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CYRUS CHRONICLE JOURNAL (CCJ):

Contemporary Economic and Management Studies in Asia and Africa

An imprint of the CYRUS Institute of Knowledge (CIK)

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Administration for Integrated Sustainability - AIS: A Technology for Perenity of the Organizations

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Announcements:

- CIK 2020 Conference – October, 20th – 22nd, 2021, Online, Joint collaboration with SINGEP, Brazil
- CIK 2020 Conference – October 1st - 3rd 2020, Online, Joint collaboration with SINGEP, Brazil

- CIK 2019 Conference – April 17th - 21st 2019, MIT, Cambridge, USA
- CIK 2018 Conference – March 4th - 7th 2018, ESCA and UM5, Casablanca and Rabat, Morocco
- CIK 2017 Conference – April 14th - 16th 2017, MIT, Cambridge, USA
- CIK 2016 Conference – March 15th - 17th 2016, The American University in Cairo, Egypt
- CIK 2015 Conference – April 24 - 26th 2015, Harvard University, Cambridge, USA
- CIK 2014 Conference – January 9th - 11th 2014, Hult International Business, Dubai, UAE
- CIK 2012 Conference – October 15th - 17th 2012, Hult International Business, Cambridge MA
-
- Guidelines for submission to CCJ - http://www.cyrusik.org/ccj/submission-guidelines/

CYRUS CHRONICLE JOURNAL (CCJ):
Contemporary Economic and Management Studies in Asia and Africa

The flagship journal of the CYRUS Institute of Knowledge

THE CYRUS CHRONICLE JOURNAL (CCJ)

Purpose:

The CYRUS Institute of Knowledge (CIK) Journal is a refereed interdisciplinary journal. The editorial objective is to create opportunities for scholars and practitioners to share theoretical and applied knowledge. The subject fields are management sciences, economic development, sustainable growth, and related disciplines applicable to the emerging economies in Asia, Africa, and other regions. Being in transitional stages, these regions can greatly benefit from applied research relevant to their development. **CCJ** provides a platform for dissemination of high quality research about these regions. We welcome contributions from researchers in academia and practitioners in broadly defined areas of management sciences, economic development, and sustainable growth. The Journal's scope includes, but is not limited to, the following:

- Business Development and Governance
- Entrepreneurship
- Ethics and Social Responsibility
- International Business and Cultural Issues
- International Economics

- International Finance
- Innovation and Development
- Institutions and Development
- Leadership and Cultural Characteristics
- Natural Resources and Sustainable Development
- Organization and Cultural Issues
- Strategy and Development
- Women and Business Development

Authors are responsible for the views expressed and the accuracy of the facts provided. Authors' opinions do not necessarily reflect the position of the CYRUS Institute of Knowledge, the Editor, or the Editorial Advisory Board of **CCJ**.

Editorial Advisory Board Members:

Professor Tagi Sagafi-nejad is the editor of **CCJ**. Dr. Sagafi-nejad is ex-editor of International Trade Journal, the author, in collaboration with John Dunning of The UN and Transnational Corporations: From Codes of Conduct to Global Compact, (2008) and "The Evolution of International Business Textbooks" (2014). He was the Radcliffe Killam Distinguished Professor of International Business, founding Director of the PhD Program in International Business, and Director and Center for the Study of Western Hemispheric Trade at Texas A&M International University (2003-2013). Dr. Sagafi-nejad is well known internationally and has outstanding credentials to develop The Cyrus Chronicle into a high quality publication.

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 Sagafi-nejad, 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 Sagafi-nejad, Editor

Abstract
The article has as objective to analyze the model of the Administration for Sustainability Integrated as an administration technology that favors the perenity and the success of the organizations. It investigated the problem "how the Administration for Integrated Sustainability, while administration technology, based on the Theory of Entrepreneurship, impacts on the perenity and success of organizations?" As a method, literature and field researches in a universe of 1,700 industrial companies, 15,112 of services rendered, 17 hospitals and 03 universities. The sample data received statistical treatment, with analysis of variance, correlation and regression tests with stratified random samples and for accessibility. In the collection of data the technique was the questionnaire. The data received statistical treatment, with descriptive analysis, variance analysis, correlation tests and regression. Among the results and conclusions, the Rate of Entrepreneurs in Early Stage of Brazil, grew in the world ranking in 2014, 2015 and 2019, and that of Established Entrepreneurs, grew in 2014 and 2015, but decreased in 2019. In industrial organizations, it suggests that Administration for Integrated Sustainability favors the continuity of micro and small companies, and in public ones, productivity with efficiency, quality in the provision of services and satisfaction of society, with transparency, suitability and ethics, being relevant to society. Among the theoretical and methodological contributions, it expands the field of application of administration technologies in academy and organizations.

Keywords: Administration for Integrated Sustainability. Entrepreneurship. Technology. Perenity. Social organization.

1. Introduction

The themes technology, innovation, administration and sustainability are in the agenda of discussions of the organizations. The search of turning the Micro and Small Companies - MSCs and perennial and maintainable public organizations, presupposes to develop in the apparatus of the administrative administration and to portray partnerships to conjugate the offer of their products and services, with excellence and favorable reflexes to the economical development of an area, state and/or country, still excelling, the professional ethics. The State, as agent regulator, has legitimate function of performance.

To analyze the available technologies, among them, the one of professional administration for the organizations, with investigations in the Technological Administrative dimensions; Political Institutional; and Economical Social of the model of the Administration for Integrated Sustainability - AIS (Polary, 2012, 2014), besides making possible the discovery of other slopes that favor the organizational effectiveness and the academy, it is, also, one of the viable options for the rational use of the technological contribution for the perennity and excellence of the organizations.

Debates in the national and international forums, in the academy and in the organizations on the administration technologies, suggest punctual actions with the use of the technological contribution (machines and equipments, systems and work methods) and of maintainable professional administration, that investigates the entrepreneurs' performance, private managers and publics to give swift answers to the society through the effectiveness of the organizations.

The article has as objective to analyze the model of the Administration for Sustainability Integrated as an administration technology that favors the perennity and the success of the organizations. A problem requests that the researcher is involved in the reality of the situation to be explained; the research subjects represent what the investigator wants to explain and they can indicate, among the variables, relationships of associations (Triviños, 2009); and the hypothesis foresees a relationship between two terms (Quivy; Campenhoudt, 1995). The problem is: "how the Administration for Integrated Sustainability, while administration technology, based on the Theory of Entrepreneurship, impacts in the perennity and success of the organizations?" The hypothesis is: the administration technologies, among them, the one of Administration for Integrated Sustainability - AIS, impact favorably in the perennity of MSCs and of the public organizations of the samples, favoring the society.

