

GOVERNANCE OF PROJECT MANAGEMENT AND CAPITAL INVESTMENTS: A CASE STUDY IN BRAZIL'S MINING INDUSTRY

GOVERNANÇA EM GERENCIAMENTO DE PROJETOS E INVESTIMENTOS DE CAPITAL: UM ESTUDO DE CASO NA INDÚSTRIA MINERAL BRASILEIRA

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RESUMO

Este artigo tem como objetivo apresentar os resultados de pesquisa realizada em 2011 para avaliar a aplicação de práticas de governança corporativa no gerenciamento de investimentos de capital, projetos, em uma organização do setor de mineração de ferro brasileiro. São apresentados os principais conceitos relacionados a projetos e governança corporativa, bem como os impactos da lei Sarbanes-Oxley, 2002, sob a gestão de projetos. Como estratégia de pesquisa foi utilizada a metodologia de estudo de caso e aplicado questionário como técnica de coleta de dados. A análise e tratamento de dados foram realizados através de estatística descritiva. Verificou-se que as quatro disciplinas centrais de governança de projetos Gestão de Portfólio; Patrocínio de Projetos, Gerenciamento de Projetos, Prestação de Contas e Transparência dos Resultados estão presentes no modelo de gestão de projetos da organização, além da aplicação dos controles necessários para assegurar a acurácia das análises financeiras e fluxos de caixa futuros advindos da conclusão bem sucedida dos projetos de capital. Foi detectada uma discrepância nos recursos e equipes para o gerenciamento de mega projetos em relação aos pequenos e médios que competem entre si por recursos e estão sendo concluídos fora dos prazos e custos planejados. Também foi detectada uma deficiência na priorização dos projetos do portfólio da organização.

Palavras-chave: Governança. Investimento. Efetividade. Projetos.

ABSTRACT

The objective of this paper is to present the results of a survey carried out to evaluate the application of corporate governance practices in the management of capital investments and projects by a Brazilian iron ore mining company in 2011. It addresses the main concepts related to projects and corporate governance, as well as the impacts of the Sarbanes-Oxley Act of 2002 on project management. Data were analyzed and processed using descriptive statistics. It was found that the four core disciplines of project governance: portfolio management, project sponsorship, project management, disclosure and reporting, are present in the organization's management framework, including the application of controls necessary to ensure the accuracy of financial analysis and future cash flows from the successful completion of capital projects. On the other hand, a discrepancy was found in the disproportionate allocation of resources and staff to mega project management compared to small and medium projects which, as a result, are not completed on schedule and within budget. Deficiencies were also found in the attribution of priorities within the organization's project portfolio.

Keywords: Governance. Investment. Effectiveness. Projects.

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INTRODUÇÃO

Project governance has received increasing importance and interest on the part of academia as well as the corporate world. According to Muller (2009), shareholders and all other stakeholders are demanding ever greater transparency about the results of their investments. This disclosure must comply with the standards established for the development of capital projects. In addition, there must be assertive monitoring in order to assure the effectiveness of investments and, consequently, the maximum return possible on invested capital, thus generating the expected value for the organization.

This issue has led to ample discussion by experts in this field, due to its relevance to the sustainability of organizations, particularly in light of the competitive business environment in which capital-intensive corporations are inserted nowadays.

In the view of Davis-Muffett and Kerr (2005), a good governance creates the necessary connections among all organizational levels – from corporate strategy, driven by top management, to the project portfolio of line executives and managers of programs and projects – in order to obtain results based on the concrete initiatives taken in the organization's day to day operations.

Just as governance problems can harm the image and market value of an organization, as seen in the well-known cases of Enron, WorldCom and Société General, unsuccessful projects can cancel out all strategic growth efforts, and thus increase the risk of organizations failing to attain their goals (Turner, 2009). A project, like a company, can be managed to generate value and maximize return to its owners or stakeholders. For Turner (2009) and Muller (2009, p. 313), a precondition to the success of a project is to make sure that all participants view it as a joint effort, where their objectives are aligned and they are administered so to achieve the best result for all concerned.

