



**PROSPECTS OF COMPETITIVE PROCESS INNOVATION  
BUSINESS IN BRAZIL: CRITICAL FACTORS FOR  
COMPETITIVENESS, PRODUCTIVITY AND GROWTH**

*Kátia Keiko Kitaguti*

*Instituto Federal de Educação, Ciência e Tecnologia de São Paulo,  
Brazil*

*E-mail: katiakitaguti@gmail.com*

*Fábio de Resende Shimura o*

*Instituto Federal de Educação, Ciência e Tecnologia de São Paulo,  
Brazil*

*E-mail: frshimura95@gmail.com*

*José Carlos Jacintho*

*Instituto Federal de Educação, Ciência e Tecnologia de São Paulo,  
Brazil*

*E-mail: jcj5847@yahoo.com.br*

*Submission: 26/07/2016*

*Revision: 11/08/2016*

*Accept: 10/02/2017*

**ABSTRACT**

The current economic landscape requires structural and, mainly, behavioral changes in Brazilian businesses. The scenario created by big economic powers shows the difference between Brazilian industries and service sectors when it is compared all business issues, such as competitiveness, productivity and innovation, with others countries. Technological innovation consists in a critical factor for competitiveness and for the global economic development; moreover, it can be found in industrial sectors (which are responsible for materialization and organization of operational system of production process) and in service sectors (which organizes all gained contracted activities). Innovation should not be included only in these two economic sectors; however, it has to be included in the economic thought of all countries. It has to be highlighted the fact that innovation is not the unique factor of competitiveness, but,



productivity and knowledge make the same impact in competitiveness as innovation does. Besides, external and internal demands predict trends in terms of searching products and processes and strategies and these three items achieve better interaction between market and productivity control. In a global context, Brazil, specially, has a lot of techniques to learn in terms of how to work with its resources in an adequate way, whether they are natural or not. That is why studies about critical factors for competitiveness are determined for the Brazil's sustainable growth.

**Keywords:** competitiveness; growth; innovation; knowledge; productivity.

## 1. INTRODUCTION

One important issue Porter (2008) used to point out was the fact that the growth of the investments in competition is essential for the consolidation and improvement of all kinds of competition and for the growth of productivity levels.

Additionally, one of the biggest concerns of the corporation world is how to create an accurate strategy and how to deal with factors as innovation, productivity and competitiveness. Strategies are related to which methods companies will use to achieve innovations, in other words, they are directed to the productivity growth and to acquire the best performance of competitiveness. Therefore, these factors are important to enhance the corporation profitability.

It is essential to notice that one procedure used by companies to survive in the market is in its inherent philosophy, in another word, it is related to how corporations deal with the fact that they need to constantly change their strategies due to the nonstop population change of thoughts.

The 20th century was characterized by several innovations. One of these innovations was launched in the automotive market: Ford T, the car whose price was highly competitive when it was compared to others of its time. It was reported that almost 80% of North-Americans had already had a car, in which most of them were Ford T consumers.

In that time, Ford T was the main competitor of General Motors' car. The innovative solution found by GM to acquire competitiveness among its main competitor was to develop car with different colors, which was totally different from the way Ford had dealt with business, because Ford only considered available black cars to its customers.



The method created by GM had introduced a new market standard that it has been using nowadays: the production focused on what consumers want, not forgetting to improve quality in goods and the way to guarantee customers' maintenance (TEDLOW, 2012).

Analyzing the previous situation, it can be inferred that the current circumstances of Brazil is similar to what Ford used to live in the beginning of 20th century. This situation can be easier to comprehend through an interview made by EXAME magazine in April 2015. In this interview, Michael Porter said that in countries like Brazil, the government is extremely bureaucratic with high taxes. Although Brazil has a lot of resources and innovative people to make this country better, Brazil can be left behind.

The aim of this work is to search for practical evidences that show how companies deal with innovation to provide services, what kind of productivity techniques are used by them and if productivity and innovation really are identified as critical factors of competitiveness.

While theoretical survey was embraced to build the conceptual knowledge about competitiveness and its critical factors (innovation and productivity), case studies based on qualitative approach were used to analyze practical applications and its structural evidences that could be able to improve competitive strategies.

Keeping in mind this way of research (theoretical + practical study), some companies of providing service in the radio-communication market of São Paulo were chosen for an interview. Employees of different areas of these companies were submitted to questions and interviews about concepts of competitiveness, productivity and innovation; however, all sectors are focused on customer services.

In order to achieve the goal of this research, it was essential to identify the answers of the questions in the table 1.

TABLE 1: Important questions to understand how professionals deal with competitiveness, productivity and innovation

Questions
How do employees deal with innovation, productivity and competitiveness in their daily routine?
What level of understanding and knowledge did employees have regarding the impacts of innovation, productivity and competitiveness on their work?
Why are critical factors of competitiveness part of their market decisions and are they potential value-adders for organizations' competitiveness?

Based on all academic research and interviews did, despite the fact that all professionals have knowledge of competitiveness, innovation and productivity, these concepts given by them were put toward in a very superficial way and they were characterized according the professional's position. However, if all these concepts were getting together, it can be made an unique definition of competitiveness, productivity and innovation for the whole company.

Therefore, it is essential for corporations to define internally concepts of innovation, productivity and competitiveness in furtherance of guiding itself towards its plans. Furthermore, if the basis of the company is not solid enough, it could be more difficult to face stiff competition and easier to lose market-share for emerging companies.

## **2. LITERATURE REVIEW**

### **2.1. Competitiveness**

According to authors of management literature, competitiveness concept is divergent from each of them and it has still been discussing nowadays. On the authority of Haguenaer (1983), competitiveness can be seen as performance, which means that it is a combination of corporation factors, such as price and quality. According to Haguenaer (1983), competitiveness could be considered as efficiency, too. When efficiency is related to competitiveness, competitiveness means the ability to produce goods with better quality than its competitors' products. In other words, corporations could be more competitive in relation to its competitors when its competitive differentials and its strategies are enough to maintain this company alive in the market.

According to Degen (1989), competitiveness is the base of successful or failure of a business in which there is free competition. This term refers to corporations whose competitiveness rates grow and show up totally different from their competitors, whether their profit potential or growth. Competitiveness is the correct capability of business activities in its microenvironment.

Competitiveness is the company is committed to create and implement competitive strategies which allow themselves of perpetuation or enlargement of a sustainable position in the market. (FERRAZ; KUPFER; HAGUENAUER, 1995, p.3; COUTINHO; FERRAZ, 1995, p.18).



There are three considerable competitiveness factors: the systemic, the structural and internal ones.

Corporations cannot control external forces. These forces are called systemic factors and can be classified according to their complexity, which include economic, tax, institutional and international issues. As long as they are not controlled, these factors are the biggest worries of modern economy. One example of external factors is the leadership of country, which can interfere in the economy; moreover, can retract or to encourage the growth of corporations through monetary, tax and economic politics and companies are not able to keep in control.

