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Essential Indicators for Guiding Multiple Strategies

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Table of Contents

i.	Editor's Introduction	7
ii.	Abstract.....	10
iii.	1. Introduction.....	11
iv.	2. Environmental Analysis Models	11
v.	3. The Multiple Strategy Observer	12
	a. Network Level Indicators - Macro Organizational Environment.....	13
vi.	4. High Technology Export in Monetary Values Index (HTEMV)	16
	a. Corporate Level Indicators - Micro Organizational Environment.....	17
	b. Business and Functional Level Indicators - Internal Environment of the Organization	20

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vii.	5. Conclusions.....	23
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CYRUS CHRONICLE JOURNAL (CCJ):
Contemporary Economic and Management Studies in Asia and Africa

The flagship journal of the CYRUS Institute of Knowledge

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- Business Development and Governance
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Submission Process:

For more information on the Institute, please contact: Editor@Cyrusik.org; Sagafinejad@loyola.edu; Nasgary@Cyrusik.org. *CYRUS Institute of Knowledge (CIK), Box 380003, Cambridge, MA 02238-0003, USA*

He will be assisted by an editorial board consisting of distinguished members from world-class institutions of higher learning, practice and industry.

We invite authors to submit their papers and case studies to Editor@Cyrusik.org. We will have a quick turn-around review process of less than two months. We intend to begin with two issues per year consisting of about 5-8 papers and case studies per issue, with fall 2015 being the first issue. A selected number of papers submitted to the CIK conference will be double-blind reviewed for inclusion in **THE CCJ**. We intend to have special issues on themes that are within the scope of Journal. Also, we will have invited guest issues.

THE CCJ: An imprint of the CYRUS Institute of Knowledge (CIK)

Background:

This is a historical time for developing and emerging markets, and The Cyrus Chronicle Journal intends to offer what is most urgently needed. There is no question that organizations and businesses that are capable of analyzing and applying advanced knowledge in management

sciences and development are in high demand, especially during transitional periods. It is an unusual time in the target regions and the world. A time which requires active intellectual participation and contributions. It is the era of revolution in terms of advances in communication, technology. It is a time for intellectuals, entrepreneurs, and philanthropists to help enlighten minds, and therefore enrich the quality of life for millions. It is a time to focus intensely on the historical characteristics, achievements, human and natural resources, and the significant deficit in development, management sciences, and democracy in these regions. CIK's vision, "to cultivate the discourse on human capital potentials for better living," is the appropriate response to current challenges, and the journal is a platform for sharing the perspectives of scholars and practitioners with a wider audience.

CIK associates tend to have a foot in two worlds. First, most of the associates possess a wealth of intellectual and experiential knowledge, which is enhanced by their active involvement in business, consulting, scholarly research, and collegiate teaching. Second, some associates are sons and daughters of the afore mentioned regions and possess an ethnic identity, language skills, and the insights only embraced by insiders. Third, most of the CIK board of directors' members and associates are well-known scholars, members of editorial boards of journals, and editors. CIK possesses depth, breadth, and a competitive edge to successfully manage a reputable, double blind peer-reviewed journal. CIK is committed to developing knowledge that positively contributes to the life of the world's citizens. CIK is a charitable, educational, and scientific organization that has been in operation since 2011. CIK is a secular and non-partisan organization and has many scholars and practitioner as member.

Editor's Introduction

Since inception in 2012, the ***Cyrus Institute of Knowledge*** has held five annual meetings. Three years ago, we published the first volume of its flagship journal, ***Cyrus Chronicle Journal (CCJ): Contemporary Economic and Management Studies in Asia and Africa in conjunction with the 2016 annual conference.***

The Institute has had seven successful international conferences since its inception. These conferences have been hosted at institutions in the United States (MIT, Harvard, Hult), and internationally (Hult - UAE, American University in Cairo, and ESCA in Morocco). Several institutions of higher education have collaborated and supported these conferences. Please see CIK website for information about these institutions. We greatly appreciate their support! *The CIK 2020 Conference was held **Online** and in collaboration with International Symposium on Project Management, Innovation and Sustainability (SINGEP) during Oct. 1-3.*

Generally, conference participants come from at least 15 different countries and 35 institutions, organizations, and companies. Please see [CIK website for details](#). Some of plenary sessions had up to 150 participants. The best papers presented at these conferences have traditionally been accepted for publication in the Journal, along with additional articles by prominent scholars.

The acceptance rate of *CCJ* is generally less than 20%. Our aim is to publish the highest quality papers after they pass through our strict review process. CIK colleagues and conference participants have proposed and suggested special issues of the journal, which is based on core topics (i.e., entrepreneurship, innovation, ethics, and sustainable development) and/or country specific ones. Therefore, we welcome articles that meet these characteristics.

Now we welcome you to read the fifth volume issue 1(CCJ.V5.1). The journal intends to cover scholarship pertaining to emerging economies in Asia, Africa, and other emerging economies.