CORPORATE GOVERNANCE

Corporate governance practices seek to increase the company's value, facilitate its access to capital and contribute towards its continuity. These practices may lead to the reduction of the cost of its own capital and of loan interest rates, thus increasing the company's value on the capital market (MELO, 2005).

Interest in governance has risen sharply. Famous scandals around the turn of the century, such as the ones already mentioned in Chapter 1 of this paper, have heightened public interest in inadequate governance and investor protection. These facts have resulted in a global revision of existing governance laws and policies, as well as new developments in this area, such as the Sarbanes-Oxley Act (SOX) in the United States and the Higgs Report in the United Kingdom, all seeking to prevent the occurrence of similar events. Special attention is given to the SOX, which, among other important goals, seeks to enhance awareness of financial risks, including those related to corporate projects (MULLER, 2009).

According to the OECD (2009), corporate governance is one of the determining tools of sustainable development, in its three dimensions: economic, environmental and social. The G8, an international group formed by the seven most economically developed countries in the world, plus Russia, consider corporate governance as one of the newest and most important pillars of the global economic architecture.

The values of corporate governance

Andrade and Rossetti (2007) further emphasize that values are one of the most important aspects of corporate governance, for they support it by linking top management concepts, practices and processes, namely:

- *Fairness* – a sense of justice, equity in the treatment of shareholders. Respect for the rights of the minority shareholders, through a balanced participation with the majority shareholders, both in the increase of corporate wealth as well as in operating results, not to mention active presence in general shareholder meetings.
- *Disclosure* – transparency in information, especially of highly relevant data which impact the business and involve results, opportunities and risks.
- *Accountability* – rendering accounts in a responsible manner, based on best accounting and audit practices.
- *Compliance* – obedience to the regulatory standards contained in the corporate articles of incorporation and by-laws as well as the country's laws.

These values are most significantly expressed in the best practices codes, which establish fundamental criteria for the ethical conduct which should permeate the performance of the functions and responsibilities of the bodies in charge of corporate governance.

Governance in Brazil

Pursuant to Andrade and Rossetti (2007, p. 386):

The changes in the competition scenario, such as greater economic stability, globalization and greater difficulty in accessing resources at a competitive cost, together with internal changes in leadership structure, are placing the current model of corporate governance in Brazil under intense pressure. The trend is to adopt an emergent model. Yet there are barriers to this transition and it is still too early to assess whether it will be sufficient to enable companies to compete on a global scale. (ANDRADE; ROSSETTI, 2007, p. 386).

These authors have analyzed the combination of external and internal forces which interfere in the principles, objectives, power structure, processes and practices of corporate governance effectively adopted in Brazil. According to them, in addition to the trend towards privatization, elimination of internal barriers, entry of external competitors, opening of markets, rise of mergers and acquisitions, the changes seen in the Brazilian economy from the second half of the 80's, in sync with the major global changes during this same period, have produced two other sets of impacts, more specifically related to corporate governance: the restructuring of the capital market and changes in governance standards.

The opening up of the Brazilian economy has affected both direct foreign investments and volatile investment portfolios. As an example of this phenomenon, at the end of 2006, there were 58 foreign brokers and distributors, connected to financial groups operating internationally, on the Brazilian capital market. At the same time, there has been an expansion, both in terms of number of companies and volume of operations, in the entry by large Brazilian companies seeking funds in the international capital market. (ANDRADE; ROSSETTI, 2007).

On the other hand, changes in governance standards have led to compliance by Brazilian companies to good governance rules and fundamental values, which can enhance their value on the domestic market, reducing their capital costs. These changes have also allowed the adjustment of financial statements to comply with best international accounting practices. As a result of the markets that have opened up, business strategies have increased in complexity, in view of the globalization trend of major corporate groups. One also finds a demand for more effective boards of directors and other internal governance bodies, with the entry of insiders with international experience and presence (ANDRADE; ROSSETTI, 2007).