Among the research subjects in the present research there are: Which relationship could be established among the physical system, base of data, machines and equipments with perennity of industrial MSCs and of service delivery companies? How does the application of the Administration for Integrated Sustainability model in MSCs and public organizations, as a management technology, reflects on their results and on society?

The development was based on two academic strands: in the first, it consisted of the search for the literature in order to theoretical basis that sustains the relevance of the theme; and second, the practical action performance of the administration technologies in researches in MSCs and in the public organizations. Research method: the approach methods, procedures and techniques (Marconi; Lakatos, 2007, p. 140). In the literature, extracted data of the secondary sources for analysis of appropriate theories to the lines of researches Technologies of Administration, of the Doctorate degree in Administration FGV/EBAPE; and Administration and Management, from the Research Group “Administration, Management and State-AGE” CNPq (Polary, 2015).

Approach method: theories and research on management technologies, management of MSCs, public management, and entrepreneurship in economic and managerial approaches, which underpinned the AIS Model (Polary, 2012, 2014). In the field research: in the universe, the data of 2012 were of industrial MSCs of Maranhao (FIEMA, 2006), in 170 municipal districts; the data of 2015, in the public hospitals and public universities of São Luís-MA (Polary; Silva, 2015); and the one of 2016, in industrial MSCs and of service delivery companies of São Luís, according to tables 1 to 3. They were extracted samples of the random type stratified in 2012, and for accessibility in 2015 and 2016, with representative average, considering the participation of each economical category in GDP of Maranhao, according to tables 4 and 5 and frame 1.

Collects and analysis of the data: the technique used was the questionnaire. The measurement scales (Malhotra, 2006) and Ulrich, Smallwood and Sweetman (2009) were used as a basis. The data received statistical treatment: exploratory analysis, Test of Levene of Homogeneity of the Variances, ANOVA, Test of Correlation, Regression and Multiple Correlation. Analysis categories: they guarantee the rigidity of the research (Vieira, 2004), which were: size of industries - micro and small companies - MSCs; importance of the variables of the model of the Administration for Integrated Sustainability - AIS for the administration, success and perennity of MSCs, and for the organizational excellence of the public organizations of the sample.

Limitations of the method: the universe of MSCs and public organizations of Brazil and Maranhao, with 217 municipal districts (IBGE, 2009), was delimited to industrial MSCs of Maranhao, service delivery companies MSCs and public organizations of São Luís; little literature and empiric work about this theme that allowed a deepened study of the theory (Popper, 1975). Aware of the limitations, we considered the appropriate method to sustain the research and the analysis of the data with consistence.

2. Revision of Literature

The article analyzed in the literature the impact of the administration technologies in the perennity of the Micro and and Small Companies - MSCs, and in the results of public organizations, among them, the Administration for Integrated Sustainability - AIS, based on Entrepreneurship, as an alternative of professional administration for the organizations (Polary, 2012, 2014, 2019); (Polary; Silva, 2015).

The administration maintainable professional focuses the manager's knowledge as one of the relevant resources for the perennity and success of the organizations. Gazzoni et al. (2009) reiterate the importance of the professional administration for the small business and their challenges before the changes that happen in the world. The knowledge started to be the most important resource. Technology means the group of knowledge portions - so much "practical" (problems and concrete devices), as "theoretical" (but practically applicable) of know-how, methods, procedures, success experiences and failure and, also, of course, physical devices and equipments (Dosi, 2006). According to Kim (2005), it is the group of physical processes that transform inputs in products as for the knowledge and abilities that structure the activities that will promote such transformation.

The technological competence refers to the abilities of the company to accomplish innovative activities in products, processes and organization of the production, organizational systems, equipments and engineering of stored projects, not just in the people's minds (abilities, experience, formal qualifications), but, also, in its organizational system, routines and procedures (Bell; Pavitt, 1995; Figueiredo, 2003).

The technological capacity in organizational level is the group of resources that can be tangible, codified or intangible, tacit, codable and non-codable; incorporate in several dimensions of the organization: administration techniques and production, organizational routines, organizational structures, values and norms (Penrose, 1959; Nelson, Winter, 2005; Teece, Pisano, 1994; Figueiredo, 2004). The Administration as Social Sciences has moved on in three relevant aspects: Intellectual Capital; Administration of the Knowledge; and Digital Focus of the Administration - use of digital tools for the managers to work with the challenges of the organizational learning to improve the organizational efficiency. Oliveira et al. (2009) describe the intellectual capital as strategic resource of the organizations and decisive factor to the administration processes. Studies for decision of "investments in IT" in MSCs, Oliveira, Silva, Gouveia Neto, Porto and Zaidan (2014) describe that they are still scarce.

Considering that the Technological Capacity is incorporated in several dimensions of the organization, among them, the administration techniques, the Administration and the Professional Administration are emphasized as some of the technological capacities in organizational level. In the Maintainable Public Administration - MPA (Polary, 2016), one of the reasons of a good preparation, is to improve the way the organizations are administered, therefore when this is well done, they develop consistence, growth and prosperity, and when they are badly administered, they recede and, very often, they die.

Another relevant aspect is " how to be prepared for a career ", considering: the pre-disposition (self motivation), found by the qualification, understanding personal-professional and self-discipline (the degree in itself, can or not to be valid); the choice of a prepared academy for a preparation with the defined quality parameters for Ministry of Education and job market; to know, to understand, to dominate, to criticize and to apply the administrative theory in the academy and in the organizations, reconciling theory and organizational practice.

3. Theoretical model

The Administration for Integrated Sustainability - AIS is an alternative model of Professional Administration for the Administration, that demands from the manager professional personal understanding to administer with Orientation Enterprising-OE and Integrative View - IV, before their variables, components and dimensions, to favor the administration, the success and the perennity of the company (Polary, 2012). The model of AIS is based on the Theory of Entrepreneurship in the approaches: managerial (McClelland, developed in the years of 1970), subsequent to the Theories of the Organizations and of Administration, in the perspective of the strategies of the companies, and manners of strategic administration (Lumpkin; Dess, 1996); and the economical (Schumpeter, 1934), introduced in the Social sciences by the economical theory. The model AIS, in its academic usefulness and practical performance, was applied in the research of field of industrial MSCs of Maranhao (Polary, 2012), described in the frame 2.

