

# THE INFLUENCE OF FINANCIAL LOGIC ON THE EVOLUTION OF SIX SIGMA

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## Abstract

The ascension of financialization brought implications on the organizations, because they need to deal with the demands of the financial markets and its shareholders. Parallel to this movement, quality management has been gaining ground in organizations, from different approaches and the latest called Six Sigma. The objective of this article is to investigate the influence of the financial logic in the Six Sigma, using a detailed investigation of how Six Sigma has been addressed in the events promoted by the International Quality & Productivity Center (IQPC), by the analysis of events in Brazil and the United States in the period 2003-2010. The main results of this study proved and demonstrated the different ways of the influence of financial logic in the evolution of Six Sigma in organizations.

**Keywords:** Financialization, Organizational Dynamics, Six Sigma

## 1. INTRODUCTION

The capitalist world economy has faced important changes in the last decades that have led to a modification in the predominant accumulation regimes, which have been called “global richness financialization” (BRAGA, 1997), “accumulation under financial capital dominance” (Chesnais, 1998), “economy of financialization” (Froud *et al.*, 2000), and “shareholder capitalism” (Davis, 2009) among others.

According to Chesnais, an accumulation under financial dominance is a predominant financial accumulation regime.

*Financial accumulation means the centralization in specialized institutions of non-reinvested industrial profits and non-consumed income for the purposes of valorization through the application of financial assets - foreign currency, bonds, and stocks - keeping them outside the production of goods and services (2005, p.37).*

Therefore, it can be said that the financial logic established the corporate world by emphasizing the need to create shareholder value through the constant growth of stock prices focusing on the search for capital and on the need to adhere to the corporate governance principles.

Hence, organizations had to adopt some approaches in order to conform to the new financial market demands such as the development of value-based models, duty changes, expected results, hierarchical remuneration, and new organization strategies.

Concomitantly with financialization, it seems that another “phenomenon”, quality management, has been motivating more and more companies to review their strategies that are closely related to

profitability and to basic entrepreneur goals, which are sensitive to the competition needs and to the consumer view and more closely associated to a continuous improvement thus becoming an extension of the previous quality eras (Garvin, 1992).

Analyzing the evolution of the quality areas, some approaches that present concepts of financial logic can be noted, such as Quality Costs; Total Quality Control; Total Quality Management; and Six Sigma Program. Although it does not approach the production financialization process and does not focus on the need to create shareholder value, the Six Sigma has introduced concepts of financial logic focusing on production logic only.

Among these quality management approaches that present concepts of financial logic, the Six Sigma program is the most recent one and was introduced and developed by Motorola at the end of the 1980s. According to Wessel and Burcker (2004), this program is an evolution of Total Quality Management focusing more on financial results and strategic alignment. One of its major benefits is its strength in being data driven.

Along the same line, this article addresses the following topics: production financialization and the Six Sigma. On one hand, there is the production financialization which influences organizations in terms of the need to create shareholder value and adhere to the corporate governance principles. On the other hand, there is the dissemination of Six Sigma program considering the, unfolding of the strategy of Six Sigma projects and its operationalization using improvement methods and information technology and its maintenance considering cultural aspects such as the creation of a hierarchical structure of Six Sigma.

Hence, due to the shareholder capitalism, there are internal and external agents to organizations that disseminate financial logic to the Six Sigma as a way to meet the financial market demands.

From this perspective, this article raises the following question: “How was the contemporary approach to quality management, the Six Sigma, influenced by the organizations’ financial logic”? Therefore, the objective of this study is to investigate the influence of financial logic on the Six Sigma to highlight the characteristics of financial logic present in the evolution of Six Sigma.

## 2. FINANCIALIZATION OF PRODUCTION

The objective of this section is to elucidate the financial logic and its influence on organizations. Firstly, it addresses how financial logic is present in organizations based on the presentation of new concepts involved in the shareholder value creation and corporate governance. Next, the major impacts upon organizations are presented considering the management models based on value, hierarchical levels, and organization strategies that result from the financialization process.

### 2.1. Shareholders value creation and corporate governance

Crotty (2002) highlighted that one of the factors that has fostered organizations’ development since the 1980s is the need to increase the profitability of joint-stock companies leading to the shareholder value creation. Hence, financial market institutional investors tried to make companies recognize the need of a constant stock price increase focusing on capital gains.

Fligstein (2002) added that the main idea in the concept of a company focused on shareholder value creation is that the only legitimate purpose of this company is to maximize shareholder value.

According to the concept of financial logic, organizations should always achieve good financial results in the short run through their assets focusing on margin increase and diversification. Therefore, the major strategies of financial logic are margin diversification and disinvestment instead of internal growth only, financial activities to increase the stock price, joint venture, and use of financial control for internal capital allocation (Fligstein, 1990).

Hence, organization profitability in the short run perspective is pursued by investors and shareholders without the addition of long run capital essential for the survival of organizations. Thus, this created what Crotty (2002) called the Neoliberal Paradox, i.e. organizations focus on adopting a short run perspective to meet the demand for profitability imposed by the shareholders, whereas they need long run investments to achieve sustainability in a wider perspective.