Structural factors were defined as "those which, even not being totally controlled by companies, they have partial influence in companies and characterize the competitive environment that companies ought to deal with". In these are included rules corporations need to follow to satisfy their consumers, type of their competitors and understanding of supply-demand relation.

All corporations should have their proper management method; as a result, creating handed-picked competitive strategies, innovative designs which fit in perfectly with the companies' strategy goals and guarantee processes flexibility. These facts consist on how impacting competitiveness internal factors really are and what are companies' position and perception among their market-share.

The competitiveness of corporations is ensured when they know how to work with their internal and external operational area. There are needs companies should implement in their philosophy to ensure their position in the market, which involve the fact that: the company should know its competitors' market-share, its customers and the market it works.

Internal and external analyses are required to acquire a better structure and strategic position for organizations. Additionally, according to Chiavenato (2014), competition happens when others organizations try to do what a certain organization does, but in a better way. Organizations gain competitive advantages when it is demanding to copy it.

Chiavenato (2014) points out that competitive advantages commonly are relevant to internal issues. Furthermore, a company is peculiar to others not because of their tangible assets (tactile possessions of a company), but because of their



intangible assets (goods that cannot be touched, for example, contracts, licenses, brands, confidence of their providers). If companies rely on their providers or their brand, they can be in a significant competitive advantage, reducing possibilities of new competitors.

On the authority of Miranda (1994), organizations ought to create goods and services to satisfy consumers, whether internal or external. Recently, it is impossible to imagine competitiveness without quality. Quality can be understood as everything that could improve goods according to consumers' point of view (DEMING, 1993). In Deming's point of view, quality is a great competitive differential advantage able to please purchasers, who could include new qualities in goods and services.

Toyota's corporation introduced Lean Manufacturing in 1950. This manufacturing system takes into consideration production techniques in small lots, minimizing step up, and more. It is well-known by a production system whose focus is quality.

As stated by Womack and Jones (1998), Lean Manufacturing's goal is to find better methods to manage supply chains, keep in touch with customers and providers, and reduce movements (less equipment, less human effort, time-reduction, for example). In addition to Womack and Jones' concept, Shah and Ward (2003) defined Lean Manufacturing as a combination of practices that any system with high-quality is able to produce goods according to customer's requirements, with no waste. However, Godinho Filho (2004) explains that Lean Manufacturing is a Strategic Paradigm Manufacturing Management, which defines a management system whose emphasis is to achieve some performance goals determined by company's philosophy, as quality and productivity.

On the other hand, Lean Manufacturing is not a solution for all the problems in which its application is related to company's strategies goals. It can be noticed that how important it is through "Table 1: Lean Manufacturing - The most important concept".

In 70s, Motorola has implemented a new method to ensure quality, well-known by Six Sigma. Sigma letter ( $\sigma$ ) is from Greece and means processes variability - a tool that consists in using several statistic methods. "Table 2: Sigma Levels" was created based on these statistics method; and it can be noticed that Six



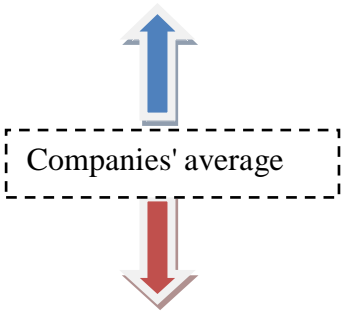
Sigma points out the lowest number of defects per million. Through this number of defects, companies can reduce their spending.

Table 1: Lean Manufacturing - The most important concept

Determine what is important for the consumers, avoiding wastes and identifying value.
Working in flow.
Just in Time.
Hunting for perfection.
Six Sigma Quality.
Security, order and cleaning.
Human resources capacity and development.
Visual Management.
Promote adjustment of all areas toward lean thinking.

Source: Adaption of Filho and Fernandes' article published on Revista de Gestão & Produção, 2004.

Table 2: Six Sigma

Sigma Levels	Defects per million (PPM)	Competitiveness level
6	3.4	
5	233	
4	6210	
3	66807	
2	308537	
1	690.000	

Source: The Six Sigma Handbook, by Thomas Pyzdek, 2003.

Furthermore, some companies' requirement is to acquire more quality in their goods, services and processes and it represents that they are supposed to present little parts per million imperfection index (PPM). Six Sigma is a scientific method of management system operation and processes; moreover, it trains employees to present satisfactory results for consumers and superiors. Its operation consists in:

1. Observe all relevant factors of business and market;
2. Develop a solution for a certain problem (or hypothesis) based on observations;
3. Based on hypothesis, make predictions;
4. Based on predictions, do experiments and observations. Try to register as much information as possible. If the last hypothesis was not certain enough, modify its hypothesis founded on new facts. If there is

variation, it is important to use statistic tools to segregate what is possible reason from what is not.

5. Repeat steps 3 and 4 until the situation there is no divergences between hypothesis and experiments/observations results.

Through these manual steps, it is possible to see how theory explains the relations that exist in the market and business. This theory is used for future predictions to develop a deeper study of customers' goals of corporations.

In Six Sigma, the fascinating result is showed by the reduction of politic influences. Despite the fact that these politic factors have no stop, the policy influences less in organizations where Six Sigma has application than traditional corporations.

## **2.2. Productivity**

In market whose consumers tend to appreciate goods and services with quality, Cerqueira Neto (1991) explained that the biggest corporations advocate for addition of programs with total quality, whose results achieve the customers' requirement; moreover, these programs also roll back operation costs, minimize wastes, decrease costs with external services, and optimize the use of existing resources.

The operation management tries to present modifications in its strategies, since the Critical Customer Requirements (CCR) changes to a new quality standard. Because of that, many companies need to be flexible to restructure their productive system, giving more value to human beings and their communication skills, readapting quality techniques and, all these factors will turn goods and services more competitive. By this way, the CCR assistance and restructure of processes reflect their results on corporation's productivity.

According to Longenecker, More and Petty (1997), productivity means the efficiency that inputs are transformed in production.

Similarly to Second Law of Thermodynamics, efficiency ( $\eta$ ) consists in the relation between "used energy" and "total energy", as it can be seen in Equation 2.1.

$$\eta = \frac{\text{Used Energy}}{\text{Total Energy}} \quad (2.1)$$





In comparison to the last concept of efficiency, in a market economy, it can be noticed that efficiency and productivity are similar and they are related to link inputs and outputs with monetary values. Due to this fact, the value of goods should overcome inputs costs of production to obtain better efficiency/productivity. The productivity, based on Second Law of Thermodynamics, is considered as a monetary relation between total revenue (received value related to quantity of sold goods or services) and total costs (sum of all production and product distribution expenses, expressed in equation 2.2).

$$\text{Productivity} = \left( \frac{\text{totalrevenue}}{\text{totalcosts}} \right)_{\Delta T} \quad (2.2)$$

Other definition of productivity was given by Japan Productivity Center for Social - Economics Development (2010) as minimization of the use of material resources, workforce, machines, equipments in order to roll back production costs; spread its market; increase the number of employers; advocate for the increasing wages and for the improvement of better quality of life, common capital, work and consumers interests.