With the results of the research in industrial MSCs in 2012, among the recommendations for future investigations, it is suggested to enlarge the discussion in the academic community to make possible the progress of the concepts and theories of Professional Administration for the teaching of the Administration in the academy and application in the business field. In 2014, the model of AIS was adapted, adapting the variables of the Technological, Political Administrative dimensions Institutional, and Economical Social, for application in the public administration in the three powers: Legislative, Executive and Judiciary; and levels: Union, States and Municipal districts. The model adapted AIS, in its academic usefulness and practical performance, was applied in hospitals and public universities in São Luís (Polary, 2014), described in the frame 3.

The Theory of Entrepreneurship, that was the basis to the model of the Administration for Integrated Sustainability - AIS, has its importance for the economy of the countries. The teaching of the entrepreneurship began in the United States in 1947, in the School of Administration of Harvard (Katz, 2003). For Schumpeter (1934), it is a process of "creative destruction". For Dornelas (2008), entrepreneur is the one who detects an opportunity and creates a business, assuming calculated risks. For Baggio and Baggio (2014), the entrepreneur has initiative to open a business and passion for what he does. In its utility potential, in an analysis of the world and Brazilian panorama of entrepreneurship, data of Global Entrepreneurship Monitor - GEM Brazil (Greco, 2008, 2010), showed that the Rate of Entrepreneurs in Initial Apprenticeship - REA of Brazil in 2008 occupied the 13rd position in the world ranking. From 2014 to 2015, Brazil passed from the 13rd to the 8th place of the 31 countries of savings impelled by the efficiency, with REA of 17,2% in 2014 and 21,0% in 2015, the highest one of the group, overcoming the countries of BRICs, the United States and Germany (GEM, 2016).

As for the development levels, the highest rates of REA concentrate on the group of countries impelled by factors and the lowest ones of countries for the innovation. The GEM (2016, p. 18) presents distinctive aspects, emphasizing the importance of their results for the formulation of politics and support programs to the creation and development of new enterprises. As for the entrepreneurship in the apprenticeships initial and established (GEM, 2019), it is observed that, in 2019, the Rate of Entrepreneurship in Initial Apprenticeship - REA (being developed or new ones), overcame the Rate of Established Entrepreneurship - REE. It is also verified the largest difference rates of the two apprenticeships (7,1 percentile points), tends reached REA its largest mark (23,3%) in 2019. Rate of Established Entrepreneurship (REE) lowered (16,2%), returning to the values obtained in 2016 (16,9%) and 2017 (16.5%), and that in 2018, was of 20,2%, according to graphic 1.

In the combination of indicators (GEM, 2016), it classifies the countries in three groups: impelled them by factors - predominance of activities with strong dependence of the work and natural resources; for the efficiency - advancement of industrialization and gains in scale, with predominance of capital-intensive organizations, as Brazil; and for the innovation - intensive enterprises in knowledge, expansion and modernization of the section of services, according to figure 1. Among the variables of the component of Technology, of the Technological Administrative dimension, of the model of the Administration for Integrated Sustainability - AIS (Polary, 2012), there is the technological support (machines and equipments; systems and work methods). the technological capacity in organizational level, Lall (1992), Bell and Pavitt (1995) and Figueiredo (2003) describe that it is stored, accumulated, in at least 04 components, as described in the figure 2.

In the component of physical "system, base of data, software, machines and equipments" of the organizational technological capacity, defined as specific "knowledge to the organization", described in the figure 2, there are convergent items of the variable technological supports of the model of AIS (Polary, 2012). In its academic usefulness and practical performance, they were verified in the researches accomplished in industrial MSCs of Maranhao and in the hospitals and public universities of São Luís, the interference of the variable in its component; the interference of the component in its dimension; and the interference of the dimension in the model of AIS, in which the results are described in the following section.

4. Empiric Session

For the analysis of the average of the data of the research in industrial MSCs of the sample (Polary, 2012), the Social and Political Technological, Economical Administrative dimensions Institutional were the ones that presented larger averages, followed by the administration components and technology; economical and social indicators; and politics and strategies (same averages), followed by their respective variables, according to frame 4. When referring to the analysis of the 12 variables of the model AIS, among the predominant 06 in MSCs, "Managerial competences and abilities of the partners who administrate - Professional Administration (AIS)", it is what influences more positively on the Administration, Success and Perennity of MCs, with average of 8,99 (table 6), and in the Feet with average 8,95 (table 7).

For the results of the Regression and multiple Correlation of the 06 variables that more influences positively on the Administration, Success and Perennity of MCs (Independent - table 6) and of the most important 06 for the success of MCs in the perennity phase (Dependent - table 8) of the AIS Model, it was verified that the variable "Do viability studies: technique, economical and financial" (frame 4), presented substantial positive correlation, according to the regression equation Y = the + b1x1 + b2x2 +... + b6x6. F of Regression = 12.2673. p <0.0001. Coefficient of multiple determination (R2xy) = 0.4612 and coefficient of multiple correlation (Rxy) = 0.679.

Conclusion: F is significant for p <0.0001, at least one of the Independent variables (Peddlers) influences the Dependent variable; The determination coefficient means that 46.12% of the variation of Y can be explained by the model, the remaining ones (53.88%) they are inexplicable and are due to the other factors or at random; the variable that has the smallest value of p is the variable to **Do viability studies: technique, economical and financial**, therefore it is what better explains the variation of Y. Yet in PEs, it was verified by the results of the Regression and multiple Correlation of the 06 variables that most influences positively on the Administration, Success and Perennity (Independent - table 7) and of the most important 06 for the success in the perennity phase (Dependent - table 09)", that the variable "Skilled industrial labor" (frame 4), it presented substantial positive correlation, according to the regression equation Y = a + b1x1 + b2x2 +... + b6x6. F of Regression = 4.0576. p = 0.0038. Coefficient of multiple determination (R2xy) = 0.4173 and coefficient of multiple correlation (Rxy) = 0.6460.

Conclusion: F is significant for p <0.0001, at least one of the Independent variables (Peddlers) influences the Dependent variable; the determination coefficient means that 41.73% of the variation of Y can be explained by the model, the remaining ones (58.27%) are inexplicable and are due to the other factors or at random; the variable that has the smallest value of p is the variable Hand of qualified industrial work, therefore it is what better explains the variation of Y.

