as shown below:

\[ Z' = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5 \]

Where:

\( Z \) = Overall Index

\( X_1 \) = (Current Assets-Current Liabilities) / Total Assets

\( X_2 \) = Retained Earnings / Total Assets

\( X_3 \) = Earnings Before Interest and Taxes / Total Assets

\( X_4 \) = Book Value of Equity / Total Liabilities

\( X_5 \) = Sales/ Total Assets

**Zones of Discrimination:**

\[ Z' > 2.9 \text{-“Safe” Zone} \]

\[ 1.23 < Z' < 2.9 \text{-“Grey” Zone} \]

\[ Z' < 1.23 \text{-“Distress” Zone} \]

**2.3 Financial versus Non-Financial perspectives**
Interest on performance measurement and management has notably increased in the last 20 years (Taticchi, 2008). Particularly, it is important to note the evolution of focusing performance from a financial perspective to a non-financial perspective. Since the middle of 1980s, companies emphasized the growing need of controlling production business processes. Companies have understood that for competing in continuously changing environments, it is necessary to monitor and understand firm performances. Measurement has been recognized as a crucial element to improve business performance (Sharma, 2005). A performance measurement and management system (PMS) is a balanced and dynamic system that enables support of decision-making processes by gathering, elaborating and analyzing information (Neely, 2002). The concept of “balance” refers to the need of using different measures and perspectives that tied together give a holistic view of the organization (Kaplan and Norton, 1996).

Because of the division of ownership and control, financial performance measurement, in addition to being a guiding tool for internal managers, also focuses on the ‘outside’ world, including existing shareholders and potential investors. It is widely recognized that poorly designed performance measurement systems can seriously inhibit their implementation and, consequently, their ultimate impact. It is vital therefore, that organizations fully realize the importance of developing appropriate measurement frameworks (Bititci & MacBryde, 2002. p 1248). It is also important to make clear that the objective of measurement is not to punish or blame individuals but rather to provide information that helps the organization to take appropriate action with the ultimate goal of improving operations. Unless appropriate organizational responses to performance results are carried out, performance measurement efforts may prove worthless (Ibid, p 1250). Management has a dual interest in the analysis of financial performance:

- To assess the efficiency and profitability of operations.
- To judge how effectively the resources of the business are being used.
Judging a company's operations is largely done with an analysis of the income statement, while resource effectiveness is usually measured by reviewing both the balance sheet and the income statement. In order to make economic judgments, however, it's often necessary to modify the available financial data to reflect current economic values and conditions (Helfert, 2001. p 97).

The three business models the research paper will review are stated below:

- Balance scorecard
- PESTLE analysis
- Porter's 5 forces model

However, due to time limitation, we are going to use only the balance scorecard model in our research methodology.

### 2.4 Balanced Scorecard

The balanced scorecard, a performance measurement and strategic management system proposed by Kaplan and Norton (1996), can be an invaluable tool in addition to financial ratios. According to an Emerald Insight Contributor (2004), the balanced scorecard is a customer-based planning and process improvement system, with its primary focus on driving an organization's change process by identifying and evaluating pertinent performance measures. It is an integral part of mission identification, strategy formulation and process execution, with an emphasis on translating strategy into a linked set of financial and non-financial measures. It complements the traditional financial perspective with other non-financial perspectives such as customer satisfaction, internal business process as well as learning and growth. It also mixes outcome measures, the lagging indicator, with performance drivers, the leading indicator, because "outcome measures without performance drivers do not communicate how the outcomes are to be achieved" (Kaplan and Norton, 1996, p. 105). By selecting appropriate performance drivers and outcome measures to fit in the theory of business in a chain of cause and effect relationship, the organization will have a better idea of how to achieve its potential competitive advantage. The balanced set of performance measures also tells a
concise yet complete story about the achievement and performance of the organization toward its mission and goals. It provides a holistic view of what is happening in the organization.

It is noteworthy that firm size can affect financial performance and it is measured by the number of employees in the firm and its assets base. The size of the firm is an important factor as it influences its competitive power, small firms have less power than large firms, hence, they may find it difficult to compete with the large firms particularly in highly competitive markets. Also, the growth of the market served by the firm might contribute to financial performance (Durand and Coeurderoy, 2004). Thus far, anecdotal reports on balanced scorecard have been concentrated in the for-profit sector and many firms have found the balanced scorecard a useful tool for focusing and sustaining their continuous improvement efforts. The diagram below shows the four major aspects of the balanced scorecard:

**Diagram of Kaplan & Norton’s balanced scorecard**

2.5 Theoretical review of Balanced Scorecard
The Balanced Scorecard has been criticized by many scholars. Barr (2007) argues that this model is well-known to have implementation problems. Also, it doesn't put enough emphasis on results versus strategies, it doesn't offer the steps to measure design and it doesn't show the process of measure implementation. However, the Balanced Scorecard is not all bad. Barr (2007) asserts that Kaplan & Norton's Balanced Scorecard will go down in history as the serious beginning of non-financial performance measurement in the corporate world. It is really the roadmap for linking what happens from day-to-day in a corporation to its strategic, longer term direction, through deliberate conversation about strategy design. The research paper will use this model to analyze the business performance of Arctic Paper Munkedals AB.

2.6 PESTLE ANALYSIS

PESTLE represents Political, Economic, Socio-cultural, Technological, Legal and Environmental factors impacting on Arctic Paper Munkedals AB. This will be helpful to analyze the external and internal environment that Arctic Paper operates, in order to have a balanced view of the firm and to be able to make practical recommendations to the management.

2.7 Porter's five forces model

From Mindtools.com, the Porter's 5 Forces tool is a simple but powerful tool for understanding where power lies in a business situation. This is useful, because it helps to understand both the strength of the current competitive position, and the strength of a position the firm is considering moving into. With a clear understanding of where power lies, the firm can take fair advantage of a situation of strength, improve a situation of weakness, and avoid taking wrong steps. This makes it an important part of the planning toolkit. Conventionally, the tool is used to identify whether new products, services or businesses have the potential to be profitable. However, it can be very illuminating when used to understand the balance of power in other situations.
2.7.1 Understanding Porter’s five forces model

Porter’s five Forces Analysis assumes that there are five important forces that determine competitive power in a business situation. These are:

1. **Supplier Power:** Here the firm assesses how easy it is for suppliers to drive up prices. This is driven by the number of suppliers of each key input, the uniqueness of their product or service, their strength and control over the firm, the cost of switching from one to another, and so on. The fewer the supplier choices the firm has, the more it needs suppliers' help, the more powerful the suppliers are.

2. **Buyer Power:** Here the firm asks itself how easy it is for buyers to drive prices down. Again, this is driven by the number of buyers, the importance of each individual buyer to the business, the cost to them of switching from the firm’s products and services to those of another firm, and so on. If the firm deals with few, powerful buyers, then they are often able to dictate terms to it.

3. **Competitive Rivalry:** What is important here is the number and capability of the firm’s competitors. If the firm has many competitors, and they offer equally attractive products and services, then it will most likely have little power in the situation, because suppliers and buyers will go elsewhere if they do not get a good deal from the firm. On the other hand, if no-one else can do what the firm does, then it can often have tremendous strength.

4. **Threat of Substitution:** This is affected by the ability of the firm’s customers to find a different way of doing what the firm does – for example,
if it supplies a unique software product that automates an important process, people may substitute by doing the process manually or by outsourcing it. If substitution is easy and substitution is viable, then this weakens the firm’s power.