As mentioned before, productivity should not be measured by monetary methods; nevertheless, has to be considered all human beings and their virtues in order to achieve better quality of life.

### 2.3. Innovation

Schumpeter has done a research focus on the difference between invention and innovation. As maintained by Schumpeter, an invention is an idea, sketch or a model for a new or improved artifact, product, process or system, and an innovation happens when there is some commercial transition which involves a lucrative invention. In addition to Schumpeter's idea, Drucker thought that innovation consists in transform preexisting thing into wealth-producing resources.

As maintained by Drucker (1987), a systemic innovation consists in going to hunt for organized and determined changes; and make a diagnosis of how changes impact on economic and social innovation.

In Drucker's point of view, it is essential to develop innovation according to an order and analyzing all practicable conditions for it - for example, whether this innovation have application or not.

Defined as a process, innovation can be divided into different models: Radical innovation (it is an introduction of new methods which develop quickly into new business), incremental innovation (it happens when a new characteristic is added, eliminated or substituted with no value changes, in another word, it is an improvement of goods that occurs gradually), improvement innovation (this happens when goods or services characteristics are unchanged; however there are a lot of individual improvements in its elements), ad hoc innovation (which results in new solutions for customers), innovation through formalization (it is related to the standardization of product/service) and innovation through recombination (when different services/products are associated).

Breakthrough in products can be divided into two parts: a technologically new product and a technologically improved product. According to Oslo Manual, a technologically new product is a product whose characteristics differ from those previously existing products, which is created through completely new breakthrough, use of new knowledge or combination of existing technologies. A technologically improved product is an existing product whose performance has been upgraded through elements which can reduce production costs, for example.

As stated by Oslo Manual, technological process innovation is to adopt technologically new or improved production methods, since products order until its deliver. It can involve methods as use of different equipment and use of new knowledge.

One field of the economy that has been valued is the service sector. This sector is vital for the economy development and for the improvement of quality of life (FITZSIMMONS; FITZSIMMONS, 2014). Furthermore, "product" of the service is considered intangible and instable, due to the fact that it cannot be stocked and its consumption is in the same time as its production.

As maintained by Gallouj (1994), there are three manners to be innovative in services: anticipatory (when there is new knowledge to be explored), ad hoc (group of processes with a solution for specific problems) and formalized (group of arrangements that help with conducts of service, as strategies).

According to Gallouj (1994), breakthrough in services is based on the relationship between company/supplier and consumers. Despite the fact that

customers are important for innovation in services, companies are responsible for accepting others opinion and to manage processes in favor to promote innovation, adding value to its products.

In an interview for Marketing World, Luiz Serafim (2012), who is the head of Corporative Marketing at Brazil's 3M, addressed that to leverage innovation in a company, it is essential to define what innovation is. After that, create the future company's overview and align to people's activities and researches. Other important point is training heads in favor to get along well and cooperate with each other's work. Moreover, he pointed out the importance of relationship networking sites belonging to the corporation in which employees can learn more with others company' fields. Another factor that contributes for innovation leverage is to take a holistic approach of all system.

Holistic and integrated approaches allow corporations to keep up to business news. When a company develops an integrative structure, a pleasant and engaging organizational culture is responsible for promoting union between talents, organization, behavior and management. According to Chiavenato (2014), motivating people to create a health environment contributes to develop excellent company competitiveness. Moreover, considering people as essential pieces of corporations, it can be noticed the importance of human capital (which represents qualities of humans that can be whether maintained or improved) in organizational competitiveness since they are the source of knowledge.

## **2.4. Brazil related to the world**

### **2.4.1. Brazil's competitiveness**

According to "2016/2015 World Competitiveness" report, made by World Economic Forum, Brazil is in 75<sup>th</sup> of 140 countries in competitiveness ranking.

The report revealed that Brazil's position was below smaller countries as Uruguay, Vietnam and Hungary, and its main competitors, like India, Mexico, Russia and South Africa.

The World Economic Forum had collect data that showed Brazil's downward trend, whose data was joined in "Figure 1: Brazil's position on the WEF's research (2006 - 2015)". The reasons why Brazil has been characterized by low competitiveness is explained by corruption scandals that have determined

mistrustfulness in its institutions, the lack of investments in innovation and weak basic infrastructures as education, which are fundamental factors for the competitiveness growth.

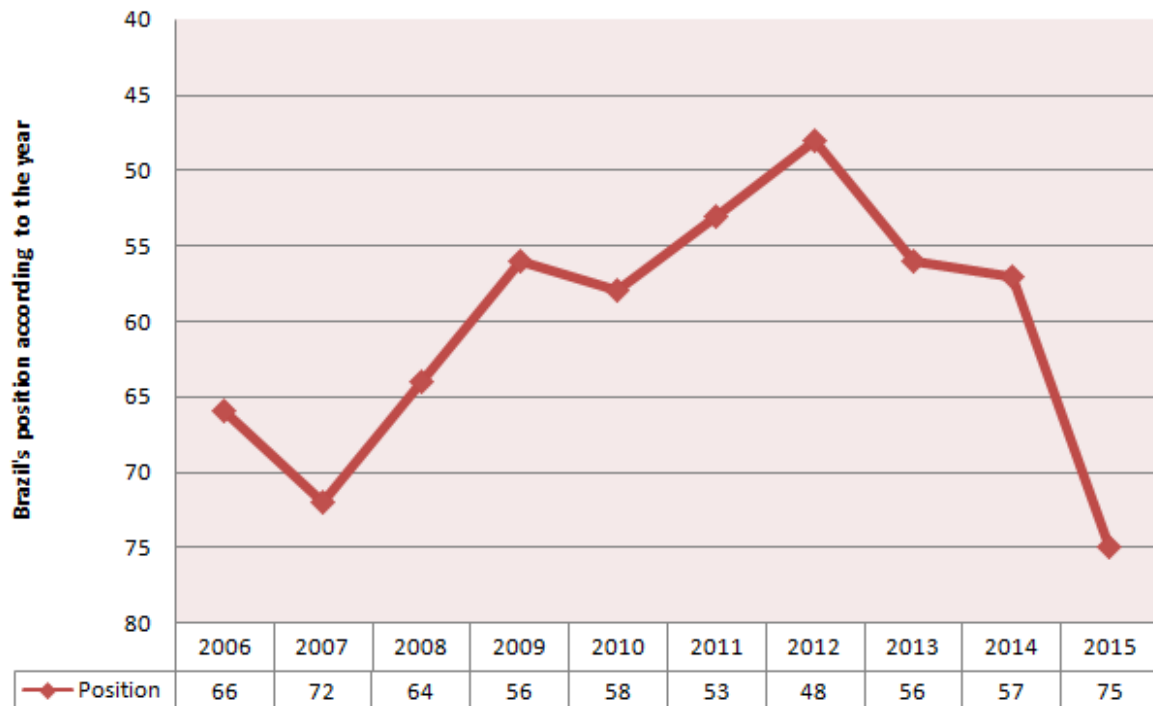


Figure 1: Brazil's position on WEF's research (2006-2015)

Source: Adaptation of Fundação Dom Cabral's report of Brazil's competitiveness performance, 2015.