In the last decades, the ideology of shareholder value creation has been highlighted in debates on Corporate Governance in the United States and in European countries such as Germany, France, and Switzerland (Erturk *et al.*, 2008). According to the OECD Principles of Corporate Governance, issued in 1999, organizations should operate focusing

primarily on meeting the interest of shareholders [OECD (1999) *apud* Erturk *et al.* (2008)].

Thus, the demands to adhere to the good governance principles have become a “gateway” to financial logic in production companies (Grün, 2005; Grün, 2003; Streeck, 2001).

From this perspective, corporate governance is a way for the shareholders to be heard by the top management of companies. According to the definition proposed by Brazilian Institute of Corporate Governance (IBGC):

*Corporate governance is the system by which the societies are directed and managed involving the relationship between shareholders/stakeholders, executive management, board of directors, independent audit, and audit committee. The goals of the good corporate governance practices are to increase value of the corporation, facilitate its access to capital, and to contribute to its sustainable development (IBGC, 2010).*

### 2.2. Organizational impacts resulting from financial logic

Due to the need to create shareholder value, adhere to the principles of good governance, and meet the financial market demands, the organizations took some actions in order to conform to the new specific requirements and demands, which will be related next.

Froud *et al.* (2000) stated that several renowned audits have developed their own models and metrics to measure the company contribution to shareholder value creation. Those models elucidate how the logic behind value creation for shareholders should permeate the decision and the managerial practices in organizations.

Among the management models based on values are: the Economic Value Added (EVA), Shareholder Value Added (SVA), Market Value Added (MVA), Cash Value Added (CVA), Total Shareholder Return (TSR), Refined Economic Value Added (REVA), and Adjusted Economic Value Added (AEVA).

Owing to the prevalence of financial logic and stronger influence of institutional investors, there have been changes in the different levels of company hierarchy from responsibility and expected results to remuneration, mainly in the managerial and strategic levels.

With respect to those changes, the Agency Theory had considerable influence by trying to impose a financial discipline upon the organizations and generating greater social benefits for shareholders justifying the existence of excesses in managerial compensation and what the media and corporate governance call “fat cat” CEO, those who were more interested in getting rich instead of creating shareholder value (Erturk *et al.*, 2008).

Along the same line, the company has to be seen as a set of written contracts with well-defined terms and conditions between parties establishing time, place, and range, in which the idea of team work is abandoned and the focus becomes being in control and individualized performance measurement (Grün, 2004). Changes in the responsibilities of different hierarchical levels were thus noted since short-run good financial results and fair executive compensation are expected due to the growing importance of remuneration variation

according to the results obtained, especially those related to the management of stock prices.

Along with the downsizing processes, DiMaggio (2001) reported the development of “project-employment”, in which the hierarchical structure has become outdated, and there is reduction in the number of rules, assignment of more diffuse roles, and reduction in long-run employment commitment through network and project-team work.

It is worth mentioning that in addition to downsizing processes and Project-employment, the organizations have also focused on an effective distribution of profits in order to guarantee the stock prices (Lazonick and O` Sullivan, 2000).

Expanding production lines is not the main focus since, due to globalization and financialization, the industrial relations and the interests of workforce are not top priority anymore. The investments that fulfill the financial market requirements have become priority, such as economic profit in the short run, which does not necessarily result from production logic.

### 3. SIX SIGMA

According to the literature review conducted, there are several different definitions for the Six Sigma approach. Nonetheless, it is worth mentioning that concerning the subject of this study, the classification of the process under two perspectives, statistical and business, shows that the latter, which is based on the business processes improvement, is more appropriate (Truscott, 2003; Kwak and Anbari, 2006; Antony and Bañuelas, 2002).

Santos and Martins (2008) presented a thorough chart with definitions of Six Sigma that were selected from the literature review covering a long period of time: from the 1990s in the 20<sup>th</sup> century, when focus of the Six Sigma approach had a more statistical focus, to the turn of the century, when the focus became more strategic.

The statistical perspective discusses the issue of variability in successive observations of a process or phenomenon that does not reproduce the same result. This variability is closely related to quality since quality is inversely proportional to variability (Montgomery, 2004).

Since its origin, the Six Sigma has gotten an important meaning. In statistics, the Greek letter sigma represents the standard deviation that measures variations within a statistical population or set of data, and it is used to calculate the dispersion or variation of these data in relation to the mean. Since variability is present in a real event, it is a key element in the study of improvement processes because variation is measurable.

The other perspective of Six Sigma, from the business point of view, is the most important concerning the present study since it considers that this approach can facilitate business improvement with the accomplishment of the strategic goals to achieve better financial results.

Harry and Schroeder (2000) highlight that unlike general belief, the Six Sigma objective is not to achieve sigma levels of quality, but rather to improve profitability although quality and efficiency improvement is a consequence of Six Sigma.

According to these authors, Six Sigma is a business process that enables organizations to

improve substantially their financial results (bottom line) by developing and monitoring their business activities minimizing losses and optimizing the use of resources while leading to greater customer satisfaction.

Coronado and Antony (2002) add that Six Sigma is a strategy focused on improving business, and it is used for profitability improvement, to eliminate waste, to reduce the cost of rework, and for the improvement of all operations as well as to meet or even exceed customers' needs.