5. **Threat of New Entry:** Power is also affected by the ability of people to enter into the market. If it costs little in time or money to enter the market and compete effectively, if there are few economies of scale in place, or if the firm has little protection for its key technologies, then new competitors can quickly enter the market and weaken the firm’s position. If the firm has strong and durable barriers to entry, then it can preserve a favourable position and take fair advantage of it.

![Diagram of Porter’s Five Forces Model](image)

By thinking about how each force affects the firm, and by identifying the strength and direction of each force, the firm can quickly assess the strength of its position
and its ability to make a sustained profit in the industry. The firm can then look at how it can affect each of the forces to move the balance of power more in its favour.

3.0 Research Methods

This section of the research paper describes how the required data will be collected to achieve the desired purpose of the thesis. It also discusses the model, formula, reasons and applicability to the thesis.

3.1 Approach

We will use two approaches - qualitative and quantitative approach to get a balanced analysis of Arctic Paper Munkedals AB. We are using the quantitative approach to get statistical analysis of the company's performance from its five-year annual financial reports. To complement the financial analysis results, we will use the qualitative approach – Balanced Scorecard and interviews with management staff.

Timescale:
The analysis will be based on longitudinal data spanning five years, from 2003 to 2007.

3.1.1 Quantitative approach

Quantitative approach involves the use of numbers to assess information. The five – year financial statements of 'Arctic Paper Munkedals AB' will be evaluated using the statistical ratio analysis which will give us the opportunity to make a thorough analysis into the data and look for greater meaning of the financial performance. We will use four main financial statements for ratio analysis such as; balance sheet, income statement, cash flow statement, statement of shareholder's equity. However, the limitation of the quantitative approach is that it may miss contextual details.
3.1.2 Qualitative approach

Without the benefit of statistical support, qualitative research can offer very good information. We will use qualitative approach for the business analysis by having face-to-face interview with the finance department as well as senior administrative executives in order to get information on three parameters in the balanced scorecard model. The qualitative approach requires the interpretation of the information gathered on the business activities of ‘Arctic Paper Munkedals AB.’ The qualitative approach will strengthen the data collected.

The limitations of the qualitative approach is that it may not hold the same level of relevancy as quantitative research due to the lack of scientific controls with the data collection method. In addition, a drawback of qualitative approach is that it can be time consuming and expensive and, consequently, only a very small portion of the “population” can participate in qualitative research, hence, using results to estimate characteristics of a larger group is more difficult. Thus, qualitative approach is generally not used for hypothesis testing. This is not to say qualitative approach is not useful, it is very useful if its limitations are understood (www.knowthis.com).

3.2 Data collection

The data used in this research paper will include primary and secondary data. For primary data, we will conduct personal interviews for the purpose of qualitative data collection. The personal interview will help us to collect first-hand information on customer perspective, internal process perspective and learning & growth perspective of the balanced scorecard. The interview will be held with key personnel in the finance department as well as senior administrative executives (who understand marketing and research & development functions). For secondary data, we will use the internet, textbooks, scholarly articles and annual reports of Arctic
Paper Munkedals AB. This information will aid us in analyzing the data collected and also in interpretation of the findings.

These data are assumed to be accurate, free from material error and of high quality as it is based on audited financial statements for each of the period under review. To see the big picture, it is necessary to have at least three years of financial statements for comparison. However, this research paper studies and analyses five years (2003-2007) financial statements of the 'Arctic Paper Munkedals AB' and will provide a picture of the company's financial performance pre-recession period.

3.3 Data analysis

The purpose of our data analysis is to describe the variation in the financial ratio values across the five-year period of study. Description might involve identifying interesting features in the financial data, including detecting of increase (or decrease) in values and then try to understand why certain areas of the financial data have changed in value (Haining & Robert, 2003: p.2).

We will use various tools for financial analysis to measure the performance of 'Arctic Paper Munkedals AB' such as the selection of financial reports (identification of balance sheets, income statements and cash flow statements). We will also compute using ratio analysis, mathematical calculations, statistical analysis of 'Arctic Paper Munkedals AB' using the Microsoft Excel as a tool for evaluating the financial statements. The data analysis will help to define and understand the limitations and factors that enhance the performance of the company.

3.3.1 Models for ratio analysis

The quantitative analysis will use the following ratios. Detailed notes on each of these ratios have been discussed in section 2.1 of the thesis paper.
1) Liquidity Ratios

a) Current Ratio : Current assets ÷ Current liabilities

b) Quick Ratio : Quick Assets ÷ Current liabilities

c) Cash conversion cycle = Average collection period + Days inventory held - Days payable outstanding

Where:
Average collection period = Net accounts receivable ÷ Average daily sales
Days inventory held = Inventory ÷ Average daily cost of sales
Days payable outstanding = Accounts payable ÷ Average daily cost of sales

2) Leverage (Capital Structure) Ratios

a) Debt-to-Equity Ratios: There are two possible debt-to-equity ratios:

i) Long-term debt to equity = Long-term debt ÷ Shareholder’s equity

ii) Total debt to equity = (Current liabilities + long-term debt) ÷ Shareholders’ equity

b) Debt ratio = Total liabilities ÷ Total assets

c) Times interest earned = Operating profit ÷ Interest expense

3) Profitability Ratios

a) Return on Assets = Net earnings ÷ Total assets

b) Return on Equity = Net earnings ÷ Shareholder’s equity

28
c) Gross profit margin, operating profit margin & net profit margin

These three ratios represent the firm's ability to translate sales to profit at different stages of measurement.
- Gross profit margin = Gross profit ÷ Sales
- Operating profit margin = Operating profit ÷ Net sales
- Net profit margin = Net earnings ÷ Net sales

4) Asset Utilization Ratios:

These ratios are intended to convey various aspects of operational efficiency. We will use four asset utilization ratios in this paper namely:

a) Account receivable turnover = Net sales ÷ Net accounts receivable

b) Account payable turnover = Cost of goods sold ÷ Accounts payable

c) Inventory turnover = Cost of goods sold ÷ Inventory

d) Fixed asset turnover = Net sales ÷ Net property, plant & equipment

5) Capital Market Ratios

These ratios measure investors’ response to owning a company’s stock and also the cost of issuing a stock. During the period under review, Arctic Paper was 100% family-owned, therefore, capital market ratios relating to outside investors will not be applicable. The only ratio we will analyze here is Earnings per Share:

Earnings per share (EPS) = Net earnings ÷ Average shares outstanding
3.3.2 Model for Bankruptcy test (Altman’s Z-score)

Altman’s MDA model is:

\[ Z' = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5 \]

Detailed explanation of Altman’s Z-score model has been discussed in section 2.2.

Graphical representation of Ratio analysis and Bankruptcy test

- Selection of annual reports (Income statements, balance sheets, cash-flow statements)
- Ratio analysis (computation using MS-Excel)
- Liquidity ratios
- Leverage ratios
- Profitability ratios
- Asset utilization ratios
- Capital market ratios
- Bankruptcy test
- Interpretation and recommendations
3.3.3 Model for Business Analysis

The qualitative section of this research paper will use the balanced scorecard model to analyze the business performance of Arctic Paper Munkedals AB. We have chosen to use this model because it complements the traditional ratio analysis with other non-financial perspectives such as customer satisfaction, internal business process as well as learning and growth. The original model have four perspectives, however, we have modified it to discuss only the non-financial perspectives. The financial part has been adequately covered by the ratio analysis and Z-Score model. The information will be collected through face-to-face interview with the management team of Arctic Paper Munkedals AB.