The authors further add that, as a historical result of this series of determining factors, the Brazilian corporate system displays the following conditions: reduced number of companies with worldwide expression; significant presence of companies based abroad among the 100 largest in the financial sector, and, mainly, among the 500 largest of the sector; predominance of closed corporations; small number of companies listed on the stock exchanges; major participation of foreign and institutional investments in the market capital and among the Brazilian private capital companies; the strong presence of family groups and high concentration of ownership.

Although these aspects suggest that the Brazilian corporate governance system is still incipient and far from becoming a reference, a series of institutional and governmental initiatives are contributing towards the adoption of good governance practices by Brazilian companies, among which one can mention:

- The creation of IBGC [Brazilian Institute of Corporate Governance] in 1995;
- Creation of levels 1 and 2 of corporate governance and of the new market by the São Paulo Stock Exchange (BOVESPA), in December 2000;
- Approval of Law nº. 10.303, dated 31 October 2001, known as the new Corporation Law [Nova Lei das Sociedades Anônimas (SAs)]. (ANDRADE; ROSSETTI, 2007).

There is no doubt that a good corporate governance is important to the resumption of economic growth, mainly when one knows that this process will be headed by the private sector. Economic growth and corporate governance are correlated terms and linked together, for example, by the financial aspect. In this area, one of the main concerns of emerging economies is the availability of long term resources for financing their growth.

In Brazil, this problem was aggravated in the 80's, with the breakdown of the financing model adopted till then, heavily dependent on the Federal Government. From then on, it became necessary to seek alternative sources of resources. The banks, used to high interest rates and short term loans, did not seem ready to come up to this challenge – and the situation, unfortunately, has not changed yet. The capital market also presents fragilities. Therefore, the companies have to resort to foreign funding or use their retained earnings as funding sources.

Thus, one could turn to corporate governance as one of the solutions to this issue. Upon adopting more modern and transparent practices, it is possible to leverage the capital market. This, however, is linear reasoning. There are many other aspects to be taken into consideration, such as the characteristics of the Brazilian capital market.

Andrade and Rossetti (2007) summarize the mains characteristics of the current Brazilian corporate governance model: high concentration of shareholding, overlap of ownership/management, which to a certain extent carries over to the Board of Directors; the weak protection of minority shareholders and the still minimal expression of the capital market, and the small portion of companies listed on the stock exchange at the differentiated levels of corporate governance. The authors inform that these four main characteristics of the Brazilian corporate governance have historical roots and are an integral part of the corporate culture of the country, with low probability of change in the short term.

PROJECT GOVERNANCE

According to Weaver (2005a), corporations around the world are being pressured by legislative changes and by the increased expectations of their stakeholders as to improved predictability of their financial forecasts and also return to their shareholders. These demands are directly applicable to the need for a reinforced corporate governance. In order to meet these obligations, the companies have been forced to invest heavily in new systems and projects designed to achieve an effective corporate governance, a key aspect of corporate governance.

Pursuant to Weaver (2007), projects are typically the catalysts which generate new sources of income, more efficiency and transformation in the businesses which trigger changes in the overall corporate performance. These changes are the basis for the forecast of revenue, expenses and profitability in the future, which need to be promptly announced to the market.

Weaver (2005b) adds that two parallel forces are driving the corporations listed in most of the stock exchanges around the world to reevaluate and strengthen their corporate governance and project governance systems. The first force is the need to improve the predictability of financial allocations arising directly from legal requirements which include the Sarbanes-Oxley Act in the US, the *Corporate Law Economic Reform Program* (CLERP 9) 2004 in Australia and the *New Zealand*

International Financial Reporting Standard (NZIFRS). The second, and without a doubt, the most important force is the increase in the active participation of the shareholders and the need to improve return on their investments so that they can keep the value of their shares on the ever more volatile markets.

As a result of the demand for disclosure among the stakeholders of capital projects, mainly the owner, shareholders and customers, with regard to the effective results of the development and delivery of said projects, it is ever more important to consolidate healthy governance practices applied to project management.