Carlos Arruda (2015), coordinator of Dom Cabral Foundation's Innovation Center, claimed that Brazil has been losing many positions on competitiveness ranking due to Brazil's low improvement in regulatory issues and infrastructure.

On the other hand, this negative evaluation was not exclusive for Brazil. The world economy has been noticing a period with low growth rate, increase of unemployment rate and low productivity. This situation can be modified if countries readopt accelerated growth programs, focused on social inclusion and increase of productivity rates.

The research was done involving 12 categories with 108 variables. It showed that the competitiveness leader is Switzerland, followed by Singapore and United States. Switzerland is well-known by its stable unemployment rate, investments in innovation and its excellent education (Table 3: The top ten of World Economic Forum report).

Table 3: The top ten of the most competitive of the world, according to World Economic Forum report.

Rank	Economy	Info	Value	Trend	Distance from best
1	Switzerland	ⓘ	5.8	—	
2	Singapore	ⓘ	5.7	—	
3	United States	ⓘ	5.6	—	
4	Germany	ⓘ	5.5	—	
5	Netherlands	ⓘ	5.5	—	
6	Japan	ⓘ	5.5	—	
7	Hong Kong SAR	ⓘ	5.5	—	
8	Finland	ⓘ	5.5	—	
9	Sweden	ⓘ	5.4	—	
10	United Kingdom	ⓘ	5.4	—	

Source: World Economic Forum, 2015.

It was identified that Brazil ended up decreasing in 9 of 12 evaluated categories. The indexes which showed the worst performances were 3 of basic competitiveness factors (health and primary education, economic environment and institutions) and it was noticed improvement in infrastructure, market-share and technology readiness. According to "Table 4: Brazil's development according to 12 competitiveness pillars", Brazil's health and primary education have been disappointing all Brazilians.

Table 4: Brazil's development according to 12 competitiveness pillars

Basic Requirements	103 <sup>o</sup>	Efficiency enhance	55 <sup>o</sup>
Institutions	121 <sup>o</sup>	Superior Education and training	93 <sup>o</sup>
Infrastruture	74 <sup>o</sup>	Efficiency in goods market	128 <sup>o</sup>
Economic Environment	117 <sup>o</sup>	Efficiency in job market	122 <sup>o</sup>
Health and Primary Education	103 <sup>o</sup>	Development in finance market	58 <sup>o</sup>
		Technological Readiness	54 <sup>o</sup>
Innovation and refinement factors	64 <sup>o</sup>	Market-share	7 <sup>o</sup>
Refinements in business	56 <sup>o</sup>		
Innovation	84 <sup>o</sup>		

Source: World Economic Forum, 2015.

Due to the fact that this research was done in 2014, economists consider that there still are factors which must disfavor Brazil's population, as the increase of deficit of public sector, the rising in inflation and the raise of unemployment rates.

#### **2.4.2. Brazil's productivity**

In 80s, Brazil had become aware of the increase of productivity rates, whose reason was structural changes in economy. This fact happened because rural population moved to cities, going to hunt jobs in industries.

Recently, data of Conference Board revealed that Brazilian corporations show the lowest average of productivity when it is compared with Latin countries. While Brazil's productivity rates was almost US\$ 11 per hours worked in 2013, Chile's was almost US\$ 21, Argentina's was US\$ 13,9. According to "Chapter 2.2 – Productivity", productivity should not be measured by labor gain per hour worked. It involves factors like efficiency with which work is operated and if it satisfy customer's order.

Despite the fact that Brazil has advanced two years in school average of formal workers, it does not raise productivity indexes. Moreover, it can be noticed huge difference between education and job market. Another reason for Brazil's low productivity is lack of technology. "A worker with a powerful computer can be more productive than other with a bad computer or without it", explains Marcelo Moura, Insper's professor.

In countries with no efficient technology, the government can import or produce it in its territory; however, Brazil' situation is completely different. As stated by Moura, technology imports is great concern for Brazil since Brazil has a lot of protectionist measures protecting national industry.

Brazil's productivity has as challenges its bureaucracy and infrastructure. The abundance of bureaucracy favors job informality, which could be harmful for its GNP (Gross National Product) and productivity rates. In a current situation, Brazil's population has been dealing with a tough situation, characterized by the lowest GNP of its history. The "Figure 2: Brazil's economy growth since 1967 until 2015 (year-by-year GNP, in %)" shows its GNP according to these years.