Diagram of Kaplan & Norton’s balanced scorecard (modified)

The customer perspective will help in identifying measures put in place by the company to satisfy the needs of their customers. For this purpose, we will interview top management staff, especially those who understand the sales and marketing functions, to find out if they have segment for different tiers of customers and how these segments are managed. We are also interested in understanding how customer complaints are attended to on a surface level. Concerning internal process perspective, we will enquire about the company’s internal control systems, safety and
risk management, product quality issues, how defective products are handled and security of technology information. With regards to the learning and growth, we will interview the department heads to assess how they strengthen their manpower, outlays for training, investment in research activity, product and service innovation and continuous improvement.

**Graphical representation of Business Analysis (Balanced Scorecard)**
4. RESULTS AND ANALYSIS

In this section, we present the results from our data analysis in two parts. The first part is for the ratio analysis and bankruptcy test and the second part is business analysis of Arctic Paper Munkenals AB using the balanced scorecard model. At first, we will briefly examine the performance of Arctic Paper Munkenals AB from a financial point of view looking at its liquidity, leverage, profitability and asset utilization from 2003-2007. Then, we will carry out a bankruptcy test using Altman’s Z-Score. Finally, we will discuss their customer service orientation, internal control systems and innovation & learning which are factors under the balanced scorecard model.

4.1 Ratio analysis

The quantitative analysis will use the following ratios:

4.1.1 Liquidity Ratios

a) Current Ratio helps in assessing the health of a company by understanding how easily the firm can turn assets to cash to repay short-term obligations. Arctic Paper’s liquidity ratio from 2003 – 2007 is as shown below:

<table>
<thead>
<tr>
<th>Current Ratio</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Ratio</td>
<td>2,18</td>
<td>1,30</td>
<td>1,29</td>
<td>1,02</td>
<td>1,08</td>
</tr>
</tbody>
</table>
From the above table/graph, we can understand that the current ratio of Arctic Paper Munkedals AB is growing lower year after year. The current assets and the current liabilities have increased during the period under review; the current liabilities have increased by 149% than the current assets. The increased liabilities are due to increased borrowings within the group to finance operations. Liabilities to outside credit institutions which was over Sek 62 million was fully paid off in 2005. However, liabilities within the group grew astronomically. This could indicate a change in finance strategy.

![Graph showing current assets and current liabilities from 2003 to 2007]

**b) Quick Ratio**

This test of short-term solvency for Arctic Paper Munkedals AB shows how well current liabilities are covered by cash and by items with a ready cash value. Below is the table showing the trend for Arctic Paper:

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick Ratio</td>
<td>1.24</td>
<td>0.79</td>
<td>0.76</td>
<td>0.56</td>
<td>0.63</td>
</tr>
</tbody>
</table>
From theory, for the company to be in a good position the inventory need to be convertible to cash easily. If the inventories are not sellable or made up of slow moving or obsolete items (SLOBs), then we can conclude that the liquidity position of the company is weak.

Arctic Paper has high inventory value making up over 50% of its current assets. From our interview with the finance team, the high inventory value is made up of:

- Raw materials (especially pulp) which has a high probability of scarcity and price fluctuations
- Finished goods (large inventory of finished goods is maintained to meet customers demand).

Further enquiry revealed that because of the quality of their products, Arctic Paper Munkedals AB’s inventory can be readily converted to cash. For obsolete items, this is minimal because paper can be recycled.

c) Cash conversion cycle

The cash conversion cycle or net trade cycle helps the analyst understand why cash flow generation has improved or deteriorated by analyzing the key balance sheet.
accounts (i.e. account receivable, inventory and account payable) that affect cash flow from operating activities. It comprises three ratios as shown below:

$\text{CCC} = \text{Average collection period} + \text{Days inventory held} - \text{Days payable outstanding}$

Where:
Average collection period = Net accounts receivable $\div$ Average daily sales
Days inventory held = Inventory $\div$ Average daily cost of sales
Days payable outstanding = Accounts payable $\div$ Average daily cost of sales

<table>
<thead>
<tr>
<th>Cash Conversion Cycle</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Average collection period</td>
<td>50</td>
<td>53</td>
<td>64</td>
<td>72</td>
<td>67</td>
</tr>
<tr>
<td>(b) Days Payable Outstanding</td>
<td>-33</td>
<td>-34</td>
<td>-31</td>
<td>-46</td>
<td>-51</td>
</tr>
<tr>
<td>(c) Days Inventory Held</td>
<td>51</td>
<td>55</td>
<td>58</td>
<td>61</td>
<td>59</td>
</tr>
</tbody>
</table>

| Net trade cycle         | 69   | 73   | 91   | 87   | 75   |
| In times per yr         | 5    | 5    | 4    | 4    | 5    |

From the table above, the net trade cycle have not changed much. Cash is “turned over” about 4 to 5 times in a year. Critical analysis of two aspects of the cash conversion cycle reveals some very useful information. Across the 5 years, looking at the “average collection period” and “days payable outstanding,” we discover that while Arctic Paper pays their creditors quickly, they have granted longer credit days to their debtors. This indicates that funds have to be sourced from borrowings or reserves to pay creditors. Also, the risk of bad debts may be relatively higher.

### 4.1.2 Leverage Ratios

These ratios are of prime interest to long-term lenders and bondholders. From the analytical review of Arctic Paper for the period 2003-2007, we look at:
a) **Debt-to-Equity Ratios**

a.i) Long-term debt to equity

a.ii) Total debt to equity = (Current liabilities + long-term debt) ÷ Shareholders’ equity

Both debt equity ratios express the degree of leverage in the capital structure of the firm. They are also used as a measure of the financial risk associated with the common stocks of the firm (Riahi-Belkaoui, A. 1998).

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.i) Long Term Debt to Equity</td>
<td>94%</td>
<td>36%</td>
<td>66%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>a.ii) Total Debt to Equity</td>
<td>270%</td>
<td>381%</td>
<td>431%</td>
<td>525%</td>
<td>520%</td>
</tr>
</tbody>
</table>

From the long term debt to equity ratios above, Arctic Paper Munkedals AB’s leverage position appears fair, it has declined from 94% to 0% over the 5 years under review. In 2006 and 2007, long term debts were paid off indicating that operations are not financed using long term debts anymore. Whereas the long term debt to equity of the company has declined, the total debt to equity has increased. This means that the company is substituting its long term debt with short term debt.
Looking at the years 2006 and 2007 from the charts above, the long term debt was zero and the short term debt was over Sek 350m in both years. There is no significant risk as the borrowings is within the group.

b) Debt ratio = Total liabilities ÷ Total assets

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt ratio</td>
<td>34%</td>
<td>44%</td>
<td>49%</td>
<td>58%</td>
<td>57%</td>
</tr>
</tbody>
</table>
The debt-to-equity ratio measures the riskiness of the firm’s capital structure in terms of the relationship between the funds suppliers by creditors (debt) and investors (equity). The higher the proportion of debt, the greater is the degree of risk because creditors must be satisfied before owners in the event of bankruptcy. From the above charts and tables of Arctic Paper Munkedals AB, the debt ratio for the period under review has increased by 98%.

The amount and proportion of debt in a company’s capital structure is extremely important because of the trade-off between risk and returns. However, in the case of Arctic Paper Munkedals AB, this is not applicable as the bulk of the debt is within the group.

c) Times interest earned

This ratio measures how many times the interest expense is covered by the operating profit. For Arctic Paper Munkedals AB, the operating profit declined from 2003-2007. In 2003, the operating profit could pay the interest over 16 times compared to 2007’s position which was just 3 times. In 2006, the company had a
loss. The decrease in interest paid cover is due to increase in cost of goods sold over the period without proportionate increase in sales. Also, administrative and selling expenses did not decrease significantly during the period under review.