Scholarship dealing with these regions tends to be either ignored or misunderstood, and there are limited outlets for scholars who work in these countries to share their scholarly outputs. Focusing on these two continents will help researchers from these regions - which together account for the largest portion of the world population and growth. The *CCJ* intends to fill these gaps. An examination of our mission may shed some light on this question. The primary purpose of the journal is four-fold:

1. To share and promote knowledge of economic, management, and development issues facing countries of Asia and Africa and other emerging markets. Focusing on assessment, evaluation, and possible solutions help advance these countries, which also have the largest populations. Development challenges are global; virtually all countries face challenges concerning economic development, sustainability, food and water, population and environmental degradation. Yet no country gains by shunning opportunities that globalization can provide, with the possible exception of a few countries whose leaders lack a full understanding of the opportunities that globalization can offer. To take advantage of such opportunities, knowledge is the primary requisite. This journal aspires to make a contribution to this body of knowledge.
2. To encourage the generation and dissemination of knowledge by local scholars whose access to mainstream academic outlets may be limited. There are many scholars from academic, public and private sector organizations whose first-hand knowledge of problems and solutions is not being shared for lack of an appropriate outlet for dissemination. The *CCJ* seeks to provide an opportunity for spreading such knowledge.
3. Academic scholarship emanating from the region under the journal's coverage tends to get lost in the academic jungle where the pressure of "publish or perish" leaves behind the younger and less experienced members. This journal will provide a venue for the scholars with first-hand knowledge of these areas. By publishing in *CCJ*, they could make important contributions to the body of management and development scholarship on which the journal will continue to concentrate. The *CCJ* will provide a platform for established as well as younger scholars who might collaborate with them in their research.

This fifth volume, issue 1, of the *Cyrus Chronic Journal*, contains three articles. Articles from established scholars and policymakers that cover the gamut from Asian to Latin America. As part of our mission to advance knowledge we will continue to include reviews of major scholarly books relevant to the Journal readers.

On the journal's operational side, we want to make the publication more accessible to a wide audience across the world, and so, consistent with the 21st -century trend toward electronic media, we will continue to publish this journal online. To maintain rigor and originality, articles submitted to the journal will nevertheless undergo the standard double blind review process. Reviewers' anonymous comments are shared with authors, as appropriate. Submission guidelines and procedures are delineated on the journal's website: <http://www.cyrusik.org/research/the-cyrus-chronicle>

As the first editor of the journal, I am pleased and proud to accept this challenge. I bring some experience; my first editorial assignment was as an undergraduate student at the then Pahlavi University in Shiraz, Iran, a top-ranking institution in the region. A few students and I founded and published *Danesh-Pajouh* (knowledge seeker). In those days when freedom of expression was

severely limited, we managed to publish one issue in March 1965 before the censors put a stop to the enterprise.

Years later, while directing a doctoral program in international business in Texas in the early 2000's, I also served as the co-editor - and eventually editor - of the *International Trade Journal* (ITJ) until my retirement in 2013. Under my leadership, the *ITJ* acceptance rate fell below 10%.

Publishing an academic journal is simply a labor of love. The rewards are many-fold and include working alongside a dedicated team of colleagues – Nader Asgary, Alf Walle, Nancy Black Sagafinejad, Dina Frutos-Bencze, reviewers, and the entire editorial Board. In addition, of course, we thank our contributors who have trusted their work of scholarship to be published in a new but growing and promising publication. They have spent many hours working to polish and prepare for the journal for publication.

In this fourth issue, we have already reached a threshold of about 20% in acceptance. Still, *CCJ* needs your support and so I ask for your help in the following ways:

- **We are interested to offer special issues based on themes and country case studies. Your support, suggestions, and contributions are welcomed;**
- **Contribute articles, case studies, and book reviews and commentaries;**
- **Encourage your colleagues to do the same;**
- **Encourage promising young scholars – especially those from developing and emerging economies from China to the northern tip of Africa – to submit their works to our journal;**
- **Spread the word, especially in countries where *CCJ* can be most effective;**
- **Cite the articles published in this journal in your own research when applicable;**
- **Attend the annual conferences of the Institute (<http://www.Cyrusik.org> the physical platforms that serves as an annual spawning ground for articles that may ultimately be published in this journal;**
- **Give us your feedback by telling us how we can further promote and improve the journal.**

Welcome to *ITJ*, and thank you.

Tagi Sagafinejad, Editor

Abstract

This work's objective is to present and analyze indicators that guide strategic decision making at the levels of the organizational, network, corporate, business and functional environment proposed by Witt and Meyer (2010). In this sense, in addition to the mathematical expression that defines each indicator, it has also been scrutinized what each of them can portray from the analyzed scenario. Methodologically, a descriptive meta-analysis was carried out for the classification of the indicators, categorized by PESTMC-FP, through documentary research and consultation of the database referring to the values of indexes in acceptable domains that represent organizational position for evaluation of the decision maker. The paper proposes a reflection about the evaluation of the indicators as support in the processes of formulation, analysis and control of organizational strategies.

Keywords: Strategy; Organizational levels; Indicators; network.

1. Introduction

Growing competitiveness has demanded that organizations have a growing capacity to properly read the market dynamics in which they operate. In addition, the business environment has required the use of a set of indicators that allow organizations to measure their effective performance taking into account both quantitative and qualitative aspects. The growing complexity of the business environment has required increasingly scientific treatment for the development of a competitive strategy.

In this sense, it is imperative to develop a management and planning instrument based on a systematic set of indicators capable of extracting the most relevant aspects of the business environment and the specific performance of the organization. The aim of this study is to provide concreteness to the decision making model resulting from a combination of the one proposed by Witt and Meyer (2010) and the SWOT scheme. This will be done by scrutinizing a set of quantitative and qualitative indicators appropriate to the strategic proposed by the model.