The Six Sigma business perspective presents concepts of financial logic since it shows that the challenges of management and the contemporary approach to quality management are represented financially by focusing on shareholder value creation.

### 4. RESEARCH METHODOLOGY

Financialization and the Six Sigma approach are considered as Imre Lakatos research methodologies, and the quantitative approach was adopted due to the fact that the researchers have control over the variables of this study. Therefore, an exploratory study was carried out based on secondary data from a documentary research.

The data was collected through a documentary research aiming at investigating how the Six Sigma was approached in the events held by the International Quality & Productivity Center (IQPC), an international conference company for business information.

Considering the subject of the present study, the documentary research was limited to the events in the area of Six Sigma called “Six Sigma & Quality”. The focus was on The Six Sigma Summit, event that gathers Six Sigma professionals and aims at presenting the best practices available in the market.

Although the Six Sigma Summit is held annually by IQPC in various countries, the documentary research was limited to the analysis of the events held in Brazil and in the United States only; hence, a total of 524 lectures and 528 lecturers were analyzed.

Five editions of the event held annually in Brazil since 2006 were analyzed. With regard to those held in the United States, all events that were held after the fourth edition of the 2003 event up to beginning of 2010 were analyzed. It is important to mention that the title of event held in Brazil in 2010 was changed from Six Sigma Summit to Lean Six Sigma Summit. In the United States, the title changed earlier, in 2008, to Lean Six Sigma & Process Improvement Summit. Nevertheless, the sequence of the edition was not altered, and, therefore, it did not affect the data collection.

In order to accomplish the general goal, the data collection included the following steps: analysis of the topics debated in the lectures and detailed description of the lectures related to financial logic, which are presented next:

#### 4.1. Step 1: Analysis of the topics debated in the lectures

This step focused on the analysis of the topics debated in the lectures aiming to evaluate the evolution of the Sigma and, mainly, to compare the number of lectures related to financial logic with those related to other topics. Thus, the lectures were analyzed and classified according to the topics debated as follows:

- People and Culture: culture changes necessary for the implementation and maintenance of the Six Sigma programs, role of the experts and top managers, qualification of the Belt System hierarchical structure, and cultural obstacles.
- Six Sigma Program: Implementation of Six Sigma in organizations, integration between Six Sigma and other quality management approaches in organizations and corporate program.
- Strategy: strategic alignment of the Six Sigma approach and performance measurement.
- Improvement Methodology: Application of DMAIC and DFSS.
- Information Technology: Application of software for the statistical analysis and management of Six Sigma projects and use of distance learning to qualify the professionals involved with the program.
- Lean Six Sigma: Integration between Lean manufacture approaches and Six Sigma.
- Finances: unfolding of the strategy, project selection, throughput accounting, corporate governance, shareholder value creation, financial market, and downsizing strategies.

#### 4.2. Step 2: Detailed description of the lectures related to financial logic

After analyzing the topics debated in the lectures, the second step consisted of a detailed description

of the lectures related to financial logic aiming to investigate its influence on the evolution of Six Sigma.

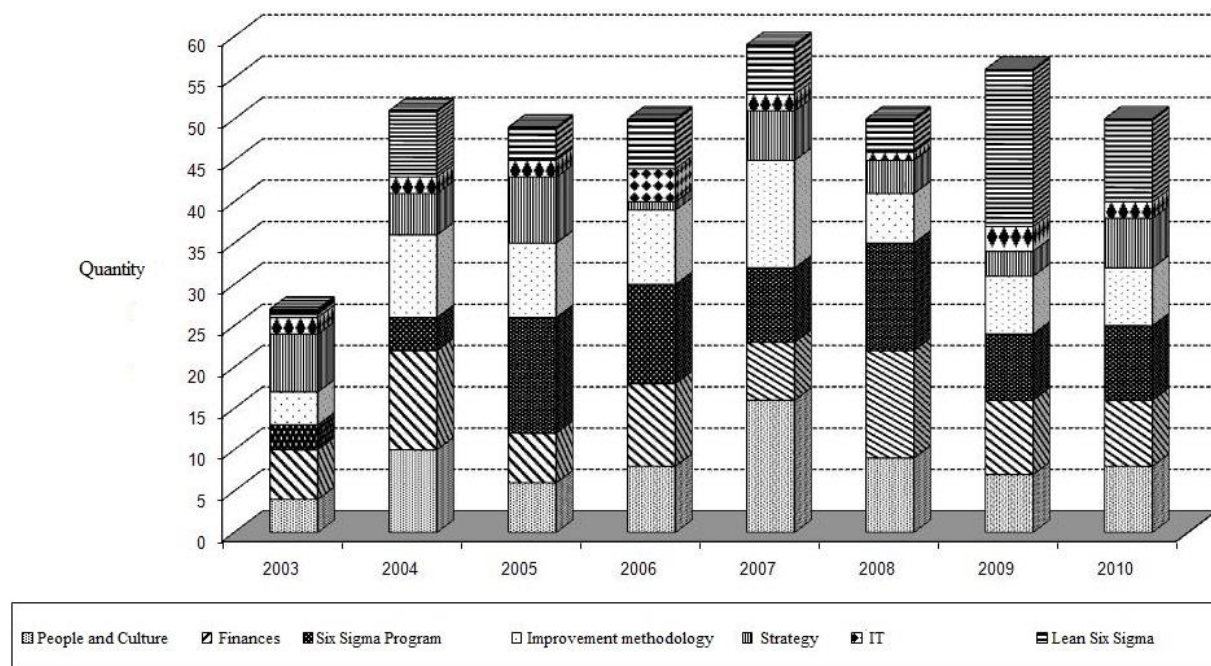
The companies that delivered the lectures as well as their professionals were analyzed to identify “who” disseminates the financial logic in the contemporary approach to quality management. Hence, in order to analyze those companies’ profile, the variables were grouped according to the operation sectors: audit, manufacture, information technology, financial sector, and other services. On the other hand, in order to analyze the professionals’ profile, the variables were grouped according to their job position and/or function: auditors, president, vice-president, directors, Master Black Belts, Black Belts, Champions, managers, CEO, CFO, and others.