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Times Interest Earned</td>
<td>16.91</td>
<td>7.59</td>
<td>3.24</td>
<td>-41.06</td>
<td>3.10</td>
</tr>
</tbody>
</table>

Interest expense gradually decreased from 2003 to 2006 but tripled in 2007. This huge interest bill was due to loan obtained from another subsidiary within the group. The interest was paid in 2006 that covered prior years.

4.1.3 Profitability Ratios

These ratios measure the overall efficiency and performance of Arctic Paper Munkedals AB. We are going to analyze the profitability of the company using the following ratios: Return on Assets, Return on Equity and other margin ratios.
a) Return on Assets

The rate of return on assets, also called the rate of return on investment (ROI) is a ratio of the net earnings divided by the total assets of the firm.

<table>
<thead>
<tr>
<th>Year</th>
<th>Return on Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>10%</td>
</tr>
<tr>
<td>2004</td>
<td>7%</td>
</tr>
<tr>
<td>2005</td>
<td>4%</td>
</tr>
<tr>
<td>2006</td>
<td>-7%</td>
</tr>
<tr>
<td>2007</td>
<td>3%</td>
</tr>
</tbody>
</table>

The rate of return on assets declined during the period under review from 10% to about 3%. The decline was due to lower profit margins which was a result of high cost of goods sold and high operating costs. The high costs of goods sold would have be cushioned if the operating expenses have been reduced. This task would have required tough decisions from management like laying off redundant staff etc.

b) Return on Equity

This ratio indicates how efficiently the capital supplied by the owners was employed within the firm. It is a ratio of net earnings to owner’s equity. For Arctic, the return to equity shareholders declined by about 50% over the 5 year period under review. This was as a result of reduced earnings from 2003 to 2007 (a loss was recorded in 2006).
<table>
<thead>
<tr>
<th>Year</th>
<th>Return on Equity (ROE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>77%</td>
</tr>
<tr>
<td>2004</td>
<td>57%</td>
</tr>
<tr>
<td>2005</td>
<td>39%</td>
</tr>
<tr>
<td>2006</td>
<td>-63%</td>
</tr>
<tr>
<td>2007</td>
<td>27%</td>
</tr>
</tbody>
</table>

The decline in operating profit can be traced to high cost of goods, administrative and selling expenses without proportionate growth in sales. Looking at the industry, competition is stiff, this may be responsible for limited sales growth during the period under review.

c) Gross profit margin, operating profit margin & net profit margin

These three ratios represent the firm's ability to translate sales to profit at different stages of measurement. From the graph below, the net profit margin had decreased from 5% in 2003 to 2% in 2007. The sales of the company over the period had increased gradually but the cost of goods sold also increased reducing the profit margin. However, the expenses had not proportionately decreased during the period under review. This means that the company's administrative and selling expenses are almost fixed not varying in proportion to gross profit.
4.1.4 Asset utilization ratios

These ratios are intended to convey various aspects of operational efficiency. We will look at the company's accounts receivable, inventory and payable turnover.

a) Account receivable turnover and account payable turnover

The account receivable turnover ratio measures how many times accounts receivable is collected in cash while the account payable turnover ratio looks at how many times payments are made during the year. For 2003-2007, Arctic Paper Munkedals AB was
paying their creditors quicker than they were receiving money from their debtors as shown below.

<table>
<thead>
<tr>
<th>Account receivable turnover (times)</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.25</td>
<td>6.93</td>
<td>5.72</td>
<td>5.09</td>
<td>5.45</td>
</tr>
<tr>
<td>Accounts Payable turnover (times)</td>
<td>11.22</td>
<td>10.76</td>
<td>11.76</td>
<td>8.02</td>
<td>7.13</td>
</tr>
</tbody>
</table>

From a cash management point of view, this indicates that creditors are paid from cash outside that received from debtors. Getting cash from other subsidiaries within the group to pay creditors carries along with it a cost in the form of interest expense. From interview with the finance team at Arctic Paper Munkedals AB, the account payable days is shorter because most of their suppliers are in Sweden. The standard payment days is 30 days in Sweden. Very rarely, this can extend to 60 days for major supplies.

On the other hand, the standard account receivable days differ from one country to another and 85% of Arctic Paper's sales is export. For example, in Italy and Spain the standard due date is 90-120 days, France 60 days end of month 10, Benelux 30-60 days, Germany 30 days and UK 30 days end of month.

b) Inventory turnover
This ratio measures how many times on average inventory is sold during the year. It is used as an indicator of operational efficiency. At Arctic Paper, inventory turnover for the period under review had gradually reduced from over 7 times to about 6.16 times.
When we enquired about this trend, the management made us understand that cost of pulp (which is the major raw material in paper production) is constantly fluctuating. To combat this market trend and ensure that there is no lost sales due to non-availability of raw materials, huge stock of pulp and also finished goods (paper) are held resulting in low inventory turnover as shown above.

c) Fixed asset turnover

The plant assets turnover is used as a measure of the relationship between sales and the fixed assets used by the firm for its operations. From the charts shown below, the company’s fixed turnover had increased during the period (2003-2007). This increase in turnover was due to depreciation of property, plant and equipments although net sales increased slightly during the period.

<table>
<thead>
<tr>
<th>Fixed Asset Turnover (times)</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Asset Turnover (times)</td>
<td>3.41</td>
<td>3.27</td>
<td>3.41</td>
<td>4.22</td>
<td>5.38</td>
</tr>
</tbody>
</table>
4.1.5 Capital Market Ratios

Despite the accounting scandals including Enron and WorldCom, which illustrated the flows in the earnings numbers presented to the public, investors continue to accept and rely on the earning per share. In this section we will measure the owners' response to owning Arctic Paper Munkedals AB shares. During the period under review, Arctic Paper Munkedals AB was 100% family-owned so there are no data available to calculate the market price per share of the firm. We will analyze Arctic Paper using only the earnings per share ratio:

a) Earnings per share (EPS):

The earnings per share of Arctic Paper Munkedals AB had gradually declined during the period 2003 – 2006 as seen in the table below.

<table>
<thead>
<tr>
<th>Earnings per share</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>0,39 kr</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>0,29 kr</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>0,20 kr</td>
<td></td>
<td></td>
<td>-0,32 kr</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0,13 kr</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
However, in 2007 the earnings per share started to grow though it was still low compared to the previous years. The reason for the decline of the EPS was contributed by the high cost of goods sold and high operating expenses. In other words, gross profit margin had been reduced tremendously by high cost of goods sold and further eroded by relatively high administrative and selling expenses (overhead costs).

The EPS presented here is only a picture of a subsidiary and may not give a full picture of the situation. An analysis of EPS at the group level would certainly tell another story which may be more relevant to potential investors.