The importance of this work lies in the fact that examining the set of indicators presented allows us to evolve from the "constitutive" definition of the Witt and Meyer model to its "operational" definition. The relevance of the study, then, lies in the systematic presentation and examination of the elements needed to form an organizational strategy backed by a known approach. The study contributes to the literature concerning the theme of multiple management strategies by suggesting, in a systematic way, an analysis model that brings together constitutive elements of the SWOT, PESTAL AND KPIs schemes and the approach proposed by Wit and Meyer. Additionally, this synthesis model, referred to here by means of the acronym PESTMC-FP, is presented with the pertinent indicators for the collection of information that portray each of its dimensions of analysis. In this sense, the article brings greater robustness of analysis to the theme by presenting an explanatory theoretical-conceptual basis.

2. Environmental Analysis Models

The SWOT matrix is one of the models adopted for the analysis and diagnosis of the organizational environment and is considered a classic management tool whose objective is to identify and combine the strengths, weaknesses, opportunities and threats that are present in the environment (Ceribeli et al., 2010; Almeida & Cardoso, 2014). In this context, PEST (Policy, Economy, Social, Technological, Environmental and Legal) is a complementary tool to the SWOT matrix whose objective is to broaden the analysis of the external macro environment, allowing the identification of factors that affect, directly or indirectly, the performance in terms of macro indicators. Because it is a strategic tool, it allows an in-depth analysis of external and dynamic variables that are not controllable by organizations (Gregorié, 2014, Rastogi & Trivedi, 2016). In addition to the SWOT analysis, the financial and process KPIs (Key Performance Indicators) are adopted as indicators to analyze the internal environment. The indicator is a performance measurement instrument being used to measure and analyze the results obtained in certain periods. Thus, indicators are essential data for the management of an organization.

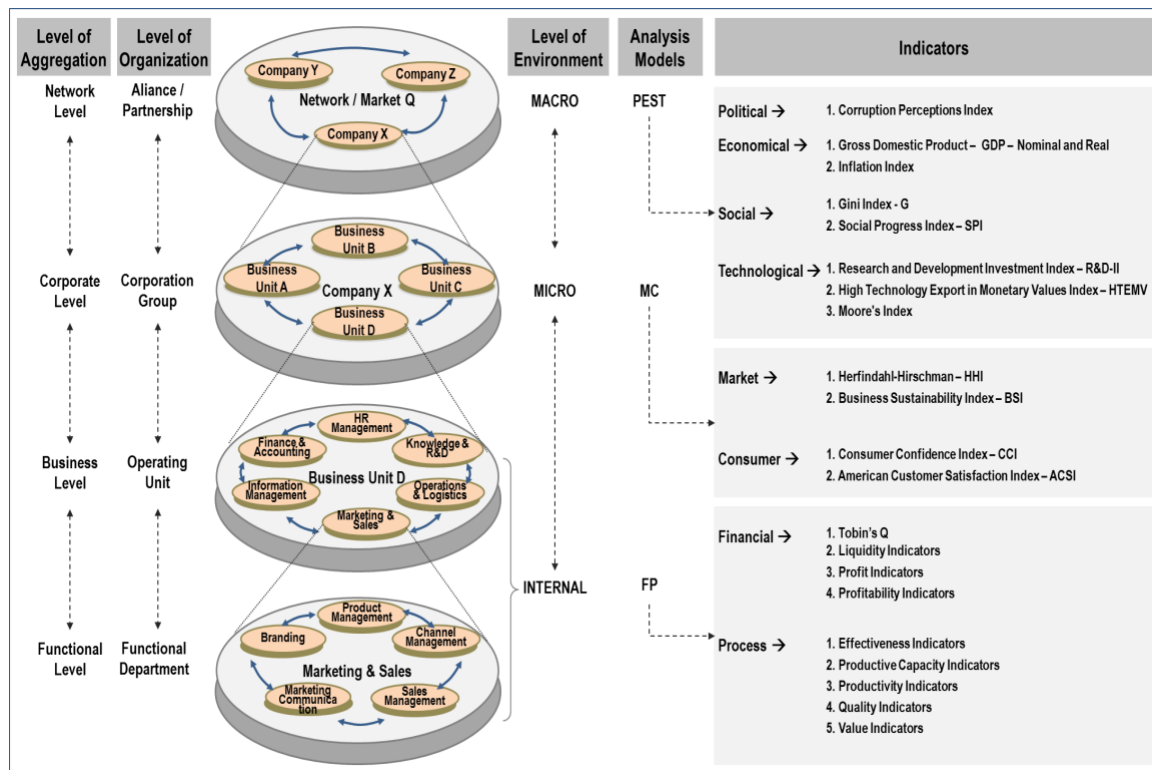
For this study, only the acronym PEST was used to analyze the macro environment of organizations. At the opportunity, the variables "market" and "consumer" (MC), were added to complement the analysis of the micro environment, and the variables "financial" and "process" (FP), to analyze the internal environment. Thus, the final result of the acronym of the tool adopted

for analysis of external (macro and micro) and internal environments was **PEST-MC-FP** (Political, Economic, Social, Technological, Market, Consumer, Financial and Process).