Next, each lecture of the category Finances was analyzed to identify the concepts of financial logic. In order to perform this analysis, the variables were grouped according to the concepts debated: in Unfolding of the Strategy, Project Selection, Throughput Accounting, Corporate Governance, Shareholder Value Creation, Financial Market, and Downsizing Strategies.

### 5. DOCUMENTARY RESEARCH

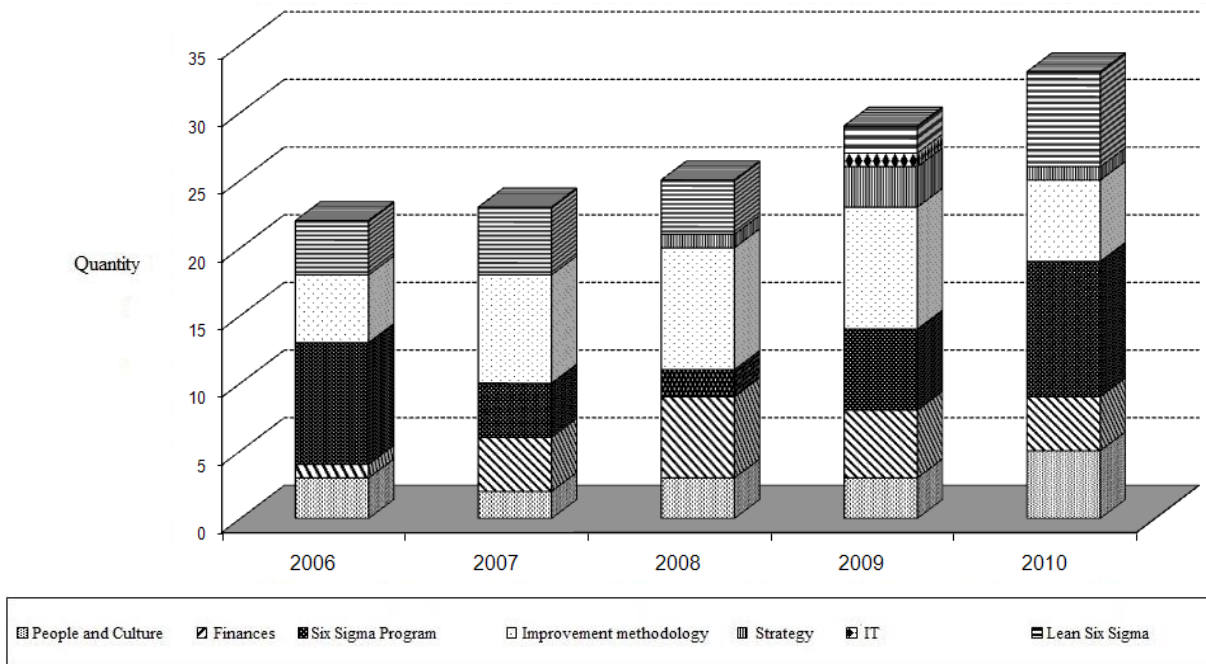
Figures 1 and 2 give a general view of the distribution of lectures in the events in the United States and Brazil according to their category or classification. In general, the lectures related to the category finances (18%), Six Sigma (18%), and Cultural obstacles (17%) were the most frequently delivered in the United States. In Brazil, the lectures related to improvement methodology (28%), Six Sigma program (23%), and Lean Six Sigma (17%) were the most frequently delivered in the events analyzed.

Figure 1. Distribution of lectures in the events in the United States according to their category or classification (2003-2010)



Source: Elaborated by the author

**Figure 2.** Distribution of lectures in the events in Brazil according to their category or classification (2006-2010)



The number of lectures related to the category finances (18%) in the events in the United States is relevant since this country is considered the major historic development and influential center in the finance sector; it is the headquarters of the leading companies and the world's largest market. This shows that due to the financial market pressures and the shareholder capitalism, the contemporary approach to quality management introduces financialization concepts to the organizations.