4.2 Bankruptcy test (Altman’s Z-score)

Altman’s MDA model for private firm is as shown below:

\[ Z' = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5 \]


<table>
<thead>
<tr>
<th>BANKRUPTCY TEST (Altman’s Z Score)</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>0.26</td>
<td>0.12</td>
<td>0.12</td>
<td>0.01</td>
<td>0.05</td>
</tr>
<tr>
<td>X2</td>
<td>0.06</td>
<td>0.08</td>
<td>0.10</td>
<td>0.14</td>
<td>0.07</td>
</tr>
<tr>
<td>X3</td>
<td>0.12</td>
<td>0.03</td>
<td>0.01</td>
<td>-0.10</td>
<td>0.02</td>
</tr>
<tr>
<td>X4</td>
<td>0.37</td>
<td>0.26</td>
<td>0.23</td>
<td>0.19</td>
<td>0.19</td>
</tr>
<tr>
<td>X5</td>
<td>1.77</td>
<td>1.58</td>
<td>1.57</td>
<td>1.63</td>
<td>1.77</td>
</tr>
<tr>
<td>Z-Score</td>
<td>2.52</td>
<td>1.93</td>
<td>1.87</td>
<td>1.51</td>
<td>2.00</td>
</tr>
</tbody>
</table>
Where:

\[ Z = \text{Overall Index} \]

\[ X_1 = \frac{\text{Current Assets - Current Liabilities}}{\text{Total Assets}} \]

\[ X_2 = \frac{\text{Retained Earnings}}{\text{Total Assets}} \]

\[ X_3 = \frac{\text{Earnings Before Interest and Taxes}}{\text{Total Assets}} \]

\[ X_4 = \frac{\text{Book Value of Equity}}{\text{Total Liabilities}} \]

\[ X_5 = \frac{\text{Sales}}{\text{Total Assets}} \]

**Interpretation of result on bankruptcy test**

Using the zone of discrimination as a guide, Arctic Paper falls between the “Grey Zone” that is \(1.23 < Z' < 2.9\) (please refer to section 2.2 of this research paper for explanation on the different zones of discrimination). This means that the company is safe for investment purposes and is not about to be bankrupt, that is, there are no going concern issues at the moment. Management should sustain this trend and if possible work to improve its liquidity and profitability position.

**4.3 Business Analysis**

Here we will present Arctic Paper’s customer service orientation, internal control systems and innovation and learning which are factors under the balanced scorecard model. The model complements the traditional ratio analysis with other non-financial perspectives and provides a meaningful position of the company. The information presented in this section was collected through face-to-face interview with the management team of Arctic Paper Munkedals AB.

A set of interview questions were prepared and discussed with the management team of Arctic Paper Munkedals. The interview questions have five parts that is general questions, internal control system, financial perspective, customer
perspective and innovation & learning. The questions are in the appendix of this paper. The results from this interview are discussed below.

4.3.1 Mission statement of Arctic Paper Munkedals AB.

The mission and vision statement of Arctic Paper Munkedals AB is:

"We are a paper manufacturer providing products customised to Customers' needs. Our Customers' needs are of crucial importance for us, thus they determine the directions of our development.

We intend to gain a stable position among European paper manufacturers through partnership in Customer and supplier relations.

Our market competitiveness is ensured by effective management system, reliability and productivity.

We motivate our personnel by creating sound and safe working conditions and ensuring career opportunities.

We choose solid solutions targeted at environmental care.

We feel a part of the local community and responsible for supporting it.

In our operations, we are guided by ethic norms." (www.arcticpaper.com)

From our interview session, their mission is well reflected in their customer service, internal controls, financials and innovation and learning areas of the business. Arctic Paper is the market leader in the production of quality book paper for final books. We also found out that competition is stiff in the paper industry. Supply, at present exceeds demand and this trend is expected to continue and is forcing the price charged to the customer downwards.

4.3.2 Internal controls

Arctic Paper Munkedals AB have put in place the proper internal control system. Approval limit policy is set and adhered to for all disbursements affecting their cash
flow. In addition, there are two signatories required for all payments to be made. The accounting policy and procedures are being followed consistently. Monthly company's financial statements are prepared to determine the financial position and check for variances against the pre-determined budget so that appropriate measures can be taken. Arctic Paper also has an internal audit function at the group level that ensures management adheres to set out policies and standard operating procedures.

Arctic Paper Munkedals AB engages external auditors, Ernst & Young, at the Group level to audit the accounting books three times a year. The company has regular interim audits, with major audits in the middle of the financial year (when semi-annual report is being prepared) and at the end of the year (final annual report). Audit reports and recommendations are considered and implemented before the next audit is conducted. As per their policy, the Chief Executive Officer (CEO) and Chief Financial Officer (CFO) vouch for the veracity of the financial statements before audit. For the period under review, Arctic Paper Munkedals AB is 100% family owned and there are no separate audit and compensation committee set up. Incidence of loans to corporate officers and directors was very rare.

Arctic Paper Munkedals takes safety as a vital factor in all of their departments. Safety measures are put in place so as to minimize risks and possible losses. Concerning accidents, risk management and safety, they have an officer responsible for maintaining safety but accidents were also very minimum at the company during the period under review.

4.3.3 Customer service

Even though competition is high and there are substitute products in the market, Arctic Paper Munkedals AB continued to be the leading producer of quality paper products for the markets it serves. The quality-oriented strategy, gave the company a competitive advantage among other competing paper manufacturing companies. The company's unique capabilities include the flexibility of its production process
to meet customers' specific needs of quality products. They are price leaders and always strive to ensure that customers get the value and quality to the price they paid for.

We also enquired about how loyal customers are rewarded. We found out that the company does not have any written policy on customer loyalty. However, they handle their customers with utmost care and there is a reward scheme to retain loyal customers which includes annual rebates to the customers in the form of credit notes. Since 85% of the company's products are exported, damages in transportation can occur due to the volatile nature of paper. The sales and technical department handles customer's complaints promptly, sometimes, visiting the customers to resolve their issues. Also, customers are invited to the production site and briefed on the whole production process. Customers are usually impressed with their environmental-friendly production process.

We identified three major customer complaints, which are:

- Quality of paper does not meet customer requirement
- Transportation damages
- Order complaints (for example, order sent to wrong customer)

Usually, sales representatives handle these complaints but the technical aspect is resolved by the research and development department. The company continue to actively respond to the customer's demands by identifying their needs (during calls/visits) to improve their products so as to meet the goal of customer satisfaction.

4.3.4 Innovation and learning

With regards to the innovation and learning, the management team briefed us that the company makes it a priority to seek and adapt new and innovative technology so that it can continue to be the leading manufacturer of quality paper products. Hence,
their position in respect to innovation and learning is "very well." There are development plans in place with regular trainings (both internal and external) for staff to develop their capacity at all levels. On knowledge management and transfer among sister firms within the group, it is very low as the machineries are different and know-how is machinery-specific. Also, there are cultural hindrances.

On human resources policies, the low labour turnover indicates that they have good packages to retain their employees. The low labour turnover can be due to the fact that they are one of the multinationals in the small town of Munkedal. Hence, employees engaged are reluctant to look elsewhere. Performance management system is in place and every employee has personal development plans drawn up each year. However, they noted that performance is difficult to measure and there are no strict policies in place concerning this.

Concerning technological edge, they explained that the paper manufacturing process is virtually the same everywhere. The competitive advantage they have is the flexibility of their machinery. They can run various products of different quality and colours in batches with minimal changes to the operating programme. Also, they are foremost in research on how to make their products environmental-friendly, reduce waste and recycle products (including water used in production).

4.3.5 Summary of business analysis results

<table>
<thead>
<tr>
<th>Score: 0-4</th>
<th>Arctic Paper</th>
<th>Maximum Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Control</td>
<td>2.67</td>
<td>4</td>
</tr>
<tr>
<td>Customer Service</td>
<td>2.83</td>
<td>4</td>
</tr>
<tr>
<td>Learning and Innovation</td>
<td>2.33</td>
<td>4</td>
</tr>
</tbody>
</table>
The above table and chart have been obtained from the interview questions discussed with the management team. A set of questions on the areas of internal control, customer service and learning and innovation were prepared and we had an in-depth discussion with the team. The questions were given weights ranging from 0-4, where Zero being the lowest score - 'not acceptable' and 4 being the highest score - 'excellent'. An average score from each area was determined and grouped on the table presented above.

