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EVALUATING THE COMPETITIVE POSITION OF AN INDUSTRIAL FIRM

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ABSTRACT

The purpose of this paper is to present a methodology using critical success factors as a way to determine the credit risk level of long-term loans. The methodology focuses on industrial firms and the emphasis is on quality analysis. A qualitative factors-based approach to credit analysis provides a better understanding of the company's strengths and weaknesses in order to indicate its competitive position.

The proposed methodology takes for granted that the factors considered crucial to analyze a firm change over the life cycle of the company's industrial sector. Generally speaking, if a firm operates in an industry which is in the growth stage, the critical success factors used to analyze its competitiveness must be different than the factors used to investigate the competitiveness of a company which takes part in a declining industry.

Section 1, after the Introduction, summarizes the general principles of industrial competitiveness, based on a theoretical background. The studies of Porter are highlighted.

Section 2 shows the credit analysis scope, examining the differences and the usefulness of quantitative and qualitative analysis. The section includes comments about the advantages of qualitative analysis in identifying sources of competitiveness such as management and quality improvement.

Section 3 covers life cycle models, emphasizing that the stage of the industry, in terms of a life cycle framework, affects economic performance. The section describes the traditional life cycle model, which is divided into four stages: Introduction, Growth, Maturity and Decline. The completely different characteristics of each stage are given.

Section 4 is devoted to explaining the use of critical success factors as a vehicle for designing a methodology of performance measurement and analysis. The section points out the convenience of using critical success factors to focus on information which is really pertinent and to create a methodology that is easy to implement without requiring a collection of huge statistical data on the company.

Section 5 presents an overview of the Brazilian Development Bank (BNDES). The bank is the federal government's chief instrument for implementation of its long-term investment policy. Therefore, operating with long-term financial instruments, BNDES needs to evaluate a company's chance for long-term operation. That requires the use of qualitative factors.

Section 6 is dedicated to introducing a methodology to evaluate the companies' competitiveness, as well as to stress the importance of each selected critical success factor. The identification procedure of the critical success factors is explained. There are separate groups of factors for each industry's life cycle stage, which are detailed at the end.

The methodology considers that an evaluation of management's capabilities is the most critical element of a thorough credit analysis. It is stressed that the credit analyst should evaluate the management before examining any other factor and before analyzing the financial statements. If the management is not good at a minimum, the loan should not be approved.

Finally, section 7 presents conclusions based on the suggested methodology.

INTRODUCTION

Today, all credit analysts recognize the importance of understanding the industries and the competitors. Industry is the competitive arena in which a firm operates. Competitors are defined as firms operating in the same industry, offering similar products, and targeting similar customers.

Global competition is a reality. Whether the firm likes it or not, it is competing with the rest of the world.

Globalization has increased the industries' exposure to competition, establishing a new pattern for evaluation of the companies' competitiveness, since the globalization era is characterized by intangibles, such as quality improvement, production flexibility and organizational behavior. Moreover, in this day, it is more and more important to evaluate the risks resulting from factors outside the company operations, as supply of raw materials, regulatory environment and labor relations.

Traditional credit analysis relies on financial measures extracted from the companies' financial statements, such as balance sheets and cash flows. Intangibles cannot be found in financial statements because they are difficult to quantify, but that does not make them any less important to an organization.

Especially long-term loans require a dynamic view of the main economic issues. As financial measures bear little relation to company ability in sustaining competitive advantages in the future, bringing qualitative factors into the credit analysis is absolutely necessary. Qualitative credit analysis may go a long way toward preventing a future problem loan.

Financial measures represent outcomes, not causes. Good management, technological leadership, high quality products and other factors are the fundamental drivers of financial success. One can say that upstream non-financial factors determine downstream financial outcomes.

In 1992, Kaplan and Norton (7) introduced a concept called the balance scorecard. A balance scorecard is a method of measuring and managing business performance giving a balanced view of financial and operational perspectives to accelerate the management process. According to the authors, "it supplements traditional financial measures with criteria that measure performance from three additional perspectives - those of customers, internal business processes, and learning and growth."

Many companies are using a scorecard, especially to align its management processes and focus the entire organization on implementing long-term strategy. The concept of a balance scorecard also confirms that non-financial factors are key ingredients of a new approach to performance management.

In fact, the key is to balance quantitative and qualitative factors. The polarization of qualitative and quantitative analysis is counterproductive, whereas an integrated approach is better. It does not make sense to discuss which is more scientific. One knows that investors consider both quantitative and qualitative corporate information in formulating investment decisions.

1. THE INDUSTRIAL COMPETITIVENESS

Nowadays, enterprises are under constant pressure to improve productivity, quality and speed, trying to do certain things better than their competitors. The goal is to produce the right version of the product and to reach the right consumers at the right time.

Comparative advantages are reflected in productivity and consequently in profitability. The firm that is able to develop and preserve capabilities that provide superior performance and sustainable profitability is considered competitive. In other words, the degree of success of an industrial firm is equivalent to its competitiveness level.

Competitive analysis is not a new concept. However, the interest in competitive analysis has increased too much because of the fierce competition both domestic and foreign markets face. In today's environment of global competition, to investigate a firm competitiveness level it is required to understand who its competitors are, how they choose to compete, how they excel, and why they fail.

Lately, much has been written about competition and corporate performance, but undoubtedly the most interesting approach to industrial organization economics has been created by Michael Porter. In Competitive Advantage (17), Porter argues that the intensity of industry competition is governed by five basic forces:

- . possibility of new entrants in the market;
- . threat of substitute products or services;
- . characteristics of suppliers and their bargaining power;
- . characteristics of buyers and their bargaining power;
- . intensity of rivalry among existing firms.

In addition, it would be necessary to investigate the nature of government interventions.

Generally, the studies link competitiveness with strategy. In fact, the essence of formulating strategies is to improve, directly or indirectly, the competitive performance of the company. Therein, Porter asserts that the combined strength of the five forces determines the profit potential of an industry and consequently commands strategy formulation.

In Competitive Strategy (16), Porter introduced the concept of generic competitive strategies. According to Porter, there are two basic strategies: cost leadership and differentiation. Cost leadership strategy would suit to companies focused on low prices, whereas differentiation strategy would work for companies focused on quality, innovation and customized services.