Projects as temporary organizations

A project is a temporary organization and as such requires a governance structure. Turner (2009, p. 312) has adapted the definition of corporate governance to projects:

Project governance involves a series of relationships among project management, their sponsors (the board), project owners and other stakeholders. Project governance provides the structure through which the objectives of the project are established, including the means of achieving them, and performance determined.

According to the *Association for Project Management* (APM, 2004), project management refers to the part of corporate governance that deals specifically with activities related to capital investments or projects. Effective governance of project management ensures that the investment and project portfolio is properly aligned with strategy and that the project will be delivered in an effective and sustainable fashion. Also according to APM, project governance further provides support to the board and other stakeholders in receiving material and reliable information in a timely manner.

Dinsmore and Ribeiro (2007) note that, even though good project management will not save a company from a poorly designed strategy, inefficient project management will adversely affect a good strategy. In addition, these authors point out that, since effective implementation of the right combination of projects is imperative if organizations are to survive and thrive, it is fundamental for CEOs to ensure that proper governance is established for project management throughout the organization. At its highest level, project governance involves a network of relationships among the management team, shareholders and other groups of stakeholders.

Through governance mechanisms an organization can not only set its strategic and operating objectives, but also create conditions to ensure that organizational processes, procedures, practices and structures are in place to achieve established objectives and control their scope. Governance in project management determines these relationships and policies applied to management of multiple projects within an organization. Furthermore, it establishes the processes and procedures required to ensure the proper management of strategic projects.

Also according to Dinsmore and Ribeiro (2007), CEOs are being constantly challenged to convert strategies into results. However, results depend on effectively implementing the right projects.

CEOs need to prove that corporate governance does include a governance policy that will enable strategic projects to be effectively managed.

Muller and Stawicki (2007) note that much has been published and researched on the practices that lead to successful project management. Research has shown that, there are three forces which impact and determine the quality of project management for any project. These are:

- **Education**

Education impacts the skill level and project management knowledge of the project manager. Better educated project managers have a greater repertoire of methods, tools and techniques to manage projects and their inherent management problems. This force determines what can be done by the project manager.

- **Management Demands**

Corporate management determines the extent to which specific project management practices are demanded, for example, by Sponsors, Steering Groups, Program Manager or other line functions supervising the project manager.

- **Perceived Economic Pressure**

This is the most detrimental force. This is the project managers' perception of the economics of the project, for example, cost overruns, and the resulting pressure on the project.

Project Governance System

According to Weaver (2005a), senior officers and directors responsible for the effective governance of nearly all organizations are noticing that their work load is increasing. Although their main focus is still on the financial status of their organizations, other aspects are gaining growing importance, such as sustainability, social responsibility, and governance. The role performed by these managers is also growing in importance, as governments, shareholders, the media and the general public seek those accountable for failures.

Weaver (2005b) suggests that four elements are required for an effective project governance system. These elements are:

- an open and responsible reporting culture;
- an effective project management methodology;
- people to make the system work effectively;
- software to enable data and reports to be quickly assimilated.

Weaver summarizes the key elements of an effective project governance:

- Global corporate philosophy:
 - a) The need to internalize best practices' processes (for example, OPM3, PMI);
 - b) the need to recognize and manage risks and uncertainties inherent in each project, through effective risk management;
 - c) the need to cultivate open and honest communications.

- Skilled people to plan and manage portfolios, programs and projects:
 - a) The value of PMO;
 - b) the need to recognize the value of a career in projects;
 - c) the need to recognize the value of project management competencies and also implement systems designed to develop appropriate competencies and skills at all levels of the organization.

- Support technologies:
 - a) Corporate project management system;
 - b) Web portals;
 - c) integration with other corporate systems;
 - d) project reporting.

Weaver (2005b) adds that the central elements in project management are: portfolio management; project sponsorship; project management; disclosure and reporting.

Guide to good practices in project governance

According to Muller (2009), there are four groups of guides to governance of project management:

- Guides developed and negotiated by consulting firms;
- Guides developed internally by organizations;
- Guides developed by professional organizations;
- Guides developed by governmental organizations.