In Brazil, the number of lectures related to finances accounted for 15% of the total number of lectures in the events in the period of 2006-2010. Beginning in 2007, the category finances have accounted for over 10% of total number of lectures per event. In 2008, it reached 24%, similarly to events in the United States, which reached the highest percentage in 2008, representing, more than 10% of the total number of lectures in all events analyzed.

In order to identify who disseminated the financial logic to the Six Sigma, the companies that delivered the lectures and their professionals in the category Finances were analyzed.

In the events in the United States, the audits represented the organizations that disseminated the financial logic to the Six Sigma accounting for 25% of the companies that delivered lectures in the category Finances. In addition, among the professionals who disseminated the financial logic, the consultants were the majority accounting for 32% of the total number of professionals in the category Finances.

In Brazil, the manufacturing companies predominated accounting for 50% of the companies that discussed issues related to the category Finances. Furthermore, the directors were those who disseminated the financial logic the most in those events accounting for 30% of the total number of professionals in the category Finances.

Hence, with regard to the agents that disseminated the financial logic to the Six Sigma approach, the events held in the United States and Brazil presented different behavior. In the United States, the consultants, external agents to the companies, focused on incorporating the concepts of financial logic, such as shareholder value creation and corporate governance, into the Six Sigma approach. Accordingly, those external agents started to "disseminate and sell" business solutions to the uncertainties of the financial market resulting in a "new array" to this contemporary approach to quality management.

Nevertheless, in the events held in Brazil, the behavior was different since, internally, the strategic levels with the highest number of directors started to conform the Six Sigma programs of their organizations to the external demands of the financial market. Therefore, in the lectures delivered in the events in Brazil, the internal agents presented practical cases of their companies to demonstrate ways to meet capitalism demands.

The following categories were described for a better understanding of the topics debated in the lectures that showed influence of financial logic over the Six Sigma approach:

Unfolding of the Strategy, Project Selection, Throughput Accounting, Corporate Governance, Shareholder Value Creation, Financial Market, and Downsizing Strategies.

### 5.1. The unfolding of the Strategy

The unfolding of Six Sigma occurs by the explicit link among the operational, tactical, and strategic levels in order to reduce variations and improve the processes focusing on better financial results and relationship with clients.

In the lecture "Modifying the Classical Tool Set and Strategy to Achieve Profitable Growth" delivered

in the Six Sigma Summit in 2006 in the United States by Edward Abramowicz, author of “Six Sigma for Growth: Driving Profitable Top-Line Results”, it was discussed how the leading companies should change the “classical” way to apply Six Sigma and DFSS in order to increase profits using finance, sales, and marketing concepts.

In addition, the unfolding of the strategy in the short run to achieve fast financial results was discussed in several lectures such as:

- In the lecture entitled “Six Sigma: The First 90 Days”, delivered in the Six Sigma Summit, USA, 2006, by Sigma Breakthrough Technologies Inc., a consulting firm, which demonstrated how the implementation of Six Sigma aligned with the company’s strategy can yield fast financial results;

- In the lecture entitled “Implementing Lean Six Sigma in health care, a Medial case” delivered in the Six Sigma Summit, Brazil, 2007, which showed that the goal of the company was to double its profit margin in the short run with the use of Lean Six Sigma.

These lectures corroborate Harry and Schroeder’s (2000) argument that the goal of the Six Sigma approach is not to achieve sigma levels of quality, but rather to improve levels profitability although quality and efficiency improvement is a consequence of the Six Sigma.

In those lectures, the focus on seeking opportunities in the short-run that can produce financial results, presented as a characteristic of financial logic according to Dias and Zilbovicius (2006). Furthermore, it could also be noted the presence of the stereotype of the financial logic introduced by Froud et al (2000): a challenge for management which is represented in financial terms.

## 5.2. Project Selection

This step is important for the adequate unfolding of the strategy and achieving the strategic objectives. Hence, the projects that could yield tangible financial results, bigger return on investments (ROI), and preferably, financial returns in the short run were selected.

Therefore, the metrics used in the project selection step that aim to prioritize high- impact financial projects were presented in the following lectures:

- How to Get a 10:1+ Return on Your Six Sigma Program Through Aligning, Prioritizing, Tracking and Leveraging your Project Portfolio (Six Sigma Summit, 2004).

- Choosing and Linking the Right Projects to Bring Quick Maximum ROI (Six Sigma Summit, 2006).

Analyzing those lectures, it was possible to evidence the presence of financial concepts in the project selection step as reported by Fligstein (1990) and Dias and Zilbovicius (2006), such as seeking the maximization of the financial rate of return in the short run and the possibility of a fast switch from one investment to another if it means larger gains.

## 5.3. Throughput Accounting

After executing the projects, measuring the financial return is necessary in the analysis of performance of

the projects. Thus, the following management accounting approaches were used.

The activity-based costing system ABC was used to evidence the real gains from the projects. Since they are ways to measure financial gains at the operational level and due to the analysis of the cost of processes, products, and clients in terms of resources, as presented in the lectures entitled “Using Activity Based Costing to Identify, Manage and Communicate Six Sigma Savings / Benefits” and “Using Activity Based Costing to Influence Management Support of Six Sigma Projects” delivered by CES/CTC and HSBC in the Six Sigma Summit, USA, 2004. frase truncada...favor esclarecer em português...)