However, cost leadership does not exempt the firm from worrying about quality, time of delivery and technological improvements. On the other hand, differentiation does not mean that the company is not engaged in efforts to reduce costs and raise productivity. In an environment of global competition, strategies must transcend the borders of nations and markets.

A firm should exploit its capabilities to create competitive advantages. It should accurately assess the competition in its industry. A superior competitive position is sustainable over the long run only if the firm invests in a set of resources, assets and other capabilities that support its competitiveness.

So, competitive advantages derive from enterprise's strategic investments. Long-run above-average profits are only possible when a firm engages in activities that are difficult to imitate, where the value of the activities can be appropriated by the firm, and where there are limited substitutes.

The matter is how to define and measure the firm's level of competitiveness. Without such measurement, it is difficult to assess the company's competitive performance. A central theme is that opportunities to acquire and sustain favorable positions change as an industry evolves.

2. CREDIT ANALYSIS

Character, collateral, capital, conditions and capacity are commonly referred to as the five "Cs" of credit. Traditional definitions of those factors point out mainly the legal and formal aspects of credit analysis. If credit

analysis is imagined as an understanding of the enterprise's strengths and weaknesses, considering the dynamic environment where it competes, one can review traditional concepts. Following are comments about the relevance of each "C" and a different approach for the elements' conditions and capacity.

Character is relatively easy to investigate. A survey of transactions carried out by the company provides information about past credit experiences. The managers' and major shareholders' reputations in the market especially against competitors, and the firm's relationships with clients and suppliers are useful information sources.

The search to investigate the managers' and major shareholders' characters should embrace not only their judicial situation but also their honor. In other words, one must research not only the portion of a person's character which gives him a sense of respecting the law but also the portion which causes him to perform his tasks with honesty and ethics. In this sense, it is very important not to limit the investigation to the traditional information sources, such as public notary's office and banks.

If there is any reason to question the borrower's character, no further analysis is needed, and the credit should be denied.

Collateral only means commitment. It extends the failure effects, encompassing firms and shareholders' properties. According to McNaughton (8), "good credit management does not consider collateral to be a substitute for creditworthiness, which is the existence of cash flow adequate to repay the loan." In this view, collateral merely provides an additional margin of protection for a loan that is already acceptable; it is often referred to as "a second way out."

One can suppose that collateral makes the borrower more afraid not to repay the loan, prompting his punctuality. However, the borrower knows that the bank will probably not seize the collateral without trying to negotiate an agreement. The forced liquidation of an asset usually erodes its value significantly. On the other hand, if the firm does not succeed, the value of collateral will probably fall.

Capital is related to a company's financial strength. In other words, it reveals if the firm's financial structure and the business results are adequate to support loan service and investments that the enterprise is responsible for. The loans must be repaid without harming the business or consuming its capital base. The bank usually is a limited-scope partner.

Nevertheless, the most important "Cs" are conditions and capacity. They correspond respectively to the external and internal factors which affect the borrower's operations. Nowadays one can add another "C" by considering competition. According to Compton (4), competition "includes the vulnerability of a company to others whose new, enhanced or cheaper products may reduce its share of the market."

The framework introduced by Porter (17) is extremely useful for studying conditions and understanding the nature of competition. However, credit analysis should also expand upon the firm level. Moreover, credit analysis requires a formal instrument for measuring the risk originating from the most important "Cs" whereas the decision to lend the money or not has to be made.

Credit analysis is, to a great extent, a way to evaluate the risks inherent in loans. Credit analysis is risk analysis. Therefore, in evaluating credit risk it is important to understand the relationship among financial risk, business risk and corporate risk.

Financial risk is related to enterprise's financial situation and perspectives. It concerns the "C" that represents capital. Business risk is linked to the industry where the firm works. It derives from the "C" which synthesizes conditions and from the previous "C" which denotes how the company behaves before its competitors. Corporate risk is pertinent to the company's structure and activities. It regards the "C" which depicts capacity.

Business risk analysis requires an overview of a company's operating environment, focusing on the nature of the industry, industrial prospects, patterns of industrial cycles, regulatory restrictions and competitive factors that

affect the industry. Otherwise, corporate risk analysis involves corporate strategies, management structures and policies, strength of support from shareholders, subsidiaries and affiliates, market position and operating efficiency.

Quantitative analysis applies to financial risk. Qualitative analysis applies to business and corporate risks. They require respectively the so-called hard and soft models.

Unchallenged, financial analysis is important. Many companies have been placed in a vulnerable position because of the high level of debt in general and of short-term debt in particular.

Quantitative analysis involves the use of the basic financial statements that summarize a firm's economic transactions (the balance sheet, the income statement and the statement of cash flows) and the appraisal of financial ratios to evaluate the company's financial health. The analysis encompasses capital structure, profitability, debt service and liquidity. It also includes result estimations that reveal trends.

It is essential to realize that past performance is not always the best indicator of future profitability. Predicting future sales from the trends of past sales, for example, may be unreliable if a new competitor enters the market. Frequently, illusions based on a company's past successes have been the worst enemy for credit analysts.

Computers, and especially software, incorporating accountancy techniques have rendered trivial computing financial ratios. Dozen of financial statement analysis tools are available at very low prices.

Nevertheless, the ratios by themselves are not useful. The most important and relevant task is to interpret the ratios and to try to arrive at a conclusion about the risk inherent to the company. Considering the business context, the analyst should read the firm's financial statements and draw economic conclusions.

Financial analysis should embrace evaluation to the degree in which a firm's accounting policies capture the underlying business reality and assess a firm's earning quality. Thus, there is a great need to develop better procedures for collecting, selecting and interpreting data.

In quantitative analysis, cash flow is king. An emphasis on the cash flow of the firm reflects the importance of understanding why the loan is necessary and how the borrower will repay the debt. Cash flow should be examined under several economic scenarios including the most pessimistic, optimistic and realistic projections. The availability of working capital is also a crucial point to be analyzed.