The results of that research show through the tests, the correlation of all AIS Model variables (frame 2), applied in MCs and SBs of the samples (Polary, 2012), what demonstrated the effectiveness of the model, in the managers' vision, as for the administration, success, perennity of MSCs. Those results are convergent with the studies and researches of Ilda (1984) and Souza (2009), and they suggest the continuity of application of the AIS Model in public and private organizations. The AIS Model adapted for the public organizations (Polary, 2014), was applied in hospitals and public universities (Polary; Silva, 2015). among the results, they stood out. It is verified by the analysis of the data of the table 10, that the variable "relevance for the society" was the one with the highest average (9,125), and the variable "Training of Resources: intern and external", obtained medium minor (7,250). It is verified how important are those public organizations for the society, because they offer essential services for the citizens in the areas of health and education.

In other research on the Technologies of the Contemporary Administration, among them, AIS (Polary et al., 2016), in Micro companies - MCs and Small sized companies - SCs in the industrial sections and of service delivered in São Luís-MA, it was verified: as for the relevance of the variables of the model AIS, the highest average in MCs was "Preservation of the environment" (8,18); and in SCs was "Location of the business" (8,68). As for the variables of technologies of the AIS model presents in MCs and SCs that more they contribute to the perennity, it prevailed "Products and services", with averages of 8,75 and 8,36; and as for the importance that is the managers have "knowledge and experiences in the area they work and the relevance to look for their development" to act in MCs and SCs", the results showed averages of 8,27 in MCs, and of 9,06 in SCs.

As for the time of existence in the market, 64% of MCs are in the interval from 1 to 4 years; 9% among 5 to 8 years; 18% among 9 to 12; and 9% above 12 years; in SCs, 25% up to 4 years; 19% between 5 and 8 years; 6% among 9 to 12 years; and 50% have more than 12 years. It is verified that in MCs, only 9% are above 12 years, in other words, with larger perennity rate. The SCs present larger perennity rate with 50% with more than 12 years.

5. Conclusion

For the analyses of the literature on Entrepreneurship, data of GEM Brazil 2008 to 2019, is verified that the Rate of Entrepreneurs in Initial Apprenticeship - REA of Brazil (being developed or new ones), grew in the world ranking, passing of the 13rd position in 2008, for the 8th place among the 31 impelled countries by efficiency, with REA of 17,2% in 2014 and 21,0% in 2015 and 23,3% in 2019. The Rate of Established Entrepreneurs - REE, in 2019, lowered for 16,2% compared to 2014 (17,5%), 2015 (18,9%), and 2018 (20,2%).

In the results of the field research in industrial MSCs in 2012, two relevant conclusions: The Administration of the Micro and Small Companies - MSCs, when applied in the Model of the Administration for Integrated Sustainability - AIS, favors his/her perennity. The perennity of industrial MSCs of the sample impacts positively in the Industrial Development of the State of Maranhao.

In the conclusions of the research in the hospitals and public universities in 2015, the predominant importance of the variables "relevance is verified for the society"; "competences and managerial abilities of the Managers, Professional Administration - AIS"; efficiency "level and effectiveness of the results"; "legality, control and transparency"; and "partnerships: Political-institutional; Public-private and Civil Society" for the excellence of results in the public organizations.

In the conclusions of the research in 2016 of application of the AIS Model, as one of the technologies of Administration, it prevailed in MCs the variable "preservation of the environment", and in SCs, "location of the business". As for the technologies of the AIS Model presents in the MCs and SCs that contribute the most to the perennity, it prevailed for both, "products and services." The conclusions responded to the problem, to the research subjects and confirmed of the hypothesis, having reached the objectives, being relevant for the academy.

The article calls the attention, not only for the technological contribution in itself (machines and equipments, systems and work methods) as relevant for the success of the organizations, but it suggests an awakening for the administration technologies, as the Administration for Integrated Sustainability - AIS, applied in MSCs in 2012, 2016 and in hospitals and public universities in 2015.

It can be concluded that, to strengthen MSCs and public organizations, creating applicable favorable conditions of Professional Administration in the Federal, State and Municipal spheres, possibilities of advancing results in productivity terms with efficiency, quality in the public service delivery and satisfaction of the society are suggested. The local development takes to the regional and national development, creating possibilities of organizational competitiveness in the globalized market.

The expectation is that those results can contribute to future researches in the field of the technologies of Administration, and that they enlarge the debates in the academy, in the organizations and other social actors. It still suggested the continuity of application of the Model of the Administration for Integrated Sustainability - AIS, based on the Theory of Entrepreneurship, in private and public organizations. It is a technology of the administration and one of the viable ways for the perennity and the organizational success.

References

Baggio, A. F.; Baggio, D. K. (2014). Entrepreneurship: concepts and definitions. *Journal of Entrepreneurship, Innovation and Technology*, p. 25-38.

Bell, M. & Pavitt, K. (1995). *The Development of Technological Capabilities*. In: HAGUE, et al. Trade, Technology and International Competitiveness. Washington: World Bank.

Dornelas, José Carlos A. (2008). *Corporate entrepreneurship:* how to be an entrepreneur, innovate and differentiate in your company. 2. ed. Rio de Janeiro: Elsevier, 166 p.

Dosi, G. Mendonça. (2006). *Technique and industrial transformation:* theory and an application to the semiconductor industry. Carlos D. Szlak. Campinas, SP: Ed. UNICAMP.

FIEMA - Federation of Industries of the State of Maranhao. (2006). Industrial Registry of São Luís-MA. São Luís-MA. FIEMA.

Figueiredo, Paulo N. (2003). *Technological Learning and Competitive Performance*. Rio de Janeiro: Editora Fundação Getúlio Vargas.

Figueiredo, Paulo N. (2004). Technological learning and industrial innovation in emerging economies: a brief contribution to the design and implementation of empirical studies and strategies in Brazil. *Brazilian Journal of Innovation*. v.3, n.2, jul/dez. p.323-362.

Gazzoni et al. *The importance of professional management in a Microenterprise: proposing an improvement plan, 2009*. Disponível em: http://www.revista.ulbrajp.edu.br. Access: 09 jan. 2012.

GEM - Global Entrepreneurship Monitor (2016). *Entrepreneurship in Brazil - 2016* \ Coordination Simara Maria de Souza Silveira Greco, several authors. Curitiba: IBQP, 208 p.