The results of the respondents indicate that a score which is in between 'good' and 'very good' in all the three areas: internal control, customer service and learning & innovation. This means that there is still a room for improvement for achieving between 'very good' and 'excellent'.
5 Conclusion, Recommendations and Further Research

5.1 Conclusion:

This section is directly connected to the purpose. The analysis will be summarized in order to answer the research questions and fulfil the purpose of the thesis.

Concerning the short-term liquidity of Arctic Paper Munkedals AB, we have measured using the current ratio, quick ratio and cash conversion cycle. From the computation, we have observed that the liquidity position has declined over the period under review. While both the current assets and current liabilities increased during the period, the latter increased by 149% more than current assets. In addition, the net trade cycle increased from 69 days in 2003 to 75 days in 2007. This means that cash was “turned over” every 69 days in 2003 and every 75 days in 2007. Also, Arctic Paper Munkedals AB 'days payable outstanding' is shorter than the average collection period. That is, while they have extended longer credit days to their debtors they pay their creditors quickly. The shortfall is sourced from borrowings and reserves. Further more the risk of bad debt resulting from longer credit days may be relatively higher.

We analyzed Arctic Paper Munkedals AB leverage position using three major leverage ratio: debt to equity, debt ratio and times interest earned. The analysis showed that the co’s long term debt to ‘outside creditor’ was fully paid off in 2005. However, the current liabilities increased by 98% the bulk of which was from short-term borrowings within the group. The analysis of the results further indicated that in 2003 the interest paid on borrowed funds was covered from the operating profit of the year by 16 times. However, the trend declined to 3 times in 2007.

Arctic Paper Munkedals AB was relatively efficient in utilizing its assets. Here, we have used four ratios: accounts receivable turnover, accounts payable turnover, inventory turnover and fixed asset turnover. The result from this analysis showed that there was a decline in accounts receivable turnover by 25% and accounts
payable by 36%. While the latter is favourable, the accounts receivable turnover is unfavourable. The situation is due to different trade laws across the markets they export to, for example, Germany, Italy and Benelux. Most of the raw materials suppliers of Arctic Paper Munkedals are in Sweden and the standard payment days is 30 days while their customers outside Sweden pay for the good exported to them between 30-120 days. From the cash management point of view, Arctic Paper Munkedals AB need to borrow funds to settle to its suppliers before it receives funds from its customers. The inventory position of the company shows a decline during the period under review. The results show that the inventory turnover declined from over 7 times to about 6 times. This means that higher stock of inventory, especially raw materials and finished goods were held to combat fluctuating prices of raw materials and also to keep finished products ready available to customers on demand. The fixed asset turnover however improved and it was due to depreciation of property plant & equipment and increase in turnover.

The profitability position of the company was measured using return on assets, return on equity and other margin ratios. The result of the analysis shows that the return on asset declined from 10% in 2003 to 3% in 2007 (a loss was reported in 2006). The decline was due to lower profit margin which was due to high cost of goods sold and high operating expenses. Return on equity equally declined by about 50% over the five year period as a result of reduced earnings. The same trend was observed for the margin ratio. The earnings per share (EPS) which was SEK 0.39 in 2003 reduced to SEK 0.13 in 2007 (for example, share price including return from a share of SEK 100 was SEK 100.39 in 2003 while SEK 100.13 in 2007).

Using the Altman’s Z-Score model to test for bankruptcy of the Arctic Paper Munkedals AB, the result shows that the company falls on the ‘Grey’ zone which is 1.23 < Z < 2.9. This means that the company is safe for investment purposes and is not leading to bankruptcy, i.e. there are no going concern issues at the moment.
Arctic Paper has in place sound internal control system to prevent fraud and minimize risk of financial loss. Among others such include different approval limits and two signatories required on every cash outflow from the company. Besides, the accounting policies and procedures are being followed consistently. There is also an internal audit function at the group level that ensures management adheres to the set out policies and standard operating procedures. In addition, the company engages external auditors (Ernst & Young) at the group level to audit their accounting books three times a year. Concerning accidents, risk management and safety, the company has an office which is responsible for these areas.

In satisfying its customers the company has a quality oriented strategy which is its competitive advantage. Even though they are price leaders they strive to ensure that the customers get the value and quality paid for. Our results show that even though the company does not have a written policy on customer loyalty they handle their customers with utmost care and there is a reward scheme to retain loyal customers in the form of annual rebate. Since 85% of the company’s products are exported, damages in transportation can occur due to the volatile nature of paper. The sales and technical department handles customer’s complaints promptly, sometimes, visiting the customers to resolve their issues. Also, customers are usually impressed with their environmental-friendly production process.

Arctic Paper Munkedals have strategies to retain existing know-how and prepare for future quality improvements. The strategies to retain existing know-how include regular training both internal and external for staff to develop their capacity at all levels. On knowledge management and transfer among sister firms within the group it is very low as the machineries are different and know-how is machinery specific. Also, there are cultural hindrances. On human resources the low level turnover indicates that they have good packages to retain the employees. Performance management system is in place but there are no strict policies in place concerning this.

To prepare for future quality improvements, the management team briefed us that the company makes it a priority to seek and adopt new and innovative technology so
that it can continue to be the leading manufacturer of quality paper products. The competitive advantage they have is the flexibility of their machinery. They can run various products of different quality and colours on batches with minimum changes to the operating program. Finally, their foremost in research on how to make their product environmental-friendly, reduce waste and recycle products.

From our interview with the management team, we have found out that Arctic Paper Munkedals AB customer satisfaction, internal process and future learning and growth are aligned with the company’s mission statement. All the company’s employees at all levels understand and are aware of the company’s mission statement and are working as a team towards its fulfillment.

5.2 Recommendations:

In this section, we will give some practical recommendation based on our findings during our research.

With regards to the liquidity position of the company, during the 5 years we reviewed, the “average collection period” and “days payable outstanding,” indicated that while Arctic Paper pays their creditors quickly, they have granted longer credit days to their debtors. This indicates that funds have to be sourced from borrowings or reserves to pay creditors. Also, the risk of bad debts may be relatively higher.

We would like to advise the management to look into areas to reduce cost by managing the supply chain. If possible, stock levels can be reduced by working with the customers to understand their annual forecast stock requirements. Also, collaborative relationships should be developed and maintained with suppliers to prevent excessive price fluctuation and in order to enjoy longer credit days from suppliers. This will go a long way in enhancing the working capital management at Arctic Paper Munkedals AB. From Altman’s Z-Score, Arctic Paper Munkedals AB is safe for investment purposes and is not about to be bankrupt. It is advisable for the
management to sustain this trend and if possible work to improve its liquidity and profitability position.

With the transition from private to public company (after 2007), a separate audit and compensation committee may be needed in line with modern corporate governance practices.

In summary, we would recommend that the management take five ideas from this research:
- Understand their customers' annual forecast requirement to bring down the inventory level of finished goods.
- Seek out ways to lower operating expenses such as energy-saving technologies, etc.
- Develop collaborative relationship with suppliers to enjoy longer credit days.
- Corporate governance practices need to be considered since the company is now on the stock exchange.
- Exchange of employees within the group can be helpful to transfer knowledge and acquaintance to the operations of new machineries.