The main representative in the categories of governance guides developed by professional organizations and governmental organization is the *Association for Project Management*. APM has developed their guide to project governance "*Directing Change: A Guide to Governance of Project Management*" (APM, 2004). This is one of the first and only papers on this subject and is based on OECD's definition of governance, with governance of project management being defined as the part of an organization where corporate governance and project governance overlap. Written from the

viewpoint of the board of directors' roles and responsibilities, its objectives include compliance with SOX requirements. This guide is intended to advise management boards on how to deal with the four main components of project governance: portfolio, project sponsorship; effectiveness and efficiency in project management; disclosure and disclosure.

In this guide APM suggests that good project governance should ensure:

A1. A clear relationship between corporate strategy and project objectives in:

- Project definitions;
- Governance benefits and role;
- Portfolio and program management

A2. clear senior management leadership and ownership;

A3. involvement with stakeholders;

A4. organizational competency in project management;

A5. familiarization and close ties with supplier industries;

A6. project evaluation based on organizational values and not only on Capex;

A7. focus on dealing with project development and implementation in a manageable fashion.

Muller (2009) notes that, with modern compliance regimes setting new standards of excellence, corporate officers must now be capable of anticipating future cash flows in the business they lead. This requires them to be also capable of predicting project cost overruns as well as future returns following implementation of mega-projects, programs and portfolios.

In order to meet such objectives, APM's guide proposes 11 principles in good governance of project management, as follows:

- P1. The organization's management should assume full responsibility for project governance
- P2. Clearly define the roles, responsibilities and performance criteria for project, programs and portfolios as well.
- P3. The governance criteria, supported by appropriate methods and controls, should be applied over the entire life cycle of each project.
- P.4 Members of the delegated authorization bodies should have sufficient representation, authority, competence and resources to make decisions for which they are accountable.

Authorization committees normally include:

- a) Steering Committees for projects and programs, including the sponsor, the owner, the administrator and manager of the project;

b) Portfolio selection committee.

- P5. There should be a consistent and solid relationship between the corporate strategy and the project portfolio.
- P6. The economic justification for the project, the business case, should be supported by concrete and realistic data in order to generate a reliable base for decision-making in the authorization of the projects.
- P7. The projects have a plan containing the defined authorization criteria, in which the business case is reviewed and approved. The decisions made in the authorization are recorded and reported.
- P8. Key Performance Indicators – KPIs should be clearly defined in order to properly report on the project's progress as well as to assess risks and potential problems.
- P9. The Executive Board and its agents in the projects decide when independent audits of the projects are needed and execute them according to demand.
- P10. Project stakeholders are involved at a level suited to their importance in order to promote trust and cooperation.
- P11. The organization should foment a culture of continuous improvement to allow an open discussions and disclosure of information on the projects.

According to Turner (2009), in view of the modern compliance infrastructure, the Board of Directors and the top management of the organizations must demonstrate more interest in project management than has traditionally happened so far. Many of the project governance principles listed in the APM guide are consistent with and supported by SOX 2002.

Institutions responsible for project governance

Considering the need for governance in the case of the temporary organizations – projects – what should the goals and objectives be?

Muller (2009) states that the main objective of project governance is the predictable and consistent delivery of portfolios, programs and projects in accordance with their contributions to the corporate strategy and the expectations of the stakeholders. This objective is attained through the coherent and consistent application of the roles and responsibilities of governance by the various management levels throughout the organization. Thus, the purpose of the governance structures is the alignment of the objectives of the different levels of organization management so that the planning and execution of projects is more efficient and effective, respecting the limits of corporate governance. The objectives of project governance include:

- Fomenting an organizational culture which allows the successful execution of projects
- Prioritization of projects which allow the optimum use of resources
- Identification of projects in trouble, their rescue, suspension or actual termination, as called for.

Governance, therefore, defines the processes, roles and responsibilities of the players in the various internal institutions which carry out corporate governance.