The development of the scorecards is considered a way to measure the financial gains from the Six Sigma projects by integrating all levels (strategic, tactical, and operational) and plants of the firm. Among the lectures that present this topic are:

- “Communicating the Financial Benefits of Six Sigma to Your Organization” (Six Sigma Summit, 2005).

- “What Gets Measured, Gets Improved! Winning in Sales and Marketing by Effectively Impacting the Measure Phase” (Six Sigma Summit, 2006).

- “Proving Hard Financial Results: Calculating Financial Savings in Supporting Business Functions to Ensure Continued Investment in Lean Six Sigma” (Lean Six Sigma & Process Improvement Summit, 2009).

In addition to the throughput accounting methods, the importance of validating those gains by the companies’ controllership area was highlighted in the lectures delivered by the Motorola and *Votorantim Investimentos Industriais* in the Six Sigma Summit, Brazil, 2008.

The lecture entitled “The Project Portfolio Strategy and Financial Validation at Motorola” demonstrated the process of validation financial gains from each project. This process is part of the Six Sigma project portfolio that integrates four sources of information known as “voices”: Voice of the Business (Financial information and data), Voice of the Customer; Voice of the Employee; and Voice of the Process.

The lecture entitled “Integrating the Six Sigma into the Structure and Strategy of the Company Aiming at a Better Accounting Alignment” delivered by *Votorantim Investimentos Industriais* highlighted that the main effort of the company in that year was to combine the project gains and the accounting system automatically without the need of controllership validation since the projects had already been using the accounting concept.

Hence, the accounting and validation of financial gains from Six Sigma projects are related and contribute to the financialization process since:

- they take the emphasis on financial measures, which are often limited to the strategic level in the traditional management systems, to the tactical and operational levels,

- they enable the decision making process to cause investment changes with a faster response time (when needed in order to achieve better financial gains).

- they concern consistency and dissemination of the financial reports contributing to the second



pillar of corporate governance that focuses on the transparency of financial procedures, especially the company annual reports that do not hide essential data to measure performance of the company and its directors.

- they provide recognition and reward systems for meeting prime financial goals.

#### 5.4. Corporate Governance and Shareholder value Creation

The major concepts involved in shareholder capitalism, which are shareholder value and corporate governance, were discussed in some lectures.

The lecture entitled “Applying Six Sigma to Finance and Transactions” delivered by Citibank in the 2003 Six Sigma Summit and the lecture entitled “Transforming an Industry with a Strategic Focus on Variation” delivered by Placemark Investments, in the 2007 Six Sigma Summit demonstrated how the Six Sigma approach contributed to the compliance with the second pillar of corporate governance in these companies. This occurred because these companies are based on processes focused on adjusting annual reports and managing risks, and also because they believe that the processes need to be documented, evaluated, and improved.

It is worth mentioning that the lectures delivered in 2003 discussed the issue of corporate governance in the first event following the accounting scandal in 2002 and the strengthening of the Sarbanes-Oxley act, which focuses on ensuring reliability and integrity of the financial reports showing that in those companies the Six Sigma was a way to connect with the financial logic and comply with the pillars of corporate governance.

The lecture entitled “From Scandal to Survival to Success: The Lean Six Sigma Role in the Tyco Turnaround” delivered by Ken Chmiel, vice-president - operational Excellence, Tyco Fire and Security, in the 2006 Six Sigma Summit in the United States, demonstrated how Lean Six Sigma was implemented in all areas of the company. It is important to mention that the implementation of Lean Six Sigma was essential for the company's recovery after the accounting scandal in 2002.

In addition to discussing the pillar of corporate governance related to transparency in the annual reports, some lectures discussed the issue of shareholder value creation, as seen below:

- The lecture entitled “Think Strategic or Die - Where is Your Six Sigma Program Going?”, delivered by Paul Docherty, auditor and CEO of *I-nexus* in the Six Sigma Summit in 2007 and 2008, demonstrated how the Six Sigma became the vehicle for executing strategy, increasing profitability, and promoting communication between the CEO and the shareholders.

#### 5.5. Financial market

The economic crisis that began in 2008 in the American real estate market has had profound consequences for the global markets and organizations. Thus, in the 2009 and 2010 events the discussion of this issue and the way Six Sigma could contribute to minimize the impacts of this crisis on the organizations was observed.

In the lectures delivered in the Lean Six Sigma & Process Improvement Summit in 2009 and 2010 in the U.S., it was discussed how the Lean Six Sigma and DFSS could be used to reduce costs and maximize the return on investment during recession times:

- Maximizing the Lean Six Sigma Value Equation: Balancing Costs, Service and Operational Sustainability in a Time of Rising Costs and Economic Recession (Lean Six Sigma & Process Improvement Summit, 2009).

- Going Beyond Financials: Becoming Adept, Decisive and Innovative (Lean Six Sigma & Process Improvement Summit, 2009).

Furthermore, in the lecture entitled “Six Sigma at Dow - The Way We Work demonstrated that the Six Sigma has been deployed corporate-wide at Dow Chemical. The Role of Latin America in the Global Context and the Contributions of Local Time to the success of the results” delivered in the Six Sigma Summit, Brazil, 2009. Dow Chemical presented the current scenario of the employment of Six Sigma in the company, the results obtained, a short and long term forecast, and how this approach is used as an alternative to the negative impacts of the world financial crisis.