There is a tendency to believe that if something cannot be quantified, it does not exist. However, due to business and corporate risks, qualitative analysis is just as important to the final credit decision as quantitative financial analysis.

It is not easy to define and weigh the critical elements that cause business and corporate risks. One should create a method to evaluate those risks in a systematic way. If this is not done, each analyst would estimate the risks according to his own parameters.

Banks have tended to focus most of their attention on enterprises' financial indicators when assessing credit risk. Nevertheless, many articles have been written ratifying that modern credit analysis has two sides: the understanding of a firm's competitive position and the cash flow analysis.

Larry White (20), quoting Roger Hale, stresses: "The purpose of the former is to understand the comparative market position of the firm, the pressures of competition, the risk and reward structure of the industry, the barriers to entry, the degree of technological change and so on. The purpose of cash flow analysis, on the other hand, is to disentangle from financial statements based on historical accounting principles the actual movements of cash in terms of its sources and uses.

Once these past sources and uses have been examined, a reasonable estimate can be made as to future sources and uses, and this can be combined with the understanding of the borrower already gained to permit a judgment

to be made as to the borrower's credit-worthiness."

Nowadays, one can argue that competitiveness analysis has multiple approaches. In fact, analysis methods have evolved, as follows:

	TRADITIONAL	NON TRADITIONAL	
EX-ANTE	Financial Investment Analysis	Competition Strategies Analysis	
EX-POST	Costs and Profits Indicators	Multiple Performance Measurements	

Source: Indicadores do Desempenho Competitivo ao Nível da Firma - Textos Para Discussão

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Moody's Investors Service, a widely known rating agency, considers that "credit rating is by nature subjective, because it involves a look into the future." Moody's uses a multidisciplinary approach to risk analysis, "which aims to bring an understanding of all relevant risk factors and viewpoints to every rating analysis." Moody's relies on the judgment of a diverse group of credit risk professionals to weigh those factors in light of a variety of plausible scenarios for the issuer and thus comes to a conclusion on what the rating should be.

According to surveys of rating agencies and empirical studies, weighted importance of quantitative factors, covenants and qualitative factors used to rate bond is 50%, 25% and 25% respectively. Covenants represent things that firm must do or something that it cannot do.

3. INDUSTRY LIFE CYCLES

One can say that an industry has a life span, a beginning and an ending. So, a life cycle model should be utilized for explain the rise and decline of industries. A traditional life cycle breaks into four stages: Introduction, Growth, Maturity and Decline.

Using the Meyer and Merrel (9) analogy, one can say that industries, like people, "begin with a traumatic entrance into the world, small and vulnerable, and proceed through a period of growth wherein they establish their identity and character; finally, they arrive at a period of maturity. They may then drift off into senility, marked perhaps by hardening of the markets".

At each stage, industry structure is affected by a wide range of influences, including the macroeconomic environment, technology, consumer tastes and government policy.

Therefore, each life cycle stage has completely different characteristics. The table below shows these characteristics.

TABLE 1 - CHARACTERISTICS OF INDUSTRY LIFE CYCLE STAGES

EFFECTS AND RESPONSES	INTRODUCTION	GROWTH	MATURITY	DECLINE	
DEMAND Small.		Going up.	Steady.	Going down.	
PRODUCTS	Exactly alike or very similar.	Differentiation process starts.	Differentiated.	Exactly alike or very similar.	
COMPETITION	None competitor of importance.			Fewer rivals due to shake-out of weak product offerings.	
OVERALL STRATEGY	Market establishment; focus on technology.	Market penetration; focus on finding new markets.	Defense of market/product position.	Prepare to remove product from market.	

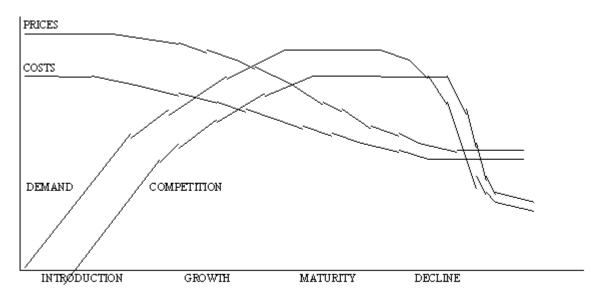
		Trend in concentrating on segment that can be dominated.	Hold share by improving quality, increasing sales effort, and advertising.	Achieve and secure any possible benefits. Maximize cash flow by reducing investment, advertising, development.	
PROFITS	Negligible because of high production, development, and marketing costs.	Reach peak levels as a result of high prices, growing demand, and scale economies.	Increasing competition will cut into margins and ultimately reduce profits.	Declining volume pushes costs up to levels that eliminate profits entirely.	
PRICES	Set higher than in later stages because there is no competition and no scale economies.	Leader begins to reduce prices to discourage new competitors. New players agree in "buying" market-share.	Prices will decline and then stabilize as more substitute products become available and product differentiation diminishes.	Further decline in prices.	
MARKETING AND ADVERTISING	Advertising and marketing expenditures should be high relative to sales compared with mature products.	Expenditures remain high relative to expenditure rates of established products, but will start to decline in relation to sales because of rapid sales volume growth.	Marketing and advertising expenditures to sales ratio will decline substantially because of reduced margins and demand	Further decline in expenditures.	
DISTRIBUTION To select customers who will buy and can refer product to others.		Intensify efforts to gain share. More broad- based application.	Intensify efforts to defend share.	Eliminate unprofitable efforts.	

Sources: Short, Tracy K. - Industrial Product Life Cycle Analysis - Planning Review - November/1985

Nasser, José Monir - Ciclo de Vida da Indústria e Gerenciamento Estratégico - Working Paper nº 1 - AVIA INTERNACIONAL - 1993

Figure 1 shows the behavior of demand, competition, profits, prices and costs according to the evolution of the stages in the life cycle.

FIGURE 1 - EVOLUTION OF THE STAGES IN THE LIFE CYCLE



Source: Nasser, José Monir - Ciclo de Vida da Indústria e Gerenciamento Estratégico - Working Paper nº 1 - AVIA INTERNACIONAL - 1993

In spite of its helpfulness for understanding the dynamics of industries, it is important to stress that the four-stage model is highly simplified. The length of the cycle varies greatly from industry to industry as does the length of each individual stage. Diversified companies compete in different industries, sometimes at a different

stage of development and with a different life expectancy. So, a diversified firm's performance in one industry can affect its performance in another. This makes the analysis much more complex.