3. The Multiple Strategy Observer

The strategy can be defined as a decision-making flow that generates value to the organization's target stakeholders, that produces competitive and lasting advantage and aiming at a better positioning through the implementation of the deliberate strategies and treatment of emerging strategies. Such treatment takes place through the abilities of a strategist. Strategic management is characterized by the ability to influence its stakeholders to make decisions, voluntarily and routinely, that guarantee the company's viability in the short and long term. These managers do not have linear thoughts and believe that the strategy of their decisions affects the organizational environment (Rowe, 2002). In this way, the definition of the strategy should be supported by information from a solid analysis of the organizational context.

According to Wit and Meyer (2010), the organizational context consists of four levels, namely: network level, corporate level, business level and functional level. In order to develop strategies that meet the four organizational levels, it is necessary to place substantial information on these levels under the detailed examination and attention of the managers and strategic managers. This vision will allow us to formulate, implement and control specific strategies of interaction between organization and environment in a competitive way that will result in an above-average performance (Wit & Meyer, 2010). Therefore, in Picture 1, a hierarchical view of the four corporate levels of the organization is presented, classified by level of environment and with their respective models of environmental analysis and (non-exhaustive) indicators. The data provided by the indicators will serve as strategic information for decision-making. This scenario allows a better understanding of the opportunities and threats present in the external environment and of the strengths and weaknesses existing in the internal environment.



Picture 1: Levels of organizational environment and respective indicators

Source: adapted from Wit & Meyer (2010, p.235).

It is of great relevance that the factors that impact the company's results are known and understood according to their context. In an adequate proportion and through a systematized presentation, the indicators provide consistent information for strategic decision making at the various levels of the organization (Nascimento et al., 2011).

a. Network Level Indicators - Macro Organizational Environment

The competitive intelligence of an organization consists of directing the "support activities to the direction with the objective of interpreting the information about elements of its external environment, so as to anticipate opportunities and threats" (Buzeiro & Marcondes, 2013, p.2). The macro environment is formed by the most varied agents that interfere, directly or indirectly, in the internal structure of the company (Oliveira et al, 2015). Therefore, the indicators related to this macro environment are extremely significant and should be known to the organization to guide the strategy. Some of these indicators were categorized according to the analysis model of the macro environment PEST, contemplating the following external variables: Politics, Economy, Social and Technological.

i. Politics

Politics possess the potential to have a great effect on the development and competitiveness of an organization, presenting many opportunities along with many risks. In this analysis, it is essential to understand the political tendencies and the positioning of state leaders that can influence,

directly or indirectly, the sector of performance of the organization. Political factors include state stability, corruption, regulatory trends; tax policy, foreign trade regulations and the development of community policies and well-being (Kolios & Read, 2013, Gregorié, 2014, Rastogi & Trivedi, 2016).

Corruption Perceptions Index : related to the Corruption Perceptions Index, there is Transparency International, which is an organization formed by members from various countries, with the mission of ending corruption and promoting transparency, accountability and integrity at all levels and sectors of society, based on values such as transparency, accountability, integrity, solidarity, courage, justice and democracy. This organization aims at a world in which the government, politics, business, civil society and daily life of people are free from corruption (Moreira, 2018). The parameter of analysis of this index is between 0% and 100%, where 0% indicates maximum level of corruption and 100% a country without corruption. The calculation is based on 13 sources of data collected: politics and institutional evaluation, sustainable governance indicators, transformation index, country risk rate, executive and economic opinion survey, polls and democracy variables (Moreira, 2018).

ii. Economy

Macroeconomics is the area that studies the relations of the economy with society and is within its perimeter the items that alter the economic situation of an environment. The main indicators of economic development include the variation of GDP, interest rates, currency in circulation, inflation and unemployment (Gregorié, 2014).

GDP - Gross Domestic Product – Nominal and Real: these are the two methods used to measure GDP change over a given period. The Nominal GDP, or at current prices, is obtained considering the inflation of the period. However, inflation can camouflage a real economic situation. Thus, real GDP allows a real-world assessment of GDP variation. Also known as GDP at constant prices, Real GDP adopts the same price as the base year for other years. The calculation of both is given by the sum of the values of final goods and services, as presented by the expressions(1) and(2).

$$PIB_{Nominal} = \sum_i^n p_t^i q_t^i \quad (1)$$

$$PIB_{Real} = \sum_i^n p_0^i q_t^i \quad (2)$$

Being: n number of goods and final services; q_t^i transacted quantity of the good or service i in the period t ; p_t^i price of good or service i in the period t ; p_0^i price of good or service i in the base period.

Also important is the **Inflation Index** that affects the average price variation of several products in a given period. One of the Inflation Indexes is the *IPCA* (Extended National Consumer Price Index). This index is calculated by *IBGE* (Brazilian Institute of Geography and Statistics) and measures the price change of products and resources essential for people's daily lives, such as a purchasing power evaluation thermometer. In the calculation of the *IPCA*, families with income from 1 to 40 minimum wages are taken into consideration.

iii. Social

The social scenario portrays the characteristics of the community in which the organization is inserted and that can directly affect its performance. Factors such as demographic aspects, income distribution, social mobility, lifestyle changes, behaviors and attitudes towards work and leisure, consumerism and educational level (Gregorié, 2014) need to be known in order to define a more effective organizational strategy. Thus, the HDI and the indexes of Gini and Social Progression can be important information. **The Gini Index (G):** the Gini Index (G)², created by Conradi Gini, in 1912, is used to measure the level of inequality in the income distribution of a country and represents the distance between the income of the poorest and the income of the richest. The index is evaluated on a scale of 0 to 1, where 0 indicates 100% equality in the distribution of incomes from one place (all have the same income) and 1 indicates that the income is 100% concentrated in a single person (other people do not have any income). Both are ideal extremes which, as a rule, are not common (IPECE, 2007, Ende et al., 2010, Silva, 2016).