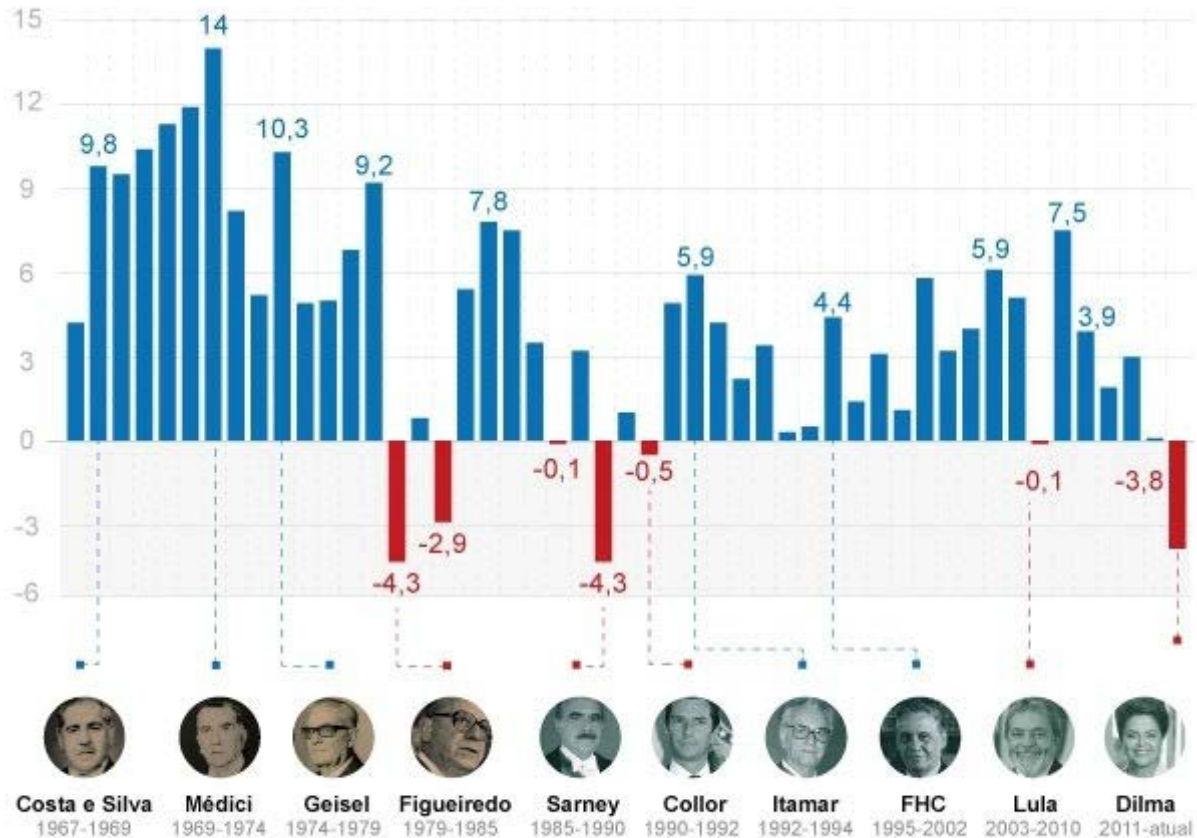


Figure 2: Brazil's economy growth since 1967 until 2015 (year-by-year GNP, in %).  
 Source: UOL and IBGE, 2016.

### 2.4.3. Brazil's breakthrough

Business Mobilization for Innovation (Mobilização Empresarial pela Inovação - MEI) (2015) pointed out that Brazil has been dealing with lack of its development. Brazil will take about 34 years to reach China and European Union's level of investments, for example.

According to BBC News, Brazil has few records at American office of patents when it is compared with others Eastern countries. While Japan has submitted about 54 thousands patents, the number of patents submitted by Brazil is about 330, as can be seen in "Table 3: Number of patents granted in a year per country".

Organization for Economic Co-operation and Development (OECD) revealed that Brazil invests 1,2% of its GNP in research and development (R&D), while China and European countries invest 2%, as can be seen in "Figure 4: Investment in research in comparison to GNP (2012) in percentage". In "Figure 3: Brazil's investment in R\$ billion" reveals that its government invested less than 55 billion in innovation.



Table 5: Number of patents granted in a year per country

Countries	Year							
	2007	2008	2009	2010	2011	2012	2013	2014
Japan	33354	33682	35501	44813	46139	50677	51919	53849
South Korea	6295	7548	8762	11671	12262	13233	14548	16469
Canada	3318	3393	3655	4852	5014	5775	6547	7043
Switzerland	1035	1112	1208	1608	1663	1831	2270	2398
India	546	634	679	1098	1234	1691	2424	2987
Italy	1302	1357	1346	1798	1885	2120	2499	2628
Cingapore	393	399	436	603	647	810	797	946
Brazil	90	101	103	175	215	196	254	334
Mexico	56	54	60	101	90	122	155	172
Argentina	37	32	45	45	49	63	75	71
Spain	268	303	317	414	469	642	711	789

Source: Adaptation of U.S.PATENT AND TRADEMARK OFFICE, PTMT, 2015.

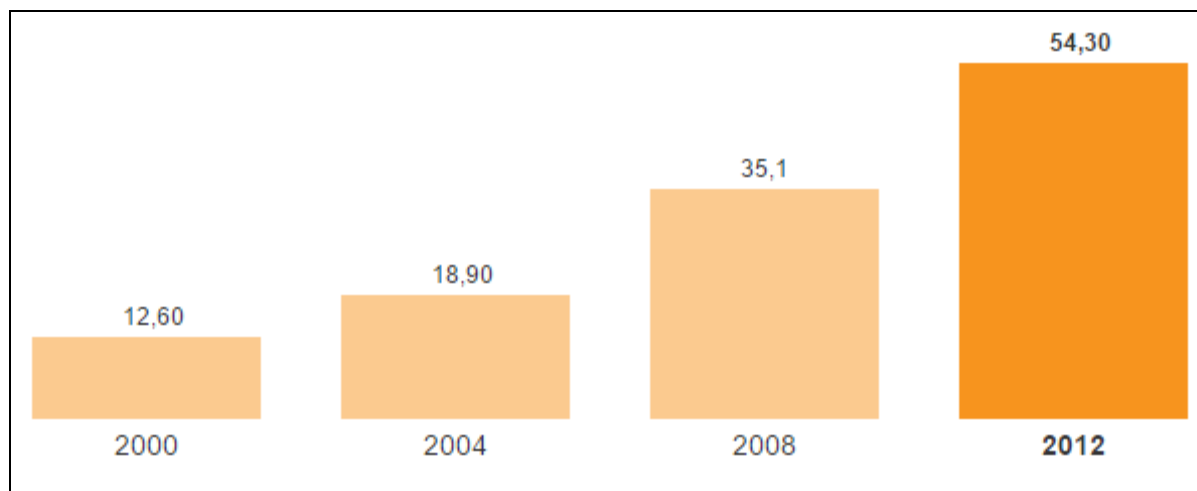


Figure 3: Brazil's investment in R\$ billion.

Source: Technology and Science Department and OECD

International evaluation revealed that growth rhythm of countries depends on private sector, since most investments for research are from companies. One alternative showed by industries to improve investments in innovation is to facilitate patent registration procedures and more accessibility in credit programs.

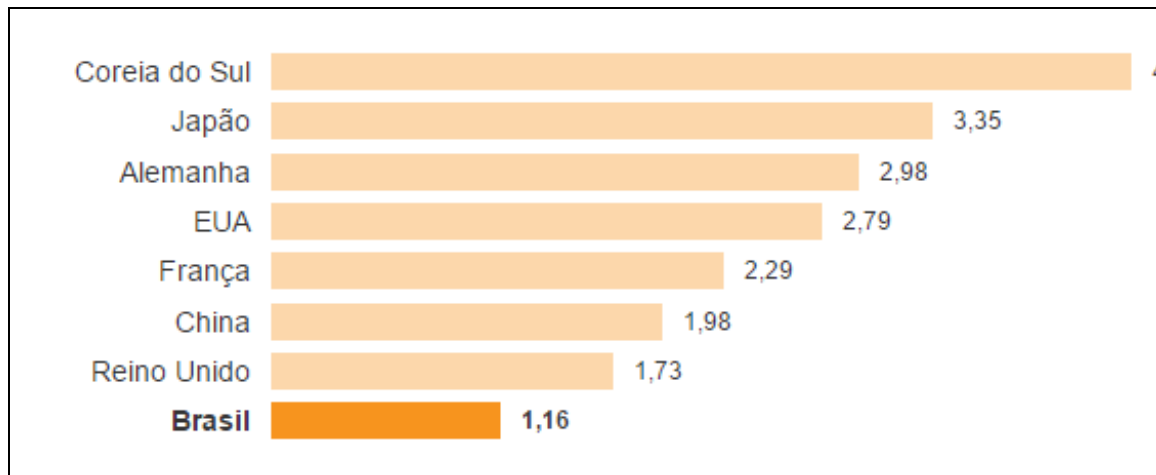


Figure 4: Investment in research in comparison to GNP (2012) in percentage  
Source: Technology and Science Department and OECD