4. CRITICAL SUCCESS FACTORS

Along the life cycle, industries evolve for better or worse. The stage of the industry affects companies' performance, since it offers more or fewer opportunities for sustained profitability. However, a firm in a very attractive industry may still perform poorly if it has chosen the wrong strategy. Conversely, a firm in a poor industry may be profitable, if it formulates the right strategy.

The firm's ability to nullify the threats and capitalize on the opportunities affecting its industry will be a major determinant of its competitive performance. In fact, competitiveness rests on different factors. From a credit risk viewpoint, the key is to identify which critical factors determine the success of the business.

Critical success factors (CSFs) represent a set of measures focusing on the aspects of organizational performance that are most critical for the current and future success of the organization. The definition reflects the notion that some aspects are more important than others.

CSFs can be events, conditions, circumstances or activities, which act as non-financial drivers. They are the strengths a firm needs to succeed in the future. According to Jenster (6), they are "the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organization." In accordance with Jenster (6) these factors must also result from:

- "a) the outcome of external events when there is risk exposure;
- b) the achievements of one or more individuals, such as members of a particular engineering project; or
- c) the internal operating process (for example, attaining better quality or decreasing the default rate)."

So, through CSFs one can see if the borrower is in a position to maintain long-term health and prosperity. In other words, one can evaluate credit risk. Moreover, identifying the factors that are essential to the organization's success helps credit analysts focus on information that is really pertinent, minimizing time spent.

CSFs have also been used to monitor and evaluate projects. The Operations Evaluation Department of the World Bank has developed indicators to measure both sector and project performance. In conformity to that Department, indicators have implications beyond industry and projects - they may be the key to better portfolio management.

Incorporating qualitative factors into the credit analysis process is not an unfeasible task. The key issue is how to identify and measure the CSFs that really set the most successful firms apart from their competitors.

Different dimensions are required to show the company's performance, which is affected by changes at three levels: within a firm, among competing firms, and among competing networks of firms. Hence, one should think on three levels: micro (firm), macro (industry) and mega (environment).

Credit analysts usually deal with specific industrial sectors. As time goes by, they form a general view of the industries and of the companies' strong and weak points. So, experience is helpful for identifying the CSFs.

The selection of CSFs is subjective and intuitive in nature. But it involves some form of "constructive" approach. The factors must focus attention on critical performance issues, that is, the CSFs must be indeed "critical". Having too many factors may be worse than having none at all, by confusing the issues.

The most difficult work is measuring the CSFs. When factors correspond to financial accounts or production data, one can express them by numbers. In that case, CSFs could be a combination of several types of measurements. Nevertheless, there are CSFs that reflect intangibles such as political conditions. In those cases, inputing a qualitative rate to CSF is the logical decision.

Today, in most organizations, there is too much data and not enough information. As often as not, there are no links among objectives, measurement and performance, hampering the appraisal of the CSFs.

Some propositions about the importance of measurement are very common among managers, as follows:

"If you cannot measure it you cannot manage it."

"What gets measured gets done."

"You need to know the score to win."

As a matter of fact, in examining the enterprise's performance, you need to rationalize your opinion. If you do not express your opinion through objective indicators, you will not be able to uphold the decision-making about the credit.

5. THE ROLE PLAYED BY BNDES

BNDES - the Brazilian Development Bank, is the largest source of loan and equity financing for private sector projects in Brazil. BNDES aims at contributing to successful modernization and internationalization of the Brazilian economy by financing industrial restructuring , foreign trade and efforts to boost economic competitiveness.

BNDES makes long-term loans, which are loans with a term of more than five years, for a new plant, equipment or an acquisition. It would be easier to analyze competitiveness at the industry level, however, BNDES makes loans to individual companies, not to industries as a whole. So, BNDES's operational activities require analysis at the firm level. Thus, it is necessary to set up a framework based on competitiveness factors to measure the risk level of each firm.

BNDES's analysis procedures require several steps, including cash flow analysis and qualitative analysis. Repayment is supposed be made from cash in excess of operating expenses. As the repayment has to be made over long periods of time, BNDES should work with a long-term view of company performance.

The quantitative analysis follows the traditional pattern. The enterprise evolution is examined by taking financial statements of the last three years, as a basis. On the other hand, the credit analyst projects the company statements for the next five or ten years. By matching balance sheet data to statement of income and cash flow figures, several indicators are calculated.

The knowledge of the industry where the company operates is crucial, especially because of the changing nature of many dynamic sectors. In fact, BNDES's loans attract a very diversified demand, coming from all economic sectors. BNDES has to deal with differences among industries and differences among firms within industries. The Brazilian economy embraces not only world-class companies, quite able to compete in today's environment of globalization, but also regional companies which survive based on political pressures, completely unable to compete without protectionism.

The diversity of enterprises applying to BNDES's loans requires a rating scale which puts very strong and very weak points in relief. That makes quite important to know the critical success factors which determine the company chance for long-term operation.

BNDES has an ongoing effort to reduce the time spent to make its analysis. Therefore, a methodology which is easy to implement, which does not require a huge collection of statistical data on the company but at the same time contains the main indicators for measuring performance would be an useful tool to operational staff for evaluation and monitoring. Then, menus of critical success factors for each stage of the industries life cycle would seem to be the right way.

As BNDES' experience shows that poor management is the main reason of corporate failure and bankruptcy, no matter which the adopted methodology, examination of management competencies must have a distinct role.

6. THE METHODOLOGY

6.1 Basic Principles

The methodology consists of a structured set of factors that are supposed to influence a company's performance. As recommended in section 4, the factors are divided into three levels: environment, industry and firm.

For each stage of the life cycle, aggregated and specific factors are suggested. Specific factors correspond to a split of an aggregated factor. For instance, quality of products is an aggregated factor, while design, reliability and availability are specific factors that compose that aggregated factor.