The cumulative distribution of the proportion of income and population is represented graphically by the Lorenz Curve. The calculation of the index is done, firstly, by creating the curve with the distribution of the incomes (in %) on the Y-axis and the cumulative amount of population (in %) on the X-axis. The union of the points of intercession of X and Y results in the Lorenz Curve. The greater the deviation of the Lorenz Curve from the hypothetical line of equality, the greater the inequality in the distribution of incomes among the members of the population. The value of the Gini Index, by definition, is a relation between the area of inequality (a) and the area of the triangle (d), with the following expression(3):

$$G = \frac{a}{0,5} = 2a \quad (3)$$

Being: a area of income inequality among members of the population. The index shows the greater or lesser concentration of the produced wealth, oscillating between 0 and 1 ($0 \leq G \leq 1$). The closer to the unit the greater the concentration of wealth, while the opposite occurs when the index approaches zero. The Gini Index can be used to analyze several concentration processes, such as the level of concentration of a company's shares held by few shareholders (IPECE, 2007; Silva, 2016).

Social Progress Index (SPI): the SPI³, created by a team under the leadership of Michel Porter, measures the performance of countries, through their strengths and weaknesses, in relation to a wide range of social and environmental performance aspects relevant to economic development. This index provides governments and companies with tools to monitor social and environmental performance in a rigorous manner to better inform investment and public policy decisions. In fact, it provides a concrete framework for understanding and prioritizing actions that promote social and economic performance (Mattedi et al., 2015; Porter et al., 2017). Based on a holistic model, the index defines social progress based on indicators with exclusively social and environmental characteristics, with measurement of results, applicability and relevance for all countries. The index is composed of three dimensions which, in turn, are composed of four other components each. The calculation is done by means of a simple average of the result of each of the dimensions,

² The Gini Index of Brazil, published by the UN Human Development Report 2016, referring to the data for 2015, is 0.515. This gives the country the 79th position, out of 188 analyzed (UNDP, 2016).

³ Brazil was classified as "high average social progress" in 2017, with an IPS score of 73.97, which awards it the 43rd place among the 128 countries (Porter et al., 2017, p.5).

which in turn, are the simple average of its four components (Social Progress Imperative, 2017). The expression(4) shows how to obtain the Social Progress Index.

$$IPS = \frac{NHB \left(\frac{\sum_{i=1}^4 A_i}{4} \right) + FBE \left(\frac{\sum_{i=1}^4 B_i}{4} \right) + OP \left(\frac{\sum_{i=1}^4 C_i}{4} \right)}{3} \quad (4)^4$$

The *BHN* is composed of the dimensions of Basic Human Needs that assess the degree to which a country meets the basic needs of the population and consists of basic nutrition, basic medical care, water and sanitation, housing and personal safety ($\sum_{i=1}^4 A_i$). The *FBE* is related to the “Wellness Fundamentals”, consisting of the level of access to basic knowledge, information and communication, health and well-being and the sustainability of ecosystems ($\sum_{i=1}^4 B_i$). Finally, the *OP* is made up of individual rights, individual freedom and choices, tolerance and inclusion and access to higher education ($\sum_{i=1}^4 C_i$).

The scores attributed to each of the 12 components and the resulting three dimensions are obtained by using a scale whose limits are 0 (worst performance) and 100 (best performance). The SPI is then calculated using a simple arithmetic average of the three dimensions and can be used to present taxonomy of the countries studied (Mattedi et al., 2015).

iv. Technological

Following the technological evolution related to the sector in which the organization operates allows the creation of competitive advantages in the face of issues that may affect the organization's directions. In addition to being a determinant of GDP, due to investments, technological innovation is of extreme importance for the country's performance in international trade (Gregorié, 2014). In this context, some indicators are presented.

Research and Development Investment Index (R&D-II): the R&D-II⁵ contemplates the measurement of investment in research and technological development and presupposes investments in knowledge management. Represented in percentage, its calculation is given by the ratio between the total amount spent for R&D and the GDP of the period, as presented in the expression(5).

$$R\&D - II = \frac{GP\&D}{GDP} \quad (5)$$

Being: *IP&D* percentage of *GDP* designated for investment in *R&D*; *GP&D* total *R&D* expenses in the period; *GDP* of the analyzed period.

4. High Technology Export in Monetary Values Index (HTEMV): the HTEMV has its origins in the statistical and methodological concepts of the classification of the level of technological intensity that follows the methods developed by the Organization for Economic Cooperation and Development (OECD) in partnership with Eurostat (Statistical Office of the European Union). The technological intensity is related to the level of research and development specific to the sector (measured by the ratio of R&D expenditures to value added) and technology incorporated in the purchase of intermediate and capital goods in the internal or external market (Hatzichronoglou, 1997). More technologically advanced industries are more R&D intensive. The distinction

⁴ Expression developed by the authors from the theoretical content researched.

⁵ According to MCTIC (2017), in 2015 Brazil invested the equivalent of 1.28% of GDP in research and development.

between the medium-high and medium-low groups and between the medium-low and low groups is clearer when the R&D intensity is calculated in terms of output rather than in terms of added value. In both cases, cut-off points provide stability over time and average stability across countries (Hatzichronoglou, 1997; MDIC, 2018).