Executive Board / Board of Directors

This is the highest management level within the organization, where governance stems from. The Executive Board should find the balance between programs and projects of the organization. The distinction here is made to show that a project is how organizations execute their activities, while programs address the resources and skills needed for the managers to execute the projects.

Decisions of the Board of Directors about project governance include the design of strategies to identify the type, quantity and scope of the various projects necessary for the implementation of the strategy. This information is taken to the portfolio management for decision making about which projects will be accepted, suspended, continued or terminated.

Furthermore, it is necessary to make decisions about the project management team, and define the sponsors of projects and programs, projects managers and programs, PMO functions, communication structures, such as disclosure and project progress reports.

Muller (2009) points out that it is essential for the Board of Directors to decide upon these issues, as well as to clearly define the policy for the management of projects and programs, disseminating this through all the organization's management levels. The governance of individual projects is mainly carried out by the portfolio managers, the sponsors/steering groups and PMO.

Portfolio management

According to PMBOK (2008), a portfolio is a series of projects and programs and other efforts to facilitate the efficient management of this work in order to meet strategic business objectives. The portfolio programs and projects are not necessarily interdependent or directly related.

Turner (2009) defines portfolio as a set of projects which share common resources. These resources may be money or people and may also include data, information and technologies. He adds that portfolios are a series of projects centered on skills and resources required for the execution of said projects. The projects need not be related, but the resources do.

Governance decisions at portfolio level include

- Acceptance of projects into the portfolio, based on the organization's strategy and capabilities
- Prioritization of projects, definition of their duration (start and conclusion), suspension and termination of projects
- Allocation of resources based on the prioritization of projects
- Identification of bottlenecks in competencies, skills or other strategic resources which could place at risk the delivery of projects in the portfolio
- Definition of the strategies for the treatment and mitigation of any risks, problems and conflictive situations in the portfolio.

Sponsor and Steering Groups

Pursuant to PMBOK (2008), a sponsor is a person or group which supplies financial resources, in cash or kind, for the projects. It also informs that when the project is first conceived, the sponsor defends it and acts as a spokesman before the top management levels, seeking the support of the entire organization and the dissemination of the benefits to be brought by the project.

For Muller (2009), the sponsor is a manager to whom the organization provides financing to allow the development of a project. If the organization is the main beneficiary of the results of the projects, the sponsor is therefore the person most interested in the project's success.

Still pursuant to Muller (2009), Steering Groups, Steering Committees or Project Boards are committees formed to implement project governance. Typically, these committees are presided by the sponsors. PRINCE2 suggests that the committee be formed, at least, of the sponsor and the project manager, although it also normally includes the managers who represent the users of the project's results, the main stakeholders, the Company's top management, in addition to other members as required. Sponsored projects are selected for execution. In the case of most industrial projects, the sponsor is the chairman of the steering group, since he is most directly connected to the project feasibility studies.

This is why, according to Muller, the steering group is ultimately responsible for the success of the project and is the governance tier closest to project execution. Its members appoint the project manager, select the budget parameters, the execution timetable, the success criteria (for example, quality levels) and define the goals to be met within these limits. The sponsor or steering group, then, execute governance, providing resources, controlling the projects through the application of the defined plans, project milestones, change and delivery control, and, ultimately, the acceptance of the project upon its conclusion. In addition, they also offer advice and support to the project managers. During the project's life cycle, the project managers report to the steering committees.

Project Management Office (PMO)

Pursuant to PMBOK (2008), PMO or Project Management Office is an organizational body or entity which is responsible for various management activities related to the projects under its control. It may also be responsible for providing support to project management and even be directly responsible for the project management itself. The PMO may offer, among other activities: administrative support services such as policies, models and methodologies; training, advice and orientation to project managers; support, guidance and training as to how to manage projects and use the pertinent tools; alignment of the human resources of the projects and or centralized communication among the project managers, sponsors, functional managers and other stakeholders.