GEM - Global Entrepreneurship Monitor (2019). *Entrepreneurship in Brazil – 2019*: Executive Report \ Coordination Simara Maria de Souza Silveira Greco, several authors. Curitiba: IBQP, 30 p.

Greco Simara M. (2008, 2010). *Entrepreneurship in Brazil.* Curitiba: IBQP.

IBGE - Brazilian Institute of Geography and Statistics (2010). *Population estimate 2009*. Disp.: <www.ibge.gov.br/home/estatistica/ Population / estimativa 2009 />. Access: Jan. 14 2010

IBGE - Brazilian Institute of Geography and Statistics (2012). *Synthesis of social indicators*: an analysis of the living conditions of the Brazilian population. Rio de Janeiro.

Ilda, Itiro. (1984). *Small and medium enterprises in Japan*. São Paulo: Brasiliense.

JUCEMA - Commercial Board of the State of Maranhao (2016). *Statistics of the Register:* Microenterprise and Small Business.

Katz, J. A. (2003). The chronology and intellectual trajectory of american entrepreeurship education 1896-1999. *Journal of Business Venturing*, n. 18, p. 283-300.

Kim, L. (2005). *From imitation to innovation.* The dynamics of technological learning in Korea. Translator: Maria Paula G. D. Rocha. Campinas: Ed. UNUCAMP.

Lall, Sanjaya. (1992). Technological Capabilities and Industrialization. *World Development*, Vol. 20, Issue 2, p.165-186.

Lumpkin, G. T. & Dess, G. G. (1996). Clarifying the Entrepreneurial Orientation Construct and Linking it to Performance. *Academy of Management Review*, v. 21, n. 1.

Marconi, Maria de Andrade, Lakatos, Maria (2007). *Methodology of scientific work.* 7. ed. São Paulo: Atlas.

Malhotra, Nareshk. (2006). *Marketing research*: an applied orientation. 4. ed. Porto Alegre: Bookman.

Nelson, R. & Winter, S. (2005). *An evolutionary theory of economic change*. Translator: Cláudia Heller. Campinas: SP: Ed. UNICAMP.

Oliveira, Elizabeth Castro Maurenza de et al. (2009). *Intellectual capital*: recognition & measurement. Curitiba, PR: Juruá. 173 p.

Oliveira et al. (2014). *Decision factors for investment in information technology in micro and small enterprises*. Porto Alegre: Contemporary Management, n. 15, jan./jun.

Penrose, E.T. (1959). *The Theory of Growth of the Firm*. Oxford: Brasil Black Well.

Polary, Ilmar. (2012). *Management for Integrated Sustainability-AIS:* an analysis of the Micro, Small, Medium and Large Enterprises (MPMGEs), based on the Literature and the View of the Industrial Managers of the State of Maranhao. Thesis of Doctorate in Administration FGV / EBAPE-RJ.

Polary, Ilmar (2014). *Professional Public Management and People Management:* a viable organizational excellence alternative for Public Organizations. Project PIBIC-CNPQ/UEMA/FAPEMA, Ed. Nº 07/2014 selected.

Polary, Ilmar, SILVA, Francielma (2015). *Professional Public Management and People Management*: a viable organizational excellence alternative for Public Organizations. Final Report. Project PIBIC-CNPQ/UEMA/FAPEMA, Ed. Nº 07/2014 selected.

Polary, Ilmar, RAMOS, Allyson, SILVA, Yasmin, SILVA, Abgail (2016). *The contributions of the Administration technologies and the permanence of Micro and Small EnterprisesMPEs*. Final *Report.* Selected Extension Project.PIBEX, Ed. Nº 06/2015-PROEXAE/UEMA.

Polary, Ilmar. *Integrated Public Management*: application of entrepreneurial professional management in public organizations. *In*: International Symposium on Project Management, Innovation and Sustainability. V SINGEP, 2016. *Anais [...]*. Disp. em: http://bibliotecadigital.gv.br/dspace/handle/10438/9978.

Polary, Ilmar (2019). *Management for Integrated Sustainability - GSI*: a professional management alternative for organizations. 1. rd. Curitiba: Appris, 2019.

Popper, K.R. (1975). *Objective knowledge*. São Paulo: EDUSP.

Quivy, Raymond; Campenhoudt, Van Luc. (1995). *Manual of Investigation in Social Sciences.* 2. ed. Lisbon - Portugal: Gradativa Publications, S.A.

Schumpeter, Joseph A. (1934). *The Theory of Economic Development*. Harvard University Press, Cambridge, Massachusetts.

Souza, Nali de Jesus de. (2009). *Regional development.* São Paulo: Atlas.

Teece, D & Pisano, G. (1994). The dynamic capabilities of firms: an introduction. *Industrial and Corporate Change,* v.1, n.3.

Triviños, Augusto N. S. (2009). *Introduction to research in social sciences*: qualitative research in education. 1. ed. São Paulo: Atlas.

Ulrich et al. (2009). *The Leadership Code*. Rio de Janeiro: Best Seller.

Vieira, Marcelo M. F. (2004). *For good (qualitative) research in administration.* In: Marcelo M. F. Zouain, Débora M. Qualitative research in Adm. R. Janeiro: FGV.

TABLES

Table 1 - Population for stratification, according to municipalities by size of industries.

Nº		Counties	MICRO	SMALL	TOTAL
			Quantity	Quantity	
01		Alcântara	01	-	01
02		Bacabal	36	09	45
03		Balsas	59	21	80
04		Caxias	17	20	37
05		Cajapió	04	-	04
06		Imperatriz	192	97	289
07		Lago da Pedra	16	03	19
08		Paço do Lumiar	04	01	05
09		Raposa	02	-	02
10		Rosário	08	08	16
11		São João dos Patos	11	-	11
12		São José de Ribamar	21	09	30
13		São Luís	739	380	1119
14		Timon	32	10	42
		Total	1142	558	1700

Source: Adapted from FIEMA (2006)

Table 2 – The universe of Public Hospitals and Public Universities of São Luís-MA

Public Hospitals and Public Universities in São Luís-MA

Public Hospitals	Public IES
1. Djalma Marques Socorrão I Hospital	1. Federal University of Maranhao - UFMA
2. Socorrão II Hospital	2. State University of Maranhao - UEMA
3. Presidente DutraUniversitary Hospital	
4. Aquiles Lisboa Hospital	
5. Locomotor System Sarah Hospital	
6. Tarquínio Lopes Filho General Hospital	
7. Children's Hospital Nursery	
8. Nina Rodrigues Hospital	
9. Dr. Juvêncio Mattos Children's Hospital	
10. Pam Filipinho Hospital	
11. Pam Diamante Hospital	
12. Dr. Adelson Sousa Lopes Hospital	
13. Getúlio Vargas Hospital	
14. Pró-Health Beneficent Association and Ass. Social	
15. Aldenora Belo Hospital	
16. Women Hospital	
Total …….l.....19	

Source: www.google.com.br/hospitaispublicosdesaoluis, with author updates
www.google.com.br/universidadespublicasdesaoluis

Table 3 - Population of MCs and SCs active for stratification in São Luís-MA by size.