In this same event, a lecture delivered by Accenture addressed how to achieve operational excellence in time of turmoil and changes. Among the issues discussed, the need to cut costs properly and concentrate the resources in the areas that can actually yield results were highlighted.

In Sum, it is worth mentioning that according to its own organizing committee, the event Lean Six Sigma & Process Improvement Summit, U.S., 2010, had a different format. They stated that all lectures focused on the business results presenting more analysis, and this focus was considered a relevant factor for all levels (operational, tactical, and strategic) of the organizations.

This event introduced, in the workshop entitled “The Fiscal Factor”, for the first time in the Six Sigma Summits, the debate about the Lean Six Sigma from the point of view of private and public-sector CFOs.

The goal of this workshop was to perform a strategic analysis of quality management programs, especially the Six Sigma approach, to verify the impacts on the annual reports, profitability, and stock prices since there has been a growing need for organizations to combine performance and financial results due to the demands of the financial markets.

In this same event, the lectures entitled “How to Use Lean Six Sigma to Thrive in a New Economy” and “Going Beyond Financials: Becoming Adept, Decisive and Innovative”, delivered by IBM Global Business Services, demonstrated how the Lean Six Sigma can be used to achieve success in a new economy that demands flexibility, adaptability, and financial results in the short run.

It is important to mention that the economic crisis and market uncertainties have had several consequences for the organizations. This fact proves that only efficiency and effectiveness of process management are not enough to yield good financial results due to external factors, such as shareholder capitalism, which have considerable influence on the organizations.

Hence, it can be said that those lectures, delivered mainly by CFOs and management

consultants, addressed the issues of shareholder capitalism and the process of financialization of production, which is a way to introduce the financial logic into organizations through the Six Sigma and Lean Six Sigma considering that those quality approaches could be a way for the organizations to deal with the economic crisis and uncertainties of the financial market.

### 5.6. Downsizing Strategies

Downsizing strategies were discussed in some lectures, for instance:

- In the lecture entitled “Integrated Business Process Re-engineering and Lean Six Sigma - Reduced Cost & Improved Performance”, delivered by Lockheed Martin Electronic Systems in the Six Sigma Summit, 2005.

- In the lecture entitled “Process Re-engineering the Lean Way”, delivered by Johnson & Johnson in the Lean Six Sigma & Process Improvement Summit, 2010.

The companies American Express and Wipro Consulting demonstrated how the Lean Six Sigma can be used to redesign the organization, business processes, and hierarchical levels leading to flexibility, cost reduction, and adjustment to meet the new demands of the market.

In addition, the company Johnson & Johnson presented its systemic business process of re-engineering that is combined with the Lean Six Sigma projects, whose main focus was process simplification.

Those lectures demonstrated that the Lean Six Sigma programs stimulate the adoption of downsizing strategies, which are closely related to financial logic. The most important actions of the institutional investors, the development of shareholder value creation, and principles of corporate governance approaches have influenced organizations to use strategies focused on downsizing and distributing (Lazonick E O’sullivan, 2000).

With regard to resource allocation, the strategic levels started to adopt downsizing strategies in the organizations they controlled by decreasing the hierarchical levels and reducing the workforce employed and also by distributing the profits effectively in order to be able to afford their stock prices in the market (Cole 1995).

*Hence, this strategy has become the focus of organizations, as seen in the content of the lectures analyzed, due to the influence of stock opinions, which encouraged the organizations to align their interests with external financial interests instead of aligning them with the production interests, over which they had control.*

## 6. CONCLUSIONS

The main purpose of this study was to investigate, through a documentary research, the influence of financial logic on the contemporary approach to quality management called Six Sigma.

From a documentary research conducted by the analysis of evolution of the Six Sigma approach in IQPC events and conferences in the U.S. in the period of 2003-2010 and in Brazil from 2006-2010, the profile of the companies that delivered the lectures

as well as their professionals, the topics debated in the lectures, and the detailed description of the lectures related to financial logic were identified.

It could be observed that due to the shareholder capitalism and bigger operation in financial markets, the professionals from the companies that took part in the events could learn ways to do internal adjustments to meet the demands of financial markets, create value for shareholders, and adhere to the pillars of corporate governance.

Therefore, from the analysis of the evolution of the Six Sigma approach in events in the U.S. and Brazil, the way this approach has been adjusted in face of the demands of financial markets and the migration of some financial logic concepts and elements to quality management were observed.

It was verified that in the United States consulting and consultants were those who disseminated the most financial logic to the Six Sigma, whereas in the events in Brazil, the manufacturing companies and their directors were those who disseminated it the most.

It is worth noting that the United States and Brazil had distinct behaviors since different agents were responsible for disseminating the financial logic to the Six Sigma: external agents, consultants, in the U.S and internal agents, directors, in Brazil.

The topics discussed in the lectures related to financial logic were verified in the unfold of the category Finances into the following categories: Unfolding of the Strategy, Project Selection, Throughput Accounting, Corporate Governance, Shareholder Value Creation, Financial Market, and Downsizing strategies.