### 3. METHODOLOGY

This article shows an applied nature research structured among two propositions: the first basis is centered in a bibliographic and exploratory research about critical factors of competitiveness, in this case, innovation and productivity. And the second premise works with a qualitative approach made through interview, analyzing a radio-communication service provider called TechnoRadio Corporation.

As maintained by Yin (2001), study cases are empirical researches that consider a present-day phenomenon in a real-life situation. This investigation is mainly required when limits between phenomenon and context are not so clear to see and it is centered in develop theoretical proposals to collect and analyze data.

The case study was taken into consideration in this article as an exploratory part of it and it was important to describe the activities of several essential sectors related to consumer services which have a lot of potential to be submitted to innovation.

The focus of this research is searching for evidences that prove the influence of innovations and productivity on the competitiveness of provided services. Despite the fact that radio-communications companies of São Paulo city are in a market that needs to be highly innovative, this market has not been so innovative.

All questions and interviews made were focused on the investigation of the current state of competitiveness in these corporations interviewed. The quiz contained questions about why and what critical factors are valued by them and how these factors are widespread in the company.

#### 4. CASE STUDY, RESULTS AND DISCUSSION

Companies are focused on achieving all, or most of their, strategy goals. To do it, they call for employers who follow their aim. On the other hand, it is difficult to maintain a group which does not have in mind an unique definition for competitiveness, productivity and innovation. It is extremely important for all kind of businesses to understand the terms which sustain the business identity.

After collecting data and analyzing them, it can be noticed that these professionals have a really restrict concept of competitiveness, innovation and productivity, which are focused on their line of business.

The Table 7, Table 8 and Table 9 were created after the definitions of competitiveness; productivity and innovation were given by interviewing professionals of the following areas:

- Pre-sales: which involves sales supporting areas, including areas charged with guarantee, contract signature, finances and IT
- Sales: sales areas that work with deals and contract closure, determining prices and deadlines.
- Post-sales: areas that give support to consumers right after contract signature.

Table 6 points out levels of research agreement and it was used to classify the definitions.

Table 6: Levels of how close information given by professionals is to the academic research

Consistent with the research
Relevant to the provider sector
Not compatible with the research
Additional point to improve the research

Table 7: Definitions of competitiveness

a) Competitiveness is necessary and it gives as results improvement and techniques development;
b) A flexible company (which takes into consideration opinions and concepts came from market) with an ethic attitude reveals competitive profile;
c) Competitive factor is according to the way company deal with quality, price and support;
d) It is required for competitiveness to have enough distribution channels in order to reach target audience;
e) Experience and market interpretation are determined to guarantee great competitiveness;
f) It is essential to guarantee service maintenance to ensure better quality;
g) Conversation between teams is important in order to avoid concerns with integration.

**Table 8: Definitions of productivity**

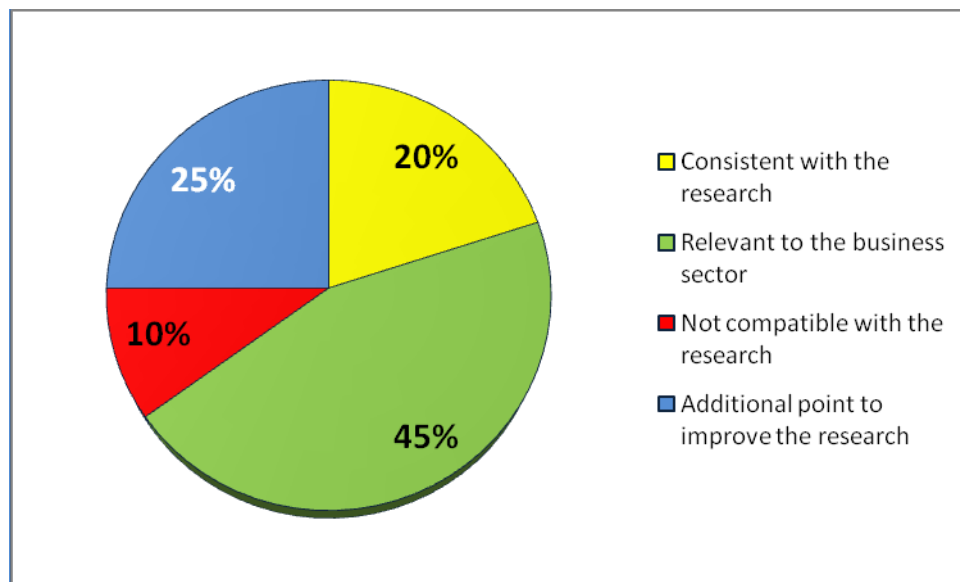
a) Productivity is a metric used to measure amount of time spent in each process and how long each process will take to give its return;
b) In services, productivity is measured by customers contentment and maintenance of existing contracts;
c) If customers call support area in low frequency, more productivity is its service, because the service has been done efficiently;
d) Productivity associated with number of sales and contracts;
e) Two people of sales area are not following the same goals, while one of them thinks it is require to sell more, other convince its customers that company's products have a lot of differentials.
f) It is necessary to improve process in order to enhance productivity;

**Table 9: Definitions of Innovation**

a) Innovation consists in adding factors and it could happen in any sector;
b) Innovation can be a potential risk, because of it, it tend to be questioned;
c) Innovation is limited by human thinking;
d) It started with market needs and consumers demand;
e) It is hard to think application for innovation in services;
f) Innovations have been happening incrementally in the companies (gradually);

Through information given by employees, the Graph 1 was created to transform qualitative data into quantitative orientation.

After analyzing all pieces of qualifications, it could infer that these professionals have in mind one-dimensional concept of competitiveness, innovation and productivity.



**Graph 1: Quantitative information obtained through interviews**

Despite the fact that the group interviewed was very heterogeneous and it is difficult to find someone that does not appropriate these concepts, it is important for business to comprehend all competitive strategies which sustain its identity.

## 5. CONCLUSION

Based on a theoretical conceptualization and practical data collected qualitatively, it can be concluded that concepts of competitiveness, innovation and productivity are known by all professionals interviewed. However, these terms were exposed in a very superficial way.