Specific factors keep a relationship among them, without being redundant. Whenever it is possible, one must include specific factors in the group of CSFs in order to emphasize their influence and clarify the reasons that make them important.

If it is hard to identify the specific factors that compose an aggregated factor, possibly this factor should not be judged as a CSF. The principle is: if you think that something is very important but you do not know why, maybe it is not so important.

At the environmental level, **macroeconomic conditions, political conditions and infrastructure** are considered the most significant aggregated factors. For evaluating those factors, the credit analyst should understand the economic and political environment within which business decisions are made. The analyst must keep well-informed about recent government decisions and should be familiar with government policies to be able to estimate future trends.

In practice, the credit analyst must interpret the macroeconomic and political scenarios and observe whether conditions help or harm the company. For instance, an increase of the exchange rate will help industries devoted to exports and will harm industries which depend on imports.

At the industry level, **fluctuations, competition, suppliers and clients** are supposed to be the most important aspects. For understanding the industry's behavior and its positive and negative impacts on the firm's performance, the credit analyst should accumulate a deep knowledge about market forces. Good ways to start that process are to read specialized magazines, to contact Chambers of Commerce and Trade, and to participate in conferences and seminars.

Interviews with the main suppliers and clients of the enterprise which is being analyzed is also crucial. During the interviews, it is very important to gather information about the existing and future relationships between them. Frequently, those companies will argue ethical and strategic reasons not to reveal details. Hence, the credit analyst should convince the speaker to do it, making clear that the firm's success will be positive for all companies which belong to the same industrial chain.

At the firm level, the group of aggregated factors is naturally wider. This paper proposes the following: **costs**, **technology**, **quality of process**, **flexibility**, **quality of products**, **distribution**, **innovation**, **marketing**, **human resources and working atmosphere**.

A lot of helpful data for evaluating those factors are usually available in the company. If not, the necessity of explaining the situation to the lender will force the company to improve its information systems, which will certainly be an opportune decision. Visits to the company's headquarters and factories are fundamental, since reports and even photographs do not show intangible factors.

Annex 1 presents the selected aggregated and specific factors of each category: environment, industry and firm levels.

Macroeconomic conditions, political conditions and infrastructure affect performance of all firms. Fiscal and monetary policies, as well as political decisions regarding trade and costs derived from infrastructure network

can enable a company to make high profits or go bankrupt. So, the methodology presumes that macroeconomic conditions, political conditions and infrastructure should be included in all groups of factors, independently of the industry's stage.

Likewise, CSFs selected at the industry level should always be investigated by the credit analyst. The level of a firm's competitiveness must be evaluated according to the competitive context within which the firm is operating. Competitive position determines the firm's long-run performance against the industry average.

Concerning CSFs selected at the firm level, the methodology assumes that their importance shifts over time with the industry life cycle. In other words, some factors that are critical at one life stage cycle change from those considered critical at other stages. Consequently, the groups of factors at the firm level proposed for each stage will be unlike each other, as detailed in section 6.3.

Once the factors were defined it was necessary to decide how to measure them. As discussed in section 4, some factors can be expressed by numbers while others require qualitative indicators.

Necessarily, the credit analyst will handle a lot of figures before concluding if a company's performance and perspectives are good or not. At the firm level, no matter which the CSF, the credit analyst should exploit the company's reports, trying to obtain objective data. Often, data sent by the company needs to be submitted to statistical methods to become useful.

Taking into consideration that the purpose of credit analysis is always to conceive an opinion about a company's situation and future, final measurement to reveal risk represented by the company must be qualitative. If that final measurement is derived from the CSFs, one should input a qualitative rate to each factor, after examining the figures.

For CSFs at the environment and industry levels, five rates are suggested: **very favorable, favorable, indifferent, adverse and very adverse**. For CSFs at the firm level, five rates are also proposed: **excellent, good, fair, poor and very poor**. The intention is to create options to emphasize the best and the worst situations.

In analyzing CSFs and converting obtained information into a qualitative rate, the credit analyst should compare the company's figures with those from competitors. Therefore, it is pivotal to have not only general information about the industry's trends but also specific data concerning main firms which take part in the industry.

Afterwards, the following step was to weigh the significance of each factor at each stage, since some factors are truly meaningful while others are less relevant. Indeed, for CSFs at the environment and industry levels, there is no apparent reason to assign different grades to each factor. Nevertheless, for CSFs at the firm level, a grade ranging from 1% (least important) to 20% (most important) is recommended, so that the total grade adds up to 100%.

If one assigns a score to each rate, like 1, 2, 3, 4 and 5 to excellent, good, fair, poor and very poor, respectively, and multiplies these scores by the corresponding grades, one can calculate a weighted average score that would represent the risk measurement at the firm level.

At the environment and industry levels, if there are more factors rated as adverse and very adverse than factors rated as favorable and very favorable, rigid covenants should be included into the loan's terms. At the firm level, if the weighted average score is lower than 3, the loan should be denied.

6.2 The importance of management

In today's competitive environment, characterized by rapidly changing technologies, increasingly globalized markets, and drastically re-engineered organizational forms, traditional management practices based on "management control" are increasingly ineffective. Management systems have to be effective at creating strategies to support corporate priorities and capture competitive advantages. Innovation, creativity and risk-taking are absolutely essential for corporate success today.

To manage is to execute the multiple tasks and processes required by the firm's strategic imperatives and choices. Process is a set of interrelated work activities characterized by specific inputs and value adding tasks that produce specific outputs.

Evaluating management's capabilities is the most critical element of a thorough credit analysis. Thus, the first step in evaluating credit risk must be to investigate company management, before examining any other factor and before analyzing the financial statements.

In other words, management has such a critical role in determining competitiveness that if the management is not good at a minimum, it does not make sense to spend time analyzing financial statements and production data. The loan request should be filed away, even if the company shows good financial health today.

As part of its rating process, Standard & Poor's Ratings Services, the world's leading provider of credit analysis, always requests a meeting with the borrower's management, usually at the borrower's headquarters, so that many executives can participate. By the same token, Moody's Investors Service, another rating agency quoted in section 2, starts its rating process with an analytical meeting that also takes place at the issuer's headquarters and can take as long as one or two full days.