Therefore, the characteristics of the financial logic present in the Six Sigma are:

- Seeking opportunities of financial gains in the short run with the unfolding of the strategy in the project portfolio.

- Possibility of a fast switch from one investment to another in a Six Sigma project if it means larger financial gains.

- Feasibility analysis (economic and financial) of the Six Sigma projects in the project selection step aiming at maximizing the financial rate of return in the short run.

- Focus on the transparency of the financial procedures and consistency of the annual reports from the financial validation of the financial gains from the projects adhering to the second pillar of corporate governance.

- Recognition and reward systems for meeting prime financial goals of the Six Sigma programs.

- Adoption of downsizing strategies in the Lean Six Sigma programs through the reducing the workforce, organization redesign strategies, and systemic strategies.

It is important to mention that besides these characteristics of the financial logic present in the Six Sigma approach, many lecturers, such as consultants and CFOs, described the way the Six Sigma and the Lean Six Sigma could help organizations obtain financial results in times of economic recession focusing on the need to adhere to the pillars of the corporate governance and create shareholder value.

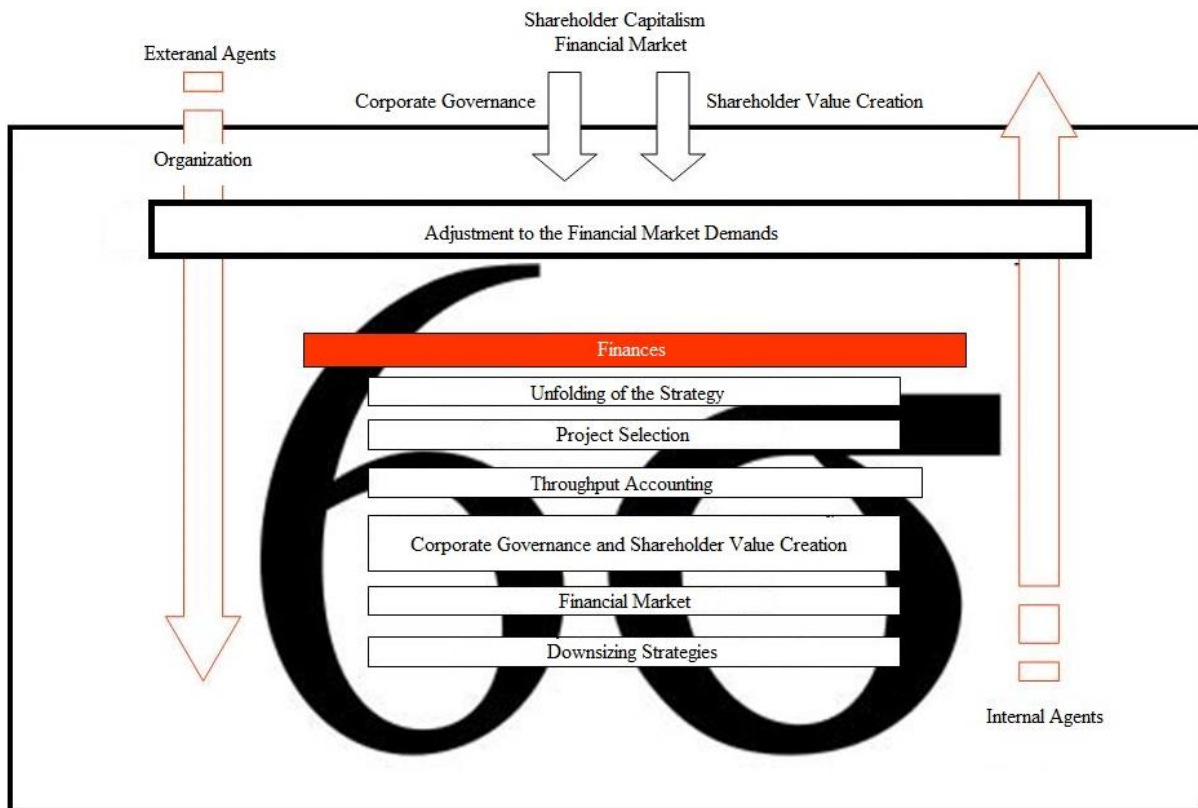
Nonetheless, this discourse is similar to that of Jack Welch regarding the financial gains obtained by



General Electric when he was a CEO of the company. Therefore, this discourse deserves caution since success does not depend only on internal initiatives,

but also on external facts, such as the pressure exerted by the financial market and the shareholders (Froud *et al.*, 2006).

**Figure 3.** Influence of the financial logic on the evolution of Six Sigma



Source: Elaborated by the author.

In sum, the evidences suggest that the Six Sigma approach has been influenced by different factors of the financial logic that were disseminated by internal and external agents to the organizations. The external agents have found in the contemporary approach to quality management a way to introduce external factors, such as pressure from financial markets and shareholders into the organizations. On the other hand, the internal agents seek to adjust their Six Sigma programs as an attempt to meet these external factors, as seen in Figure 3. Further research is needed to verify the level of dissemination of the financial logic.

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