The analysis of qualitative data and its comparison to the theoretical research reveal that while 20% of results are compatible with the academic research, 45% is related to relevant information for the company's business. Besides that, it was concluded that 25% of data is not compatible with theoretical research and 10% is information that improved this survey.

On the other hand, when it is considered all answers of competitiveness, it was revealed that around 57% of them are specific for the service sector in which the interviewed company of radio-communication performs. It indicates the company's flexibility and experience in dealing with the market needs. Moreover, the studied company takes into consideration consumer's feedback to improve its maintenance service and time that takes to get in contact with customers. Feedback is used by them to know more about its competitiveness. Back to the answers, 33% and 50% are related to how employees see productivity and innovation, respectively.

Analyzing other collected information, while 14.3% of results of competitiveness are compatible to theoretical research, 33% of all information given was compatible to it. However, none of information about innovation showed compatibility between theoretical and practical parts and it is additional information to our research.

It can also be inferred that 26.3% of the results showed that there are factors that improved this research, in which 28.6% in competitiveness, 16.7% in productivity and 33% in innovation theoretical study. The information obtained through interviews showed the fact that TechnoRadio Corporation's concern is to enhance quality, price and support to compete better in the market. Furthermore, productivity must be faced as a group of time involved in all processes.

Thus, when all ideas and reflections obtained through the results of practical interviews were considered as part of corporation's philosophy, terms of

competitiveness, innovation and productivity will be treated so naturally by professionals that could help them to understand and improve operational and business results. Besides, it is crucial that companies define innovation, competitiveness and productivity according to its way of thinking, in order to prepare their employees to achieve the corporation's aims (SERAFIM, 2012).

The company interviewed reveals the importance for them to have a place where professionals can be trained according to its needs, especially in the sector of radio-communication, in which is tough to have professionals trained. When the theme is innovation, employees claimed that, in Brazil, consumers require for products with low prices than products with differentials or technological benefits.

Due to this fact, companies are not so committed to adapt their products to the national market and have been abandoning the desire for innovation. That's the reason why, when the assumption is national scenario, it was revealed that Brazil's bureaucratic procedures fight against innovative process, not attending internal needs and disfavoring its competitive condition. This country does not have as a culture to encourage patents registration nor offer reliability to invest in new business, because Brazil is infamous for its high taxes, policy with no credibility and precarious education system.

The educational system does not offer appropriate professionals that the radio-communication job market requires, which can be considering a huge difference between academic and professional system. The company interviewed revealed that it has a training place focused on qualifying technical workers according companies' needs.

Back to the corporations interviewed, another thing that this research pointed out is the fact that the corporative environment is highly competitive, in which some professionals fight against innovations. Furthermore, it could be noticed that the cooperation between some areas is not so common to see, which could be so harmful for its employees because it is not so worthy to work in a place with a lot of disintegrated areas.

In national scenario, it is clear Brazil have to do bureaucratic and structural adjustments. Making these factors better contributes to direct Brazil's educational and technological development in favor to improve the country. Nevertheless,

Brazil's political scandals, its lack of investment in education and health have discouraged businesspeople to invest in Brazil, which economy has been dealing with several political uncertainties.

In this tough time for Brazil, characterized by a political and economic crisis, with a fewer trained professionals in the market and low investment in the country's needs, corporations must have contributors who should be trained to encourage their team, to be focused and to be productive leaders in order to achieve the competitive differential existed in human potential. According to Chiavenato (1999), if an organization really wants to achieve its goals, it should know its employees' individual interests. Maintaining this relationship, both of them win. Nowadays, it is important for professionals to work for a company with identity (company's ideals is similar to their way of thinking), motivation and learning development.

## REFERENCES

- AGOSTINI, R. (2016) **Ritmo de inovação do Brasil está a 3 décadas do chinês**—Folha de São Paulo. Available in: <<http://www1.folha.uol.com.br/mercado/2015/08/1663445-ritmo-de-inovacao-do-brasil-esta-a-3-decadas-do-chines.shtml>>. Access in: Feb. 15.
- BERNARDES, R.; BESSA, V.; KALUP, A. (2005) **A economia da inovação no setor de serviços: desvendando o cenário brasileiro**. São Paulo, PUC.
- BISPO, C. S. et al. (2015) **Empreendedorismo e Inovação**. Available in: <[http://www.ibes.edu.br/aluno/arquivos/artigo\\_empreendedorismo\\_inovacao.pdf](http://www.ibes.edu.br/aluno/arquivos/artigo_empreendedorismo_inovacao.pdf)>. Access in: May 5, 2015.
- BRASIL, L. (2016) **O que é Lean**- Lean Institute Brasil. Available in: <<http://www.lean.org.br/o-que-e-lean.aspx>>. Access: Apr. 20.
- CERQUEIRA, A. ;NETO, B. P. (1991) **Gestão da qualidade princípios e métodos**. São Paulo: Livraria Pioneira Editora.
- CHIAVENATO, I. (2005) **Administração de Recursos Humanos**. São Paulo: Atlas.
- CHIAVENATO, I. (2014) **Comportamento Organizacional: A dinâmica do sucesso das organizações**. São Paulo: Editora Manole.
- CHIAVENATO, I. (1999) **Gestão de Pessoas**; o novo papel dos recursos humanos nas organizações. Rio de Janeiro: Campus.
- COSTAS, R. (2016) **Entenda por que a produtividade no Brasil não cresce** - BBC Brasil. Available in: <[http://www.bbc.com/portuguese/noticias/2014/05/140519\\_produtividade\\_porque\\_r](http://www.bbc.com/portuguese/noticias/2014/05/140519_produtividade_porque_r)>. Access in: Feb, 12..
- COUTINHO, L.; FERRAZ, J. C. (1995) **Estudo da competitividade da indústria brasileira**. 3.ed. Campinas: Papirus: Editora da Unicamp.





DEGEN, P. J.; MELLO, A. A. A. (1989) **O empreendedor: fundamentos da iniciativa empresarial**. São Paulo: McGraw-Hill.

DEMING, W. E. (1990) **Qualidade: a revolução na administração**. Rio de Janeiro, Marques-Saraiva.

DRUKER, P. F. (1987) **Inovação e espírito empreendedor**. Editora Pioneira.

FERRAZ, J. C.; KUPFER, D.; HAGUENAUER, L. (1995) **Made in Brazil: Desafios competitivos para indústria**. Rio de Janeiro: Campus.

FILHO, M. G.; FERNANDES, F. C. F. (2004) Manufatura enxuta: Uma revisão que classifica e analisa os trabalhos apontando perspectivas de pesquisas futuras. **G&P: Gestão & Produção**, v. 11 n. 1, p. 1-19.