Moody's analytical meetings generally involve members of the company's executive, financial and operating management, including the chief executive officer. Since Moody's "believes that management is critical to credit quality, it tries to get an understanding of management's philosophy and plans for the future."

According to its rating process, "Moody's does not rate based on accuracy of management's statistical forecast, but rather regards projections as useful indicators of each management team's view of the company's future and of their plans for meeting the demands of the markets they serve."

An interesting method of analyzing the quality of management is examining the processes associated with the essential tasks of the general management. Annex 2 mentions the processes in which the general manager usually takes part, according to Professor David A. Garvin of Harvard Business School.

However, the concept of management should involve not only the general management. It should also include senior and line managers, that is, executives, plant managers, middle managers and other individuals in firms making decisions, taking actions, and exercising leadership.

Generally speaking, one can consider a management team formed by seven executives: General Manager, Financial Manager, Manufacturing Manager, Technology and Innovation Manager, Supply Chain Manager, Sales Force Manager and Marketing Manager. Annex 3 outlines the basic responsibilities of a traditional company's manager team.

McNaughton and Dietz assert that "certain aspects of management capability are easily readable: the track record of most companies is in plain view to the marketplace, and the better a company has performed, especially in hard times, the greater must be the respect for that management".

In fact, when analyzing management's capabilities there are four subjects to observe:

- 1. the suitability of the company's management structure in achieving the firm's strategic goals;
- 2. the quality, quantity, and availability of information needed by managers;
- 3. the management skills;
- 4. the commitment of management to improving the firm's performance.

Some personal qualities commonly required in all managers' recruitment processes are: accuracy, proactiveness, creativity, innovation, persistence, and initiative. Among the skills needed usually are the ability to delegate,

good organization, leadership, multitasking, problem solving, being results oriented, listening, negotiating, and coordinating the use of key corporate resources.

If the credit analyst merely checks whether the managers show these characteristics, he will not be able to conclude if the company is well managed or not. To do that is to carry coals to Newcastle. To draw a conclusion about the quality of management, the credit analyst should use perception to evaluate essentially if the manager is efficient or not in light of. his tasks and company's objectives.

A helpful procedure is the use of benchmarking. Comparing managers' attitudes and behavioral characteristics with those of successful executives who work for competitors, the credit analyst can identify if the manager has the attributes for success.

There are different management styles. The characteristics of management often vary according to the managers' personalities and the manner in which managers are trained, how they lead people and how they approach their jobs. It does not matter if the manager seems bitter, harsh or antipathetic. In his judgment, the credit analyst cannot consider his personal feelings for the manager.

One must keep in mind that qualitative analysis is the best approach to evaluating management's capabilities. The procedure should be qualitative in nature rather than quantitative. In talking with the managers, the credit analyst should observe how the borrower conducts its day-to-day business, how the organization identifies its own standards and establishes its relevant strengths and weaknesses, and how the managers identify and mitigate the risks of the business.

Concerning experience, it is important to stress that with rapid changes in business environment, past experience is not always the best basis for believing that the manager will be able to succeed in the future.

6.3 Group of Factors at the Firm Level for Each Stage

This section takes up the discussion about the four stages of the industries' life cycle placed in section 3, but with a different approach. Here, the focus will be define the main aspects which should be considered by the credit analyst in order to evaluate a company's situation and perspectives after he identifies the current stage of the industry where the company is operating.

Different groups of CSFs are suggested for each industry's phase as well as grades which express the relevance of each factor. The following suggestions represent a simple attempt to make explicit the points that must be evaluated by the credit analyst. Since this paper does not go into this issue in depth, the proposed CSFs will be treated as aggregated factors.

6.3.1 Introduction

In the Introduction stage, investment in technology is seen as a major strategy in attaining and maintaining any competitive edge. The company should consider R&D not only as an important resource, but as a unique way to survive. New technologies often start small and move slowly at first, but later growth can be exponential. Firms also have to look beyond their industries because technological revolution can be started by someone who is not a competitor today.

If the company focuses its resources on one technology, it will become a strong competitor if that technology eventually prospers. However, the company will be out of business if the technology is not viable. Alternatively, the firm can spread its resources over several technologies, but its investment will be much higher.

The Introduction stage characterizes always uncertain context. The uncertainty arises from four different types of sources: demand structure, supply structure, competitors and externalities, such as social pressures and government intervention.

The demand is low because of the absence of product standardization and reliable product information. Also, production is relatively labor intensive, causing a relatively low capital-output ratio during the first phase. Production runs typically are short. Instead of continuous processes, runs are often custom-made and of a batch mode.

Companies in the Introduction stage emphasize specialty products and are less cost conscious. Companies have to be one step ahead of their customers, since they must know customers' necessities better than the customers do. If the firm succeeds in attracting large clients, it will prosper rapidly. Maybe other clients will come, interested in buying the same products.

If a company intends to create a market, the quality of its products should be homogeneous, which requires reliable suppliers. Frequently, a company fails in a new industry or at least spends excessive time in its learning curve due to troubles with its suppliers.

Therefore, factors for the Introduction stage would be as follows: **Technology, Flexibility, Quality of Products, Innovation, Marketing, Human Resources and Working Atmosphere.** Two factors could be graded with 25%: Technology and Innovation. The others would receive grades of 10%.

6.3.2 Growth

If the market recognizes the industry importance, there is opportunity to grow. The consumers will transfer savings to consumption. The growth extension will depend on the industry attractiveness level. As long as the companies attract new clients, without institutional barriers, a rapid increase is expected in the number of competitors during the Growth stage.

During the Growth stage, the company has to watch the market carefully to perceive when a new opportunity appears. If the firm does not do that, its competitors will, and the firm will lose market share. Soon, this ongoing process of losing market share will run the company out of business..

The firm must define a growth strategy to follow industry's trajectory. Its ability to produce different goods all at once and distribute them can be crucial.

The company should make the best of market growth. The Growth stage is the phase in which companies take advantage of high profits to accumulate capital. By reinvesting profits, companies can support capacity expansion and modernize their plants. The firms which do not increase their sales and margins will find it difficult to follow competitors. In fact, during the Growth stage there is usually a split between the enterprises will be leaders and the enterprises will be followers.