Nº	Counties	Company Size		TOTAL
		Microcompany-MC	Small Business Company-SC	
		Quantity	Quantity	
01	São Luís	14.183	929	15.112

Source: JUCEMA (2016).

Table 4 - Significant samples stratified industries, according to municipalities by size of industries.

Nº	Counties	MICRO	SMALL	TOTAL
		Quantity	Quantity	
01	Alcântara	01	-	01
02	Bacabal	03	02	05
03	Balsas	06	02	08
04	Caxias	02	02	04
05	Cajapió	01	-	01
06	Imperatriz	16	08	24
07	Lago da Pedra	03	02	05
08	Paço do Lumiar	02	01	03
09	Raposa	01	-	01
10	Rosário	02	01	03
11	São João dos Patos	01	-	01
12	São José de Ribamar	02	01	03
13	São Luís	51	22	73
14	Timon	02	-	02
	Total	93	41	134

Source: Adapted from FIEMA (2006)

Table 5 - Accessibility samples of MCs and SCs active for stratification in São Luís-MA

Nº	Counties	Company Size		TOTAL
		Microcompany-MC	Small Business Company-SC	
		Quantity	Quantity	
01	São Luís	22	16	38

Source: JUCEMA (2016).

Table 6 - The 06 variables of the AIS Model that most positively influence the Management, Success and Perennial of the industrial MCs of the State of Maranhao, in the view of the managers.

Variables	n	%	Average	Minimum	Maximum	DP
1. Management skills and abilities of the managing partners and others who administer or advise the business - Professional Management (AIS), based on Entrepreneurship.....	92	98.92	8.99	1	10	1.5442
2. Technological support (machinery and equipment, systems and working methods).....	90	96.77	8.86	1	10	1.5107
3. Make feasibility study: technical, economic and financial.....	88	94.62	8.83	3	10	1.5773
4. Qualified industrial labor force.....	92	98.92	8.63	1	10	2.1315
5. Level of industrial efficiency.....	92	98.92	8.62	4	10	1.4207
6. Preservation of the local environment of the Industry.....	90	96.77	8.58	1	10	2.1093

Source: Polary (2012).

Table 7 – The 06 variables of the AIS model that most positively influence the Management, Success and Perennial of the industrial SBs of Maranhao.

Variables	n	%	Average	Minimum	Maximum	DP
1. Management skills and abilities of the managing partners and others who administer or advise the business - Professional Management (AIS), based on Entrepreneurship.....	41	100.00	8.95	7	10	1.0476
2. Technological support (machinery and equipment, systems and working methods).....	41	100.00	8.80	7	10	0.9992
3. Qualified industrial labor force.....	41	100.00	8.61	5	10	1.4980
4. Level of industrial efficiency.....	40	97.56	8.58	6	10	1.1068
5. Location of the Small Business.....	41	100.00	8.56	4	10	1.4841
6. Preservation of the local environment of the Industry.....	41	100.00	8.44	1	19	2.7023

Source: Polary (2012).

Table 8 - The 06 most important variables for the success of the industrial MCs of Maranhao in the perennial phase.

Variables	n	%	Average	Minimum	Maximum	DP
1. To reinvest in Microenterprises to better serve their workforce, their clientele and fulfill their economic and social function in order to remain successful in the market, in the view of the managers.....	90	96.77	9.38	6	10	0.9189
2. Prioritize the qualification of industrial labor and maintain the required levels of efficiency and productivity of the sector.....	93	100.00	9.25	1	10	1.4192
3. Prioritize the technical and professional development of the partners and of others who administer or advise the company.....	93	100.00	9.22	3	10	1.3092
4. Preservation of the local environment of industry…….....	92	98.92	8.88	3	10	1.5956
5. Use the Industrial Development Plan - IDP 2020.....	84	90.32	7.24	1	10	2.8523
6. Public policies of the Federal, State and Municipal Governments, attractive investments and microenterprise partnerships with Government and private company.....	91	97.85	6.77	1	10	3.0553

Source: Polary (2012).

Table 9 - The 06 most important variables for the success of the industrial SBs of Maranhao in the perennial phase.

Variables	n	%	Average	Minimum	Maximum	DP
1. Prioritize the qualification of industrial labor and maintain the required levels of efficiency and productivity of the sector	41	100.00	9.20	5	10	1.1878
2. Reinvesting in Small Businesses (SBs), to better serve the workforce, the clientele and fulfill its economic and social function in order to remain successful in the market.....	41	100.00	9.10	4	10	1.2001
3. Prioritize the technical and professional development of the partners and of others who administer or advise the company the SBs…….....	41	100.00	9.07	6	10	1.2528
4. Preservation of the environment.....	41	100.00	8.56	4	10	1.5008
5. Use the Development Plan Industrial - DPI 2020.....	40	97.56	8.20	4	10	1.7127
6. Public Policies of Federal, State and Municipal Governments, attractive investments and partnership with Small Businesses with Government and private companies.....	41	100.00	7.51	2	10	2.0140

Source: Polary (2012).

Table 10 - Variables that most favorably influence the organizational excellence of the institutions surveyed

Variables	Average	Minimum	Maximum	**DP**
Managerial competencies and skills of managers, Professional Management - AIS.....	9,000	7	10	1,195229
Feasibility Study: technical, political, social and financial…….....	7,625	7	8	0,517549
Technology and inovation.....	7,375	6	10	1,407886
Level of efficiency and effectiveness of results.....	8,625	8	10	0,744024
Public Policies of the Federal, State and Municipal Government.....	7,375	5	10	1,505941
Legality, control and transparency.....	8,625	6	10	1,59799
Partnerships: Political-Institutional; Public-Private and Civil Society..	8,625	6	10	1,407886
Institutional and managerial public development.....	8,375	6	10	1,30247
Qualification, performance and results of civil cervants.....	8,000	6	10	1,511858
Resource Training: internal and external.....	7,250	6	8	1,035098
Environmental Sustainability.....	7,875	5	10	1,642081
Relevance to Society.....	9,125	8	10	0,991031

Source: Polary and Silva (2015).