Thus, industries that allocate a high proportion of billing or production to R&D make use of more advanced equipment and intermediaries. For such industries, there is a strong differentiation between direct intensity (countries whose industry are pioneers in technological progress) and indirect intensity (countries whose industry imports technology), which are generally related to developed and developing countries, respectively (Hatzichronoglou, 1997; Moura, 2015).

Moore's Index: on the other hand, Moore's Law, considered a technological barometer, came from the observations of Gordon Earl Moore in 1965 when he found that integrated circuits would be the way to cheaper products. This law made it possible to measure the innovation and development trend and make projections for the coming years, considering the model of device existing at the time (Moore, 1965, 2006; D'Emidio, 2009; Braga, 2009). Important contributions of this law to technological development were perceived since: a) technology companies used it to define their development goals, since it is possible to predict what will be developed by competitors in the next 18 months. This drives the search for innovation, otherwise it will succumb to competition; b) its application is given to several segments of the processor industry such as computers, digital machines, telephone, among others; and, c) the reduction of innovation costs have made them increasingly accessible, which influences social and economic behavior (Braga, 2009; Rojas, 2012).

a. Corporate Level Indicators - Micro Organizational Environment

The external microenvironment of organizations is formed by the agents close to the sector of the company's operation as customers and local society, suppliers, competitors, and other institutions. Knowing this environment allows managers to develop appropriate strategies to generate competitive advantage and differentiate themselves from their competitors. In this context, indicators related to this micro environment are extremely significant. Some of these indicators were categorized according to the analysis model of the micro environment MC, considering the following external variables: Market and Consumer.

i. Market

Concentrated or centralized markets, also known as oligopolized markets, are the result of some degree of capital concentration (Silva, 2016). Three important indicators were identified by this study and are related to the level of participation and concentration of companies in the market and the index of corporate sustainability.

Herfindahl-Hirschman (HHI): another important market indicator is HHI. Created by Orris C. Herfindahl and Albert O. Hirschman, this indicator is considered one of the main forms of concentration analysis of a company in a given sector and is defined by the sum of the squares of the percentage participation of each company in relation to the total size of the company sector (market share) (Oliveira, 2014). This indicator takes into account all companies in the industry and is calculated by the expression(6).

$$HHI = \sum_{i=1}^n S_i^2 \quad (6)$$

Being: n total number of companies in the sector; S_i market share i ; and $i = 1, 2, 3, \dots, N$, a type of company in a given market. One of the great advantages of this indicator is that when the share of each company is squared (S^2), it considers its relative size, because it attributes greater weight to the companies with the larger participation shares, and lower weight to those with smaller participation (Bittencourt et al., 2015). Market classification parameter based on HHI result can be summarized as follows: HHI close to 0 (zero) for Perfect competition; $0 \leq HHI < 1.000$ for Low concentration; $1.000 \leq HHI < 1.800$ for Moderate concentration; $HHI > 1.800$ for High concentration; $HHI = 10.000$ for Monopoly (Oliveira, 2014). The HHI allows assessing the degree of market concentration due to the level of inequality of competition among companies in a given sector and is the most used by the antitrust authorities to monitor possible situations of cartel formation and monopolistic combinations in the market.

Business Sustainability Index (BSI): created in 2005, its objective is "to reflect the return of a portfolio composed of shares of companies with a recognized commitment to sustainable development practices and strategic alignment with sustainability entrepreneurs, highlighting them for investors" (BM&FBOVESPA, 2015, p.5). Thus, this index acts as an inducer of good practices in the Brazilian business environment, creating an investment environment compatible with the demands of sustainable development of contemporary society and encouraging corporate ethical responsibility (Guimarães et al., 2016).

The BSI consists of a theoretical portfolio of assets, resulting from the comparative analysis, of up to 40 companies. To be a part, it is necessary that the company be among the issuers of the 200 most liquid shares of BM&FBOVESPA and traded at least 50% of the trading sessions of the last 12 months until the formation of the annual portfolio (BM&FBOVESPA, 2015). According to Guimarães et al. (2016), this index is adopted as a strategy for companies that seek good visibility to their stakeholders through sustainable initiatives and disclosures, in order to obtain a competitive advantage in the market.

ii.Consumer

The *raison d'être* of organizations materializes with the existence of customers and satisfying them is the order. Customer loyalty occurs when the organization manages to satisfy a customer group, that is, when the values and benefits offered are perceived by them. The three dimensions of relationship between the client and the company are defined by the scope of the organization; the richness and depth of the information flow between the two; and affiliation from helpful interactions that help customers find what they are looking for and provide data about their preferences (Hitt et al., 2011). In this context, two indexes related to consumer confidence and dissatisfaction must be known to the organization for strategic orientation.

Consumer Confidence Index (CCI): the first of them is the CCI. This index is used to project changes in economic activity by expressing the consumer's feelings about their personal economic situation and that of the country in the short and medium term. Such a feeling directly impacts behavior and attitude toward current and future consumption and is measured through a number of questions answered related to economic factors such as: consumers' assessment of their financial

situation, employment opportunities, spending intentions and their opinion on the general economic conditions (Karagöz & Aktas, 2015).

The index raises other factors of market interest such as the intention to buy durable goods, price developments and the ability to economize on expenses. The CCI⁶ results range from 0 to 200 points. The 100 index demarcates the border between the situation of pessimism and optimism. Below 100, the situation is assessed with pessimism and above 100, with optimism.