5.3 Further research

For further research, an analysis of EPS at the group level can be done. The EPS presented here is only a picture of a subsidiary (Arctic Paper Munkedals AB) and may not give a full picture of the whole group and may not be relevant to potential investors. An analysis of the Group's consolidated financial statements would be more meaningful and relevant to investors. In addition, further research can be done on post-recession period (from 2008 onwards) to understand the effect of recession on Arctic Paper Munkedals AB overall performance.
Concerning the business analysis excessive research was not done due to time constraint. In this regard, further research should focus on extending the questionnaire to customers, employees and other stakeholders in order to get a more information for the balanced scorecard model.
References:

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  Website: http://www.knowthis.com/principles-of-marketing-tutorials/data-collection-primary-research-methods/quantitative-data-surveys/ Assessed 6<sup>th</sup> April 2011

• www.knowthis.com (No date): "Quantitative Data Collection".
  Website: http://www.knowthis.com/principles-of-marketing-tutorials/data-collection-primary-research-methods/quantitative-data-surveys/ Assessed 6<sup>th</sup> April 2011
APPENDIX-A: INTERVIEW QUESTIONS/RESULTS

RESEARCH INTERVIEW QUESTIONS ON THE TOPIC

ANALYSIS OF THE BUSINESS AND FINANCIAL PERFORMANCE OF Arctic Paper Munkedals AB

General Questions:

1) What is the mission and vision of Arctic Paper Munkedals AB?

   As shown in section 4.3.1 of the thesis paper.

2) The mission and vision of Arctic Paper is clearly reflected in customer service, internal controls, financials and innovation and learning.

   □ 4 (Excellent)
   X 3 (Very Good)
   □ 2 (Good)
   □ 1 (Fair)
   □ 0 (Unacceptable)

Internal Control System:

1. Is the accounting policy and procedures being followed consistently?

   X YES
   □ NO

Interviewer’s ratings:

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<th>3</th>
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<tbody>
<tr>
<td>Arctic</td>
<td>X</td>
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2. Do the CEO and CFO vouch for veracity of the firm's published financial statements?

   X YES
   □ NO
Interviewer’s ratings:

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<tr>
<td>Arctic</td>
<td>X</td>
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</table>

3. Does Arctic Paper Munkedals AB have an internal audit function?

X YES

☐ NO

Interviewer’s ratings:

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<tr>
<td>Arctic</td>
<td>X</td>
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4. Does Arctic Paper Munkedals AB engage external auditors?

X YES

☐ NO

If Yes, how often? ...................................................

Interviewer’s ratings:

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5. Does the company apply audit recommendations before the next audit?

X YES

☐ NO

Interviewer’s ratings:

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<tr>
<td>Arctic</td>
<td>X</td>
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</table>
6. Does the corporate board have a separate audit and compensation committee made up of independent (outside) directors?

☐ YES
X NO

Interviewer’s ratings:

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<th>3</th>
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7. Does the company policy prohibit giving loans to corporate officers and directors?

☐ YES
X NO

Interviewer’s ratings:

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8. Does Arctic Paper Munkedals AB test their internal financial control against fraud?

X YES
☐ NO

Interviewer’s ratings:

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<td>X</td>
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9) Safety is a part of Arctic Paper’s operation.

☐ 4 (Excellent)
☐ 3 (Very Good)
X 2 (Good)
☐ 1 (Fair)
☐ 0 (Unacceptable)
**Customer Perspective**

1. Are there products in other industries that Arctic Paper Munkedals customers can buy in place of Arctic Paper products?
   - [X] YES
   - [ ] NO

   Interviewer’s ratings:
   
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   Arctic

2. Does Arctic Paper have unique capabilities within the organization that gives it various sorts of advantages over competitors?
   - [X] YES
   - [ ] NO

   Interviewer’s ratings:
   
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   Arctic

3. What efforts do Arctic Paper Munkedals employ to satisfy their customers?

   Interviewer’s ratings:
   
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   Arctic

4. How are customers’ complaints handled?

   Interviewer’s ratings:
   
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<td></td>
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</tbody>
</table>

   Arctic
5. Does Arctic Paper have a policy in place to reward loyal customers?

[ ] YES

[ ] NO

If Yes, how?

Interviewer's ratings:

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<tr>
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<td>Arctic</td>
<td></td>
<td></td>
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6. How are defective products handled?

Interviewer's ratings:

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<td>Arctic</td>
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<td>X</td>
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</tbody>
</table>

Innovation and Learning:

1. Arctic Paper Munkedals can be described as a learning organization.

[ ] 4 (Excellent)

[X] 3 (Very Good)

[ ] 2 (Good)

[ ] 1 (Fair)

[ ] 0 (Unacceptable)

2. Competitive advantage can be improved by a better understanding of the Technological environment.

[ ] 4 (Excellent)

[X] 3 (Very Good)
3. Human Resource policies are in place to recruit and retain high-quality employees.

4 (Excellent)

3 (Very Good)

2 (Good)

1 (Fair)

0 (Unacceptable)

4. What strategies do Arctic Paper Munkedals employ to build the capacity of its employees?

Interviewer's ratings:

<table>
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<th>2</th>
<th>1</th>
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<td>Arctic</td>
<td></td>
<td>X</td>
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</table>

5. What strategies does Arctic Paper Munkedals have in place for knowledge management and transfer?

Interviewer's ratings:

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<td>Arctic</td>
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</table>

6. How is employee performance measured?

Interviewer's ratings:

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APPENDIX-B: ARCTIC PAPER MUNKEDALS AB - INCOME & CASHFLOW STATEMENT

### INCOME STATEMENT, thousand

<table>
<thead>
<tr>
<th>Year</th>
<th>Net sales</th>
<th>Cost of goods sold</th>
<th>Gross Profit</th>
<th>Selling expenses</th>
<th>Administrative expenses</th>
<th>Other operating income</th>
<th>Other operating expenses</th>
<th>Operating profit</th>
<th>Interest income and similar items</th>
<th>Interest expenses and similar items</th>
<th>Income after financial items</th>
<th>Appropriations</th>
<th>Change in profit</th>
<th>Diff. b/n booked Acc. Dep. &amp; planned accum. dep</th>
<th>Profit before tax</th>
<th>Income tax</th>
<th>Net income</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>992 279.00</td>
<td>-835 318.00</td>
<td>156 961.00</td>
<td>-45 999.00</td>
<td>-45 603.00</td>
<td>3 563.00</td>
<td>-32 774.00</td>
<td>65 359.00</td>
<td>982.00</td>
<td>-3 864.00</td>
<td>62 477.00</td>
<td>9.750</td>
<td>22 860</td>
<td>11 430</td>
<td>75 798.00</td>
<td>-21 580</td>
<td>54 189</td>
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<tr>
<td>2004</td>
<td>957 339.00</td>
<td>-819 426.00</td>
<td>137 913.00</td>
<td>-42 666.00</td>
<td>-48 104.00</td>
<td>5 711.00</td>
<td>-36 363.00</td>
<td>17 932.00</td>
<td>5 711.00</td>
<td>-93.00</td>
<td>21 280.00</td>
<td>55 084</td>
<td>39 079</td>
<td>11 430</td>
<td>-15 145.00</td>
<td>17 335</td>
<td>39 939</td>
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<td>963 662.00</td>
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<td>7 298.00</td>
<td>-61 655</td>
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<td>-11 430</td>
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<td>2006</td>
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<td>-32 440.00</td>
<td>-49 993.00</td>
<td>5 839.00</td>
<td>-16 233.00</td>
<td>12 460.00</td>
<td>7 576.00</td>
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<td>-62 034.00</td>
<td>-81 655</td>
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<td>-11 430</td>
<td>-8 720.00</td>
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<td>2007</td>
<td>1 129 735.00</td>
<td>-1 027 391.00</td>
<td>102 344.00</td>
<td>-40 032.00</td>
<td>-45 932.00</td>
<td>5 739.00</td>
<td>-9 659.00</td>
<td>12 460.00</td>
<td>4 771.00</td>
<td>-4 015.00</td>
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<td>-11 430</td>
<td>27 507.00</td>
<td>18 787</td>
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</table>