FRAMES

Frame 1 – GDP 14 municipalities of the sample of 134 MSCs researched in the Industrial Sector-MA

Nº	Counties	**Current Price GDP**	**%**
1	Alcântara	R$65.418.000,00	0,17%
2	Bacabal	R$505.600.000,00	1,27%
3	Balsas	R$1.120.221.000,00	2,82%
4	Cajapió	R$22.781.000,00	0,06%
5	Caxias	R$825.527.000,00	2,08%
6	Imperatriz	R$2.000.735.000,00	5,03%
7	Lago da Pedra	R$152.435.000,00	0,38%
8	Paço do Lumiar	R$291.564.000,00	0,73%
9	Raposa	R$100.920.000,00	0,25%
10	Rosário	R$134.819.000,00	0,34%
11	São João dos Patos	R$89.164.000,00	0,22%
12	São José de Ribamar	R$473.407.000,00	1,19%
13	São Luís	R$ 15.337.347.000,00	38,58%

14	Timon	R$715.427.000,00	1,81%
	TOTAL GDP (municipalities participating in the research)	R$ 21.835.365.000,00	54,93%
	TOTAL GDP (municipalities not participating in the research)	R$ 17.918.346.000,00	45,07%
	GDP Maranhao	R$ 39.753.711.000,00	100%

Source: GDP of the municipalities of Maranhao – 2009 (IBGE - 2012).

Frame 2 - The AIS model. Integrates 03 dimensions, 05 components and 12 variables

MODEL	DIMENSIONS	COMPONENTS	VARIABLES
AIS	Administrative Technological	Management	Skills and Management Skills - Professional Management-AIS, based on Entrepreneurship.
			Feasibility studies: technical, economic and financial.
		Technology	Technological support (machinery and equipment, systems and working methods).
			Industrial efficiency level.
	Political Institutional	Policies	Public Policies of the Federal, State and Municipal Government.
			Legal, tax and labor aspects.
		Strategies	Local Strategies and Political Institutional Partnerships, Industrial Segment and Civil Society.
			Industrial Development Plan - IDP-2020.
	Economic Social	Economic and Social Indicators	Qualified industrial labor force.
			Investment attractiveness: internal, external and local government.
			Preservation of the local environment of industry.
			Business Location.

Source: Polary (2012).

Frame 3 – AIS model adapted for Public Administration. Integrates 03 dimensions, 05 components and 12 variables

MODEL	DIMENSIONS	COMPONENTS	VARIABLES
AIS	Administrative Technological	Management	Managerial Competencies and Skills - Professional Management (AIS).
			Feasibility studies: technical, political, social and financial.
		Technology	Technological support: technology and innovation; work processes and methods; equipment.
			Level of efficiency and effectiveness of results.
	Political Institutional	Policies	Public Policies of the Federal, State and Municipal Government.
			Legality, control and transparency.
		Strategies	Partnerships: Institutional Politician, Public-Private and Civil Society.
			Institutional and Managerial Public Development.
	Economic Social	Economic and Social Indicators	Qualification, performance and results of civil cervants.
			Fundraising: internal and external.
			Environmental Sustainability.
			Relevance to society.

Source: Polary (2014).

Frame 4 - The AIS Model: averages and percentages of Dimensions, Components and Variables that positively influence the Management, Success and Perennity of Maranhao's industrial MSCs, in the view of managers.

CONCEPT	DIMENSIONS	AVERAGE	%	COMPONENTS	AVERAGE	%	VARIABLES	AVERAGE	%
AIS	Administrative Technological	8,8	37,2	Management	8,8	18,7	Managerial skills and abilities of the partners who manger and those who administer or advise the business - Professional Management (AIS), based on Entrepreneurship.....	9,0	9,6
							Do feasibility studies: technical, economic and financial ……	8,6	9,1
				Technology	8,7	18,5	Technological support (machinery and equipment; systems and working methods).....……	8,8	9,4
							Industrial efficiency level……..	8,6	9,1
	Political Institutional	6,8	28,7	Policies	6,5	14,8	Public Policies of the Federal, State and Municipal Government…….	6,0	6,4
							Legal, tax and labor aspects.....	7,9	8,4
				Strategies	6,5	13,8	Local Strategies and Institutional Political Partnerships, Industrial Segment and Civil Society.....	6,2	6,5
							Industrial Development Plan – IDP-2020	6,9	7,3
	Economic Social	8,0	34,0	Economic and Social Indicators	8,0	34,0	Skilled industrial labor.....	8,6	9,0
							Investment attractions: internal, external and local government.....	6,6	7,0

							Preservation of the industry's local environment.....	8,5	8,9
							Business location.....	8,6	9,0

Source: Polary (2012).

Frame 5 - Multiple linear regression among the variables that most positively influence the Management, Success and Perennial (Independent) and Prioritize the qualification of industrial labor and maintain the levels of efficiency and productivity required of the sector (Dependent) in the industrial MCs of Maranhao.

Independent Variables (Peddler)	Partial regression coefficient	t	P
Constant (Intercept)	1.4039(a)	-	-
Skills and managerial skills of the managing partners and others who administer or advise the business - Professional Management (AIS), based on Entrepreneurship	0.0234(b1)	0.2571	0.7977
Technological support (machinery and equipment, systems and working methods)	0.2817(b2)	2.9741	0.0038
Conduct feasibility studies: technical, economic and financial	**0.3615(b3)**	**3.6469**	**0.0004**
Qualified industrial labor force	-0.0444(b4)	-0.7225	0.4719
Level of industrial efficiency	0.2301(b5)	2.3558	0.0207
Preservation of the local environment of industry	0.0414(b6)	0.5946	0.5536

Source: Polary (2012).

Frame 6 - Multiple linear regression among the variables that most positively influence the Management, Success and Perennity (Independent) and Reinvest in the SBs to better serve their workforce, the clientele and fulfill their economic and social function to remain successful in the market (Dependent) In the industrial SBs of Maranhao.