The CCI is calculated through a random sample of consumers that is Representative of the population and is based on five questions that are part of the Consumer Expectations Survey, two of which are related to the current present survey (form the Current Situation Index (CSI)) and three others related to future expectations - form the Expectations Index (EI). According to the IBRE (2018), the contents are: local economic and financial situation of the family at the moment and in the next six months; and, intention to purchase durable goods in the next six months. The calculation of the CCI is given by the calculation of the expression(7).

$$CCI = \sum_{q=1}^5 \left[\frac{Indicator_{q,T}}{5} \right] \quad (7)$$

Being: $Indicator_{q,T}$ indicator of each question “ q ” in Brazil’s total “ T ”; $q = 1, \dots, 5$ represents the five items that make up the Index.

American Customer Satisfaction Index (ACSI): the second is the ACSI developed by Fornell in 1994 in conjunction with the American Society for Quality Control and the University Of Michigan School Of Business. This index presents fundamental properties related to its generic characteristic for application in any sector and its capacity to establish cause and effect relationships.

According to the proposal of Fornell et al. (1996), the cause and effect model shows that the constructs "perceived quality", "customer expectations" and "perceived value" precede the central construct "global customer satisfaction". This, in turn, precedes the consequent constructs "customer complaints" and "customer loyalty", so that relationships are hypothesized. According to Moura et al., (2014), the expectation variable has a positive effect on perceived quality and value, as well as on overall satisfaction. Perceived quality, in the same way, contributes to perceived value and to overall satisfaction.

Perceived value, determined by perceived quality and expectations, acts positively on the overall satisfaction variable. Related to satisfaction, the model assumes that an increase in overall customer satisfaction reduces the occurrence of complaints and contributes to increased loyalty.

The final result of the application of this model is an index, which will be calculated by means of a specific formula, based on three indicators of the central construct of global satisfaction, which

⁶ In Brazil, the ICC is measured every two months, and in 2017 it dropped 0.4 points and closed at 86.4 points. According to the survey, in this period consumers reduced their satisfaction with the current economic situation and maintained short-term expectations stable. The Current Situation Index (CSI) fell 0.7 percentage points to 73.8 points. The Expectations Index (EI) fell 0.3 percentage points to 95.7 points (IBRE, 2017).

are: general satisfaction, disconfirmation of expectation and comparison with the ideal. This index should be compared with those of other companies in the sector (Moura et al., 2014).

b. Business and Functional Level Indicators - Internal Environment of the Organization

Organizational strategies for the internal environment aim to develop core competencies (made up of tangible and intangible resources) that enable organizations to create value for their stakeholders and thus achieve above-average returns (Hitt et al., 2011). The measurement of company performance can be defined as a "process of calculating the efficiency and effectiveness of the action" managed by the managers (Souza & Correa, 2014, p.120). Thus, performance and evaluation indicators have as function to identify if the goals determined by the top management are being achieved (Veyrat, 2015).

As a result, knowing the internal processes and the factors that impact the final result will allow the company to establish clear objectives and well-defined performance goals. In this context, some of the most used Financial and Process Key Performance Indicators (KPIs) used to evaluate internal processes of organizations are presented here as variables controllable by the organization.

i. Financial Indicators

Tobin's Q: Tobin's Q, created by Tobin in 1969, is an analytical indicator for future investments. Through the ratio between the market value of the company and the cost of replacing its assets, this index measures the incentive to make new investments with opportunities for future growth (Famá & Barros, 2000). After its creation, scholars sought an application through real data that approached the theoretical q. According to Colauro et al. (2009), this approach was proposed by Lindenberg and Ross (1981), through the expression (8).

$$q = \frac{VMA + VMD}{VRA} \quad (8)$$

Being: *VMA* market value of the shares or the company's equity; *VMD* market value of short and long-term debt or the capital employed by third parties; *VRA* market value for replacement of the assets or the monetary disbursement necessary to buy the same productive capacity, with modern technology and minimum cost.

However, Famá and Barros (2000) and Colauro et al. (2009) point out that obtaining accurate market values for debts and assets requires a high effort because the data are not easily available. As an example, one of the difficulties in calculating the value of assets at market price is precisely the absence of an asset market for used goods. In this case, the assets should be adjusted by the book value considering: the variation of prices in the economy, technological variation of the period and real (non-accounting) depreciation of the assets.

In this way, Colauro et al. (2009) draw attention to the fact that studies have shown a similarity in the values of Tobin's Q found by the calculation of expression(8), proposed by Lindenberg and Ross (1981), and expression(9) proposed by Chung and Pruitt (1994). According to the authors, the expression(9) is more conservative regarding the effort required to obtain the information and based on the accounting values of the company, except for the market value of the shares.

$$q = \frac{VMao + VCap + VCDlp + VCest + VCDcp + VCRcp}{AT} \quad (9)$$

Being: *VMao* market value of common shares; *VCap* book value of preferred shares; *VCDlp* book value of long-term debt; *VCest* book value of inventories; *VCDcp* book value of short-term debt; *VCRcp* value of current resources, of current assets; and, *AT* Value of total assets.

According to Famá and Barros (2000), because Tobin's *q* represents a ratio between two values over the same group of assets, its value is expected to be *q*=1. Thus, "if the market value is greater than the replacement cost (*q*>1), then it is worth investing, otherwise (*q*<1) the firm should not make the investment. Therefore, investment is a growing function of the relationship *q*" (Kammler & Alves, 2004, p.2).