In the Growth stage, firms need to consolidate their reputation. Consequently, firms must go on investing in marketing. A firm's reputation is a socially constructed phenomenon that evolves over time.

Market growth usually reflects a substitution process. Maybe the products sold by the company are cheaper or provide better performance than those consumed formerly. In some cases, market growth is promoted by new consumer tastes which create demand for using a company's products as complements of previously consumed goods.

The factors suggested for the Growth stage are as follows: **Costs, Technology, Flexibility, Quality of Products, Distribution, Innovation, Marketing, Human Resources and Working Atmosphere**. Two factors could deserve 16%: Quality of Products and Distribution. The factor Innovation would be graded with 14%. The last six factors (Costs, Technology, Flexibility, Marketing, Human Resources and Working Atmosphere) would receive 9%.

6.3.3 Maturity

In the Maturity stage, price is one of the most realistic measures of effective competitiveness. As many factors influence costs and consequently price structure, a broad group of CSF's is necessary for analyzing a company that competes in a mature industry.

Economies of scale and manufacturing efficiency are keys for cost leadership. In other words, the leader performs better in utilizing its plant and equipment. Companies should reduce product costs without reducing capabilities. Mass methods of production usually replace batch runs. Sometimes a leader company holds a single, large, automated plant that serves the entire market.

Inventory minimization by means of just-in-time techniques is another strategy to reduce costs. Companies should also concentrate on quality assurance and customer service.

A larger capacity, more advanced techniques, and a more qualified labor force are contributing factors to competitiveness, but by themselves they may not be sufficient to secure a strong enough position in the markets of interest. If the company pays higher prices for its inputs, it can fail.

In fact, the manufacturer faces different competitive pressures. Due to the demand for stabilization, the competitors see a reduction in sales and profits. This fall of the market results in excess capacity, because generally the competitors build capacity higher than market demand. If macroeconomics and political events influence demand negatively, this unbalance will be huge.

One must keep in mind that during the maturity, new firms enter the industry, old firms are displaced, and industry leadership shifts through the competitive dynamics.

For the Maturity stage, all the factors presented in Annex 1 could be considered by CSFs, as follows: **Costs, Technology, Quality of Process, Flexibility, Quality of Products, Distribution, Innovation, Marketing, Human Resources and Working Atmosphere**. In terms of grade, three factors could deserve 12%: Costs, Quality of Process and Quality of Product. Four factors would receive 10%: Flexibility, Distribution, Human Resources and Working Atmosphere. The last three factors, Technology, Innovation and Marketing, could be graded with 8%.

6.3.4 Decline

When the industry starts to lose clients, it enters in the Decline stage. In that stage, there is excess capacity because of the continuous and long-production runs, associated with decreasing demands. Generally, substitute products are offered and import competition is greater.

Declining businesses are at the point of diminishing returns. The cost of expanding capacity is greater than the return. However, there are strategies for declining business. The most common method is to change products, that is, to shift from the production of one good to other. Many times, this strategy means to shift from one industry to another which requires a deep concern for research and development.

Redesigning manufacturing flow to cut costs is also a good strategy to be implemented. This imposes investment in new manufacturing technologies. If well done, it can slow down the decline and enable the business to go a long way.

Due to the unfavorable situation, human resources is essential in the Declining stage. During crisis periods, human resources is always a decisive element, once creativity is key. By the same token, an enterprise which reckons on loyal employees, confident of their own strength, is in better position to defeat the adversities.

Curiously, factors such as technology and innovation, which are basic in the Introduction stage, are brought up again as very important aspects in the Declining stage. As a matter of fact, under negative circumstances, firms have to rethink their activities. That requires pains as great as those necessary in the Introduction stage, when the enterprise begins to define its route.

So, the factors suggested for the Decline stage are as follows: **Costs, Technology, Quality of Process, Quality of Products, Innovation, Human Resources and Working Atmosphere**. Two factors could deserve 20%: Human Resources and Working Atmosphere. Two other factors would receive 15%: Technology and Innovation. The three last factors (Costs, Quality of Process and Quality of Products) would be graded with 10%.

6.4 Menus

In order to consolidate selected CSFs, the preparation of menus matrix-shaped, as presented in Annex 4, is suggested. CSFs represent the lines of the matrix, while their respective rates correspond to the columns.

At the environmental and at the industry levels, a unique menu is recommended, since the group of CSFs will be the same, independent of the stage of the industry. At the firm level, four different menus should be made, one for each industry life cycle stage. In those cases, menus would have one more column where the grades would be assigned.

7. CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

It is very difficult to do more than generate categories and classify firms. In retrospect it is somewhat easier but in prospect or even in the present it is really complicated. On the other hand, the life cycle is a tricky concept. First, firms produce in several industries. Second, people do not even recognize that a new industry has appeared until it is entrenched.

In spite of those restrictions, one can use life cycle model to study the strengths which exercise influence upon an industry and consequently determine the performance of the companies which operate in that industry. Through life cycle model, it is possible to perceive what the companies must do to follow the industry's behavior. So, that model is useful to evaluate if a company's attitudes and strategies will increase or at least keep its competitive advantages.

The methodology presented in this paper is a simple attempt of creating a credit analysis proceeding which is able to treat different companies in a different way. The methodology serves as a tool for the BNDES' credit analysts identifying strong and weak points of each company in order to evaluate credit risk in the long term, taking for granted that:

- a) qualitative analysis is just as important to the final credit decision as quantitative financial analysis;
- b) management capability is the most important factor influencing company's performance;
- c) factors considered crucial to determining a company's success probability varied over the life cycle of the industry where the firm operates.

It is suggested that the examination of the company's management should be the first stage of a credit analysis process. First of all, the credit analyst should understand company's routines, practices and processes, and observe if they are appropriate to the attainment of company's objectives. Afterwards, the credit analyst should investigate how the tasks are allocated among the managers and evaluate if the tasks are being performed efficiently.

The final decision to approve or not the loan should match the conclusions of financial, management efficiency and qualitative analysis. Regarding qualitative analysis, the methodology proposes a different group of qualitative factors for each one of the four stages of the industry life cycle.