Independent Variables (Peddler)	Partial regression coefficient	T	p
Constant (Intercept)	1.9189(a)	-	-
Competencies and management skills of the managing partners and others who administer or advise the business allied to Professional Management (AIS) and Entrepreneurship.	0.2420(b1)	1.4464	0.1571
Technological support (machinery and equipment, systems and working methods)	-0.2618(b2)	-1.3601	0.1827
Qualified industrial labor force	**0.3233(b3)**	**2.7789**	**0.0088**
Level of industrial efficiency	0.3970(b4)	2.1712	0.0369
Location of the Small Business	**0.0773(b5)**	**0.6751**	**0.5042**
Preservation of the local environment of industry	0.0550(b6)	0.7674	0.4481

Source: Polary (2012).

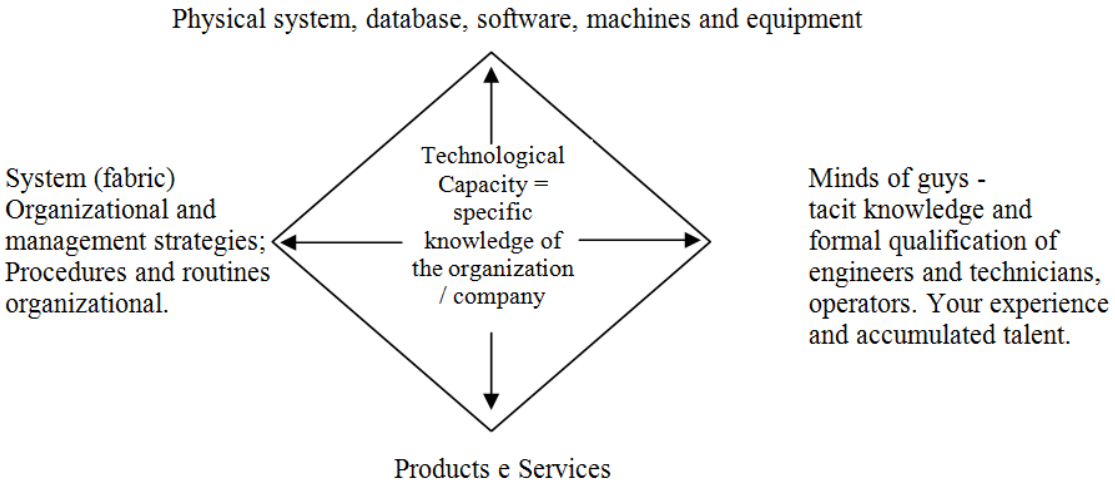
FIGURES

Figure 1 – Classification of countries participating in GEM 2016 according to their economic characteristics [1]-2016

CONTINENT	FACTOR DRIVEN COUNTRIES (6)	EFFICIENCY DRIVEN COUNTRIES (32)	INNOVATION DRIVEN COUNTRIES (27)
África	Burkina Faso, Camarões	**África do Sul,** Egito, Marrocos	
Ásia & Oceania	Casaquistão[2], **Índia**, Irã[2]	Arábia Saudita[3], **China**, Indonésia, Jordânia, Líbano[3], Malásia[3], Tailândia, Turquia[3]	Austrália, Catar, Coréia, Emirados Árabes Unidos, Hong Kong, Israel, Taiwan
América Latina & Caribe		Argentina[3], **Brasil**, Chile[3], Colômbia, Equador, Guatemala, **México[3]**, Panama[3], Peru, Uruguai[3]	
Europa	**Rússia[2]**	Bulgária, Croácia[3], Eslováquia[3], Geórgia, Hungria[3], Letônia[3], Macedônia, Polônia[3]	**Alemanha**, Áustria, Chipre, Eslovênia, Espanha, Estónia, França, Finlândia, Grécia, Holanda, Irlanda, Itália, Luxemburgo, Portugal, Reino Unido, Suécia, Suíça
América do Norte		Belize, El Salvador, Jamaica	Canadá, **Estados Unidos**, Porto Rico

Source: GEM 2016
[1] This classification is based on the Global Competitiveness Report - Publication of the World Eco-Economic Forum that identifies three phases of economic development, considering PIB per capita and the share of exports related to primary goods.
[2] In transition for efficiency-driven economies.
[3] In transition for economies driven by innovation.

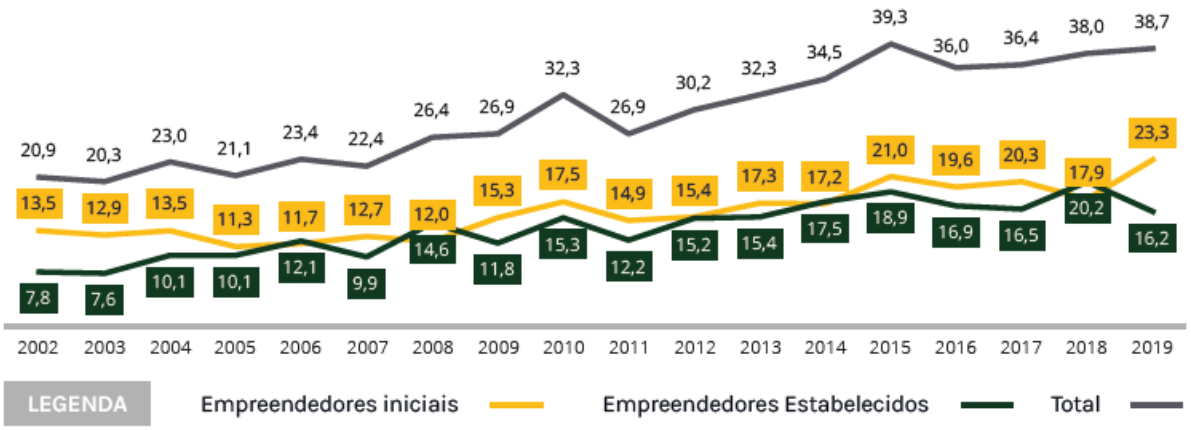
Figure 2: Visualizatiom of the technological trajectory of developing economy companies



Source: Lall (1992), Bell & Pavitt (1995), Figueiredo (2003).

GRAPHIC

Graphic 1 - Rates[1] (%) second stage of entrepreneurship REA, REE, RTE - Brazil - 2002:2019



Source: GEM Brazil 2019

[1] Percentage of the population aged 18 to 64 years.