According to Colauto et al. (2009), Tobin's *q* captures information not measured by conventional financial and economic indicators, which reinforces its use for internal analysis of the organization and sectoral studies.

In addition, the economic and financial indicators allow to diagnose the performance, in terms of balance and financial health, and to understand the actual performance of the organization. The information used to calculate these indicators is available in the Balance Sheet and Income Statement. The most used for financial analysis of the organizations are those of liquidity and profitability. In order to analyze the economic situation, there are profitability indicators (Ribeiro & Boligon, 2009; Nascimento et al., 2011; Correia et al., 2017; Vieira et al., 2017).

Liquidity: these indicators, presented in Table 1, assess the ability to settle the obligations of the company immediately, if necessary. Considered an important indicator, a change in these indexes in relation to previous periods should be reasoned by the managers.

Table 1 – Liquidity Indicators.

Indicators	Formula	Represents	Result
General Liquidity (GL)	$GL = \frac{AC + RLP}{PT}$	How much the company possesses in money, goods, and rights in the short and long term.	The Bigger the Better
Current Liquidity (CL)	$CL = \frac{AC + RLP}{PT}$	How much the company possesses in money, goods and, rights in the short term.	
Quick Ratio (QR)	$QR = \frac{AC + RLP}{PT}$	How much the company has in money, goods and, rights in the short term, without inventories.	

Source: developed by the authors based on the theory.

Being: AC Current Assets; RLP Long-Term Accomplishable; PT Total Liabilities. Analysis of the results, considering the term of each indicator: if> 1, there is a gap available for possible settlement of obligations; if=1, values of equivalent goods, rights and obligations; if<1, if necessary, there would be no cash to settle the obligations.

Profit: these indicators, presented in Table 2, allow us to evaluate the operational efficiency of the organization, showing, in percentage, the gain from the activity performed and billed.

Table 2 – Profit Indicators.

Indicators	Formula	Represents	Result
Gross Profit (GP)	$GP = \left[\frac{(Vdas - CMV)}{Sales} \right] * 100$	Percentage of sales minus the cost of goods sold.	The Bigger the Better
Net Profit (NP)	$NP = \left[\frac{(Vdas - CMV - DVF)}{Sales} \right] * 100$	Percentage of sales minus the cost of goods sold, variable and fixed expenses.	

Source: developed by the authors based on the theory.

Being: *CMV* Cost of Sold Merchandise; *DVF* Variable and Fixed Expenses.

Profitability: these Indicators, presented in Table 3, represent the income margin that a company receives related to income through the execution of its activities. These Indicators indicate whether the strategy adopted by management is on the right track and assists in making decisions about new investments.

Table 3 – Profitability Indicators

Indicators	Formula	Represents	Result
Return on Assets (RA)	$RA = \frac{LL}{AT}$	Efficiency of the application of the assets and the profits generated by them	The Bigger the Better
Working Capital (WC)	$WC = \left(\frac{RV}{AT} \right) * 100$	The total sales made with the company's assets.	
Return on Equity (ROE)	$ROE = \left(\frac{LL}{PL} \right) * 100$	The net profit or loss obtained in relation to the amount invested by the shareholders.	

Source: developed by the authors based on the theory.

Being: *LL* Net Profit; *AT* Total Assets; *RV* Sales Revenue; *PL* Net Worth

ii. Process Indicators

The organization, through its dynamic capabilities, is structured by processes that transform inputs into services or outputs and are self-regulated by feedbacks. With globalization, the emphasis on productivity shifts from efficiency in the execution of tasks to effectiveness in achieving objectives; excellence and high performance in internal processes are no longer a requirement of luxury to become a condition of survival and business continuity. Thus, some Indicators presented in Table 4 were identified as conclusive for effective maintenance of good performance.

Table 4 – Process Indicators

Indicators	Represents
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Effectiveness	Conjugation between Indicators of effectiveness and efficiency.
Productive Capacity	Relationship between the amount that can be produced and the time for this to occur.
Productivity	Relation between the outputs generated by a work and the resources used for it, that is, the efficiency of the process in obtaining the Results.
Quality	Relation between the total outputs that were produced and the outputs without defects or nonconformity, adequate to the use / consumption, that is, the effectiveness of the company in meeting the clients' needs.
Value	Relationship between perceived value when receiving something (example a product) and the amount actually spent to obtain what was received.

Source: developed by the authors based on Veyrat (2015, p.2); Martini et al., (2015).

According to Martini et al. (2015), Indicators Represents an instrument for monitoring and evaluating internal activities, giving the company the opportunity to identify and implement improvements and, thus, establish effective strategies.

5. Conclusions

This paper used an approach that combined the dimensions proposed by the well-known SWOT scheme and the four levels of analysis suggested by Witt and Meyer (2010). In particular, the study presented and examined a set of quantitative and qualitative indicators that allow, objectively, to operationalize each dimension of the proposed model.

Picture 1 summarizes, completely, the model proposed in this study as it presents all the concepts used (constitutive definition) as well as the indicators that translate them operationally (operational definition). It is precisely the development of this synthesis, combining constitutive and operational definition of the model suggested by the authors, that characterizes the relevance of the work. In other words, the study presented a management and planning tool as it provided more concreteness to a business environment analysis scheme.

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