In the Introduction stage, technology and innovation are key. In other words, if the company masters the most modern technology and is able to sustain its leadership through new products originated from R&D investments, it will succeed. One can suppose that success will occur even if macroeconomic or political conditions are not so favorable, since the company will be prepared to overcome them.

In the Growth stage, the most important factors are quality of products and distribution. A company which offers different products is ready to satisfy different consumers. The company should meet consumers' desires. If it does not do that, it will create opportunity for competitors.

In the Maturity stage, costs, quality of process and quality of products seem to be the most decisive factors. Under fierce competition for attracting consumers, companies try to harmonize price and quality.

In the Declining stage, human resources and working atmosphere are the basic factors. If the enterprise is able to maintain its "humanware" working firmly, it will find ways that ensure its survival.

The objectives of this paper are modest. Several issues need further research before more specific recommendations can be made. An empirical study to test the correctness of using proposed factors could be put into practice, using the so-called expert systems. Questionnaires could be mailed to credit analysts who work at different financial institutions and managers who work for companies in different industries, asking them to indicate the critical success factors necessary to evaluate competitiveness. Interviews would also be useful.

Concerning the different weights suggested for the CSFs at the firm level, the indicated values are an unpretentious attempt of quantifying their comparative importance. In this sense, there is no rigidness about the numbers. The main idea is not to hit the mark but just to graduate the weights.

Extensions of the present paper could also be developed to specific industries (consumer goods, capital goods) or types of industries (cost leadership or differentiation).

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ANNEX 1

GROUPS OF FACTORS

A) Environmental Level

MACROECONOMIC CONDITIONS

Economic growth

Level of national income

Wealth concentration

Inflation

Interest rate

Exchange rate

POLITICAL CONDITIONS

Economic freedom

Bureaucratic procedures

Taxation system

Incentives and subsidies

Energy Transportation Anti-pollution systems B) **Industry Level FLUCTUATIONS** Price elasticity of demand Income elasticity of demand Seasonal fluctuations Cyclical fluctuations **COMPETITION** Internationalization level Organizational coalitions Rivalry Strategic alliances Collusion **SUPPLIERS** Availability and quality of inputs Location Provision concentration Financial health **CLIENTS** Location Sales concentration Financial health C) Firm Level

Trade agreements with other countries

Export and import quotas

INFRASTRUCTURE

Telecommunication

COSTS Raw material costs Labor costs Capital costs Sales expenses Overhead expenses Stocks **TECHNOLOGY** Process technology Product technology **R&D** investment Patents held **QUALITY OF PROCESS** Manufacturing methods Automation level Inputs consumption Failure percentage Level and quality of supervision Environmental issues **FLEXIBILITY** Set-up time Lead time Feasibility to comply special orders **QUALITY OF PRODUCTS** Mix

Price

Design

Performance

Reliability

Customer satisfaction
<u>DISTRIBUTION</u>
Capillarity
New markets for the same products
Time-delivery
Missed Deliveries
<u>INNOVATION</u>
New products introduced successfully on the market
New product development time
The firm's culture and climate for innovation
<u>MARKETING</u>
Reputation
Brands
Promotions
HUMAN RESOURCES
Wages
Fringe benefits
Incentives
Compensation systems
Career
Training
Employee empowerment
WORKING ATMOSPHERE
Relations with labor unions
Turnover
Motivation and job satisfaction

Availability

Customer service

PROCESSES OVERLOOKED BY THE GENERAL MANAGER

STRATEGIC PROCESSES: how strategy, purpose and goals are established and communicated, new business are developed, and alignment is ensured.

RESOURCE ALLOCATION PROCESSES: how money and people are assigned to businesses, technologies, and projects, and how budgets are developed.

<u>DECISION MAKING PROCESSES</u>: how individuals and groups reach agreement and resolve conflicts.

LEARNING PROCESSES: how individuals and organizations experiment with new approaches, learn from past experience, and transfer knowledge.

OVERSIGHT AND MONITORING PROCESSES: how managers orchestrate and oversee the work of subordinates to ensure that objectives are met.

CHANGE PROCESSES: how managers initiate and lead change, and how organizations evolve in response.

ANNEX 3

BASIC RESPONSIBILITIES OF THE MANAGEMENT TEAM

GENERAL MANAGER

Corporate strategies, including strategies toward vertical integration and alliances

Direction of the firm

Company diversification policy

Human resources policy (hiring, training, downswing)

Performance measurement and evaluation

Design of incentive plans

Corporate culture and staff morale

Work environments

Definition of interfaces between departments

Reconciliation of competing objectives

TECHNOLOGY AND INNOVATION MANAGER

New products development

Choices of new inputs

Innovative processes

Selection of new operating capabilities

Design of mullet-plant networks

MANUFACTURING MANAGER

Production
Residues and recycling
Motivation of the workhorse
SUPPLY CHAIN MANAGER
Design of a supply-chain
Global souring strategies
Supplier-buyer relationships
Retailing-logistics coordination
FINANCIAL MANAGER
Process of creating shareholder value
Dividend policy
Design for risk-adjusted profit
Risk management
Corporate control transactions
Long-horizon financial planning
Capital structure
Alternative valuations techniques
Financing tools and techniques
SALES FORCE MANAGER
Market diagnostic
Price determination
Understanding of customer needs and expectations
Negotiation of quotas
Strategies for motivating and compensating salespeople
Mix of direct sales forces and independent agents
Customer service
MARKETING MANAGER

Plant and equipment

Advertising

Definition of target audience

Packaging

ANNEX 4

MODELS OF CSFs MENUS

a) AT THE ENVIRONMENTAL AND INDUSTRY LEVELS

FACTOR	VERY FAVORABLE	FAVORABLE	INDIFFERENT	ADVERSE	VERY ADVERSE
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

b) AT THE FIRM LEVEL

FACTOR	GRADE	EXCELLENT	GOOD	FAIR	POOR	VERY POOR
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

GRADES: **RATES**:

1% to 20% EXCELLENT 5
TOTAL GRADES = 100%
GOOD 4
FAIR 3
POOR 2
VERY POOR 1