### CASH FLOW STATEMENT, thousand

<table>
<thead>
<tr>
<th>Year</th>
<th>Source of funds</th>
<th>Application of funds</th>
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<tbody>
<tr>
<td>2003</td>
<td>Profit before appropriations and taxes</td>
<td>Investment in tangible fixed assets</td>
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<tr>
<td></td>
<td>62 477.00</td>
<td>-30 940.00</td>
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<tr>
<td></td>
<td>Depreciation and amortization results</td>
<td>Investing in stocks and shares</td>
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<tr>
<td></td>
<td>53 037.00</td>
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<tr>
<td></td>
<td>Capital gain / loss sale of fixed assets</td>
<td>Change in long-term liabilities</td>
</tr>
<tr>
<td></td>
<td>-96.00</td>
<td>-325.00</td>
</tr>
<tr>
<td></td>
<td>Taxes</td>
<td>Change in current receivables</td>
</tr>
<tr>
<td></td>
<td>-21 580.00</td>
<td>0.00</td>
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<tr>
<td></td>
<td>93 841.00</td>
<td>0.00</td>
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<tr>
<td></td>
<td>Change in working capital excluding cash and cash equivalents</td>
<td>Total funds</td>
</tr>
<tr>
<td></td>
<td>3 872.00</td>
<td>59 324.00</td>
</tr>
<tr>
<td></td>
<td>Change in inventories</td>
<td>164 612.00</td>
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<tr>
<td></td>
<td>-5 435.00</td>
<td>16 103.00</td>
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<td></td>
<td>Changes in receivables</td>
<td>164 612.00</td>
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<tr>
<td></td>
<td>-1 260.00</td>
<td>16 103.00</td>
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<td>Changes in current liabilities</td>
<td>164 612.00</td>
</tr>
<tr>
<td></td>
<td>-30 302.00</td>
<td>16 103.00</td>
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<td>-49 206.00</td>
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<td>16 103.00</td>
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<td></td>
<td>48 064.00</td>
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<td>Sale of fixed assets</td>
<td>Group contribution</td>
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<td>0.00</td>
<td>-27 360.00</td>
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<td></td>
<td>1 221.00</td>
<td>-54 470.00</td>
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<td>-27 360.00</td>
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<td>1 050.00</td>
<td>144.00</td>
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<td>1 221.00</td>
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<tr>
<td></td>
<td>Total funds</td>
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<tr>
<td></td>
<td>59 324.00</td>
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<td></td>
<td>16 103.00</td>
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<td></td>
<td>16 103.00</td>
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<td>44 011.00</td>
<td>85 753</td>
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<tr>
<td></td>
<td>43 578.00</td>
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### Annexes

Arctic Paper Munkedals AB
## APPENDIX-C: ARCTIC PAPER MUNKEDALS AB – BALANCE SHEET

### Arctic Paper Munkedals AB

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
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</thead>
<tbody>
<tr>
<td><strong>BALANCE SHEET, thousand</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>FIXED ASSETS</strong></td>
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</tr>
<tr>
<td><strong>Tangible assets</strong></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Land and buildings</td>
<td>74,992.00</td>
<td>74,280.00</td>
<td>71,084.00</td>
<td>68,462.00</td>
<td>83,234.00</td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>213,792.00</td>
<td>181,936.00</td>
<td>204,666.00</td>
<td>171,958.00</td>
<td>138,144.00</td>
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<tr>
<td>Construction in progress</td>
<td>2,494.00</td>
<td>38,437.00</td>
<td>7,151.00</td>
<td>8,765.00</td>
<td>8,668.00</td>
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<tr>
<td><strong>Total</strong></td>
<td>291,178.00</td>
<td>252,634.00</td>
<td>282,991.00</td>
<td>245,238.00</td>
<td>210,048.00</td>
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<td><strong>FINANCIAL ASSETS</strong></td>
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<td>Restricted cash</td>
<td>9,000.00</td>
<td>18,000.00</td>
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<tr>
<td><strong>Total cash</strong></td>
<td>291,190.00</td>
<td>292,646.00</td>
<td>282,913.00</td>
<td>259,926.00</td>
<td>244,186.00</td>
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<td><strong>CURRENT LIABILITIES</strong></td>
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</tr>
<tr>
<td>Inventories etc.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw materials and consumables</td>
<td>44,044.00</td>
<td>50,155.00</td>
<td>50,889.00</td>
<td>65,931.00</td>
<td>52,949.00</td>
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<td>Work in progress</td>
<td>3,344.00</td>
<td>2,402.00</td>
<td>2,247.00</td>
<td>4,509.00</td>
<td>7,567.00</td>
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<td>Finished goods</td>
<td>69,709.00</td>
<td>70,071.00</td>
<td>82,837.00</td>
<td>98,397.00</td>
<td>129,238.00</td>
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<tr>
<td>Accumulated depreciation</td>
<td>116,093.00</td>
<td>122,628.00</td>
<td>135,973.00</td>
<td>169,677.00</td>
<td>166,748.00</td>
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<tr>
<td><strong>Total current liabilities</strong></td>
<td>268,717.00</td>
<td>314,099.00</td>
<td>329,292.00</td>
<td>375,175.00</td>
<td>394,743.00</td>
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<tr>
<td><strong>TOTAL CURRENT LIABILITIES</strong></td>
<td>259,907.00</td>
<td>606,745.00</td>
<td>612,205.00</td>
<td>635,101.00</td>
<td>638,929.00</td>
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<tr>
<td><strong>EQUITY AND LIABILITIES</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Retained earnings</td>
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<td>70,000.00</td>
<td>70,000.00</td>
<td>70,000.00</td>
<td>70,000.00</td>
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<tr>
<td><strong>Total equity</strong></td>
<td>70,000.00</td>
<td>70,000.00</td>
<td>70,000.00</td>
<td>70,000.00</td>
<td>70,000.00</td>
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<tr>
<td>Liabilities to credit institutions</td>
<td>62,874.00</td>
<td>22,407.00</td>
<td>43,492.00</td>
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<tr>
<td><strong>Current liabilities</strong></td>
<td>65,772.00</td>
<td>25,087.00</td>
<td>43,988.00</td>
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<td>Accounts payable</td>
<td>74,457.00</td>
<td>76,145.00</td>
<td>72,510.00</td>
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<td><strong>Total liabilities</strong></td>
<td>188,927.00</td>
<td>266,961.00</td>
<td>301,842.00</td>
<td>367,375.00</td>
<td>364,028.00</td>
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<td><strong>TOTAL EQUITY AND LIABILITIES</strong></td>
<td>359,907.00</td>
<td>606,745.00</td>
<td>612,205.00</td>
<td>635,101.00</td>
<td>665,929.00</td>
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<td><strong>PLEDGED ASSETS AND CONTINGENT LIABILITIES</strong></td>
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<td>Pledged</td>
<td>200,000.00</td>
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70