FITZSIMMONS, J. A.; FITZSIMMONS, M. J. (2014) **Administração de serviços: Operações, estratégia e tecnologia da informação**. 541 p. AMGH Editora. Translation made by Scientific Linguagem Ltda.

FUNDAÇÃO DOM CABRAL. (2016) **Brasil cai 18 posições no ranking de competitividade do Fórum Econômico Mundial**. Available in <<http://www.fdc.org.br/blogespacodialogo/Lists/Postagens/Post.aspx?ID=458>>. Access in: Mar. 02.

GALLOUJ, F. (1994) **Innovation dans les services**. Paris: L'Harmattan.

GODINHO FILHO, M. (2004) **Paradigmas estratégicos de gestão da manufatura – configuração, relações com o planejamento e controle da produção e estudo exploratório na indústria de calçados**. Thesis (Graduate Degree) – Universidade Federal de São Carlos, São Carlos.

GODINHO FILHO, M.; FERNANDES, F. C. F. (2003) Um sistema para classificar e codificar os trabalhos relacionados com o Controle da Produção e o Controle da Qualidade. **Revista Gestão & Produção**, v. 10, n. 1.

HAGUENAUER, L. (1989) **Competitividade: conceitos e medidas: uma resenha da bibliografia recente, com ênfase no caso brasileiro**. Rio de Janeiro: UFRJ/IEI, 1989 (textos para discussão n. 211). HENDERSON, B. D. **As origens da estratégia I**.

JUNIOR, P. C. R.; GUIMARÃES, T. A. (2012) Inovação em Serviços: o estado da arte e uma proposta de agenda de pesquisa. **RBGN - Revista Brasileira de Gestão de Negócios**, v. 14, n. 44, p. 293-313.

LONGENECKER, J.; MOORE, C.; PETTY, J. W. (1997) **Administração de pequenas empresas**. São Paulo: Makron Books.

MANO, C. (2016) **"O Brasil pode ficar para trás", afirma Michael Porter**. Available in: <<http://veja.abril.com.br/economia/o-brasil-pode-ficar-para-tras-acorporationa-michael-porter/>>. Access in: Feb. 27.

MACHADO-DA-SILVA, C. L.; FONSECA, V. S. (1996) Competitividade Organizacional: uma Tentativa de Reconstrução Analítica. Curitiba: **Organizações & Sociedade**, v. 4, n. 7, p. 97-114.

MARINO, L. (2006) **Gestão da qualidade e gestão do conhecimento: fatores-chave para produtividade e competitividade empresarial**. Bauru, UNESP: XIII SIMPEP.

- MARIOTTO, F. (1991) O conceito de competitividade da empresa: uma análise crítica. **Revista de Administração de Empresas**, v. 31, n. 2, p. 37-52,.
- MIRANDA, R. L. (1994) **Qualidade total**: rompendo as barreiras entre a teoria e a prática. 2 ed. São Paulo: Makron Books.
- ORGANIZAÇÃO PARA COOPERAÇÃO ECONÔMICA E DESENVOLVIMENTO. Manual de Oslo. *In: Propostas de Diretrizes para Coleta e Interpretação de Dados sobre Inovação Tecnológica*. 135 p. Ed. FINEP. 1 ed. Translation made by Paulo Garchet.
- PYZDEK, T. (2003) **The Six Sigma Handbook**: A Complete Guide for Green Belts, Black Belts, and Managers at All Levels. United States Of America: Mcgraw-hill. 850 p.
- PORTER, M. E. (1998) **Competição**: Estratégias Competitivas Essenciais. Translation. São Paulo: Elsevier Editora Ltda.
- PORTER, M. E. (1990) The competitive advantage of nations. **Harvard Business Review**, Boston, v.68, p.73-95.
- SÁ, S. (2016) **Como alavancar a inovação**. Available in: <<http://exame.abril.com.br/marketing/como-alavancar-a-inovacao>>. Access in: Mar. 17.
- SANTOS, A.; FAZION, C.; MEROE, G. (2011) Inovação: um estudo sobre a evolução do conceito de Schumpeter. Caderno de Administração. **Revista da Faculdade de Administração da FEA**. ISSN 1414-7394, v. 5, n. 1.
- SANTOS, M. (2015) **Contribuição à Compreensão do Conceito de Competitividade nas Organizações**. Available in: <[http://sistema.semead.com.br/9semead/resultado\\_semead/trabalhosPDF/11.pdf](http://sistema.semead.com.br/9semead/resultado_semead/trabalhosPDF/11.pdf)>. Access in: Mar. 20.
- SCHUMPETER, J. A. (1988) **A teoria do desenvolvimento econômico**. São Paulo: Nova Cultural.
- SHAH, R.; WARD, P. T. (2003) Lean manufacturing: context, practice bundles, and performance. **Journal of Operations Management**, v. 335, p. 1-21.
- SHIMIZU, M.; WAINAI K.; AVEDILLO-CRUZ, E. (1997) **Value added productivity measurement and its practical applications with linkage between productivity and profitability**. Tokyo: Japan Productivity Center for Socio-Economic Development,. 223 p.
- SILVA, C. (2001) Competitividade e estratégia empresarial: um estudo de caso da indústria automobilística brasileira na década de 1990. **FAE**, v. 4, n. 1, p. 35-48.
- SPORTONO, K. (2016) **Brasil cai em ranking de competitividade, sendo o 75º colocado**. Available in: <<http://exame.abril.com.br/economia/brasil-cai-em-ranking-de-competitividade-sendo-75o-colocado/>>. Access in: Mar. 5.
- TEDLOW, R. (2012) **Miopia Corporativa: Como A Negação De Fatos Evidentes Impede A Tomada das Melhores Decisões e o que Fazer a Respeito**. Translation. São Paulo: HSM Management, 2012.
- UOL. (2015) **Economia brasileira encolhe 3,8% em 2015, pior resultado em 25 anos**. Available in: <<http://economia.uol.com.br/noticias/redacao/2016/03/03/pib-2015.htm>>. Access in: Mar. 3, 2016.

WOMACK, J. P.; JONES, D. T.; ROOS, D. (1992) **A máquina que mudou o mundo**. 14. ed. Rio de Janeiro: Campus.

WOMACK, J. P.; JONES, D. T. (1996) From lean production to the lean enterprise. **IEEE Engineering Management Review**, p. 38-46.

WOMACK, J. P.; JONES, D. T. (1998) **A mentalidade enxuta nas empresas**. 5. ed. Rio de Janeiro: Campus.

WORLD ECONOMIC FORUM (2015) Competitiveness Rankings. Available in: <  
<http://reports.weforum.org/global-competitiveness-report-2015-2016/competitiveness-rankings/>>. Access in: Feb. 20, 2015.

YIN, R. K. (2001) **Estudo de caso: planejamento e métodos**. (2Ed.). Porto Alegre: Bookman.