According to Muller (2009), there may also be a tactical or strategic PMO. The objective of the strategic PMO is to establish the goals to be reached in the results of project management. The main objectives of the strategic PMO are measurements of the corporate Balanced Scorecard, such as

number of projects in peril or revenue in risk due to projects in trouble. The color coding of projects normally follows this standard:

- Green: overall project status – correct;
- Yellow: deviation from plans, project requires attention;
- Red: serious deviation from plans, project in danger of failing.

As for the tactical PMO, it is responsible for providing the means to allow the projects to reach their objectives. The tactical PMO works with the managers to assure that the projects fully use the tools, processes, techniques and other management functions. Although tactical, this PMO normally also offers training and consultant services to the project managers (ENGLUD; MULLER, 2005). Although the tactical PMO is not present within all organizations, it is an importance level of governance for the quality of project execution. It has an excellent overview of the projects, its strengths and weaknesses, which allows it to carry out treatments or other improvements which generate a good return on investment.

OUTLINE OF THE STUDY

Characterization of the study

The definition of the objectives presented in the introduction led to the decision in favor of a quantitative study to be developed in the form of a case study based on the results achieved in the management of the capital projects developed by the organization in question.

According to Collins and Russey (2005), quantitative studies represent a type of study which seeks to collect and analyze numerical data and apply statistical tests. The quantitative methodology considers that the data may be quantifiable, which means translating the opinions and data into numbers to classify and analyze them. This type of research requires the use of statistical resources and techniques (percentage, average, mode, mean, standard deviation, correlation coefficient, regression analysis, multivariate analysis, among others) (MINAYO, 2007).

Analysis unit and surveyed population

The analysis unit (hereinafter referred to as Alfa Company) is an organization engaged in the business of iron ore mining in Brazil, based in Minas Gerais, which, at the time of the study, had some 2000 employees distributed among its industrial units. In addition, the Alfa Company was chosen as a research unit because it has a project management system which allows analysis in light of the referenced literature.

The subjects of the survey are the employees of Alfa Company: general managers, managers, representatives of the company shareholders, representatives of the PMO, capital projects managers, project engineers and experts qualified to reply to questions related to the needs of this study.

Therefore, the constitution of the group of subjects is based on the identification of the target audience of the employees of Alfa Company who have the experience and knowledge needed to reply to the questions of interest to the study. The choice was made to perform the census of the target audience due to the ease of access to the professionals and the relatively small size of the population involved.

Instrument and procedure for collecting data

This survey initially adopted the analysis of documents, which refers to indirect observation (CASTRO, 2006) made on the basis of a gathering of internal documents, annual reports, systems and other documentation which addresses issues about project management and corporate governance at Alfa Company.

For the quantitative analysis, data were collected through a questionnaire sent to the 64 professionals from different areas related to the management of the aforementioned projects.

The objective of the questionnaire was to ascertain the level of compliance by the Company's project management with the governance practices recommended by APM, described above. In addition, the questionnaire was also used to obtain from general managers, managers and project coordinators information on the project management process within the Company, their perception of the intentions of top management and their experience with the maturity of the process and its results.

ANALYSIS OF SURVEY RESULTS

The survey was conducted during two months through electronic questionnaire sent by e-mail to 64 professionals from Alfa Company. In total, 59 professionals answered the survey, resulting in participation of 92%. Issues related to corporate governance practices in the management of capital projects were presented as positive statements on 50 criteria related to four disciplines of governance projects. Discipline "project portfolio" was split into eight criteria, "Project Sponsor" into 16 criteria, "Project Management" in 15 criteria and 11 criteria were related to discipline "Transparency and reporting."

It was required from the participants of the survey to indicate their degree of disagreement or agreement with respect to each of these criteria by means of a Likert scale with five response categories, ranging from one (strongly disagree) to five (strongly agree). The metric interval Likert scale of five points, widely used in social research, was chosen due to good accuracy as well as meet the requirements for ease and speed of understanding by the respondents, which are very important for electronic surveys. (HAIR JR. *et al.*, 2005; MALHOTRA, 2006).

The results are presented on a scale from zero to 100, with the aim of facilitating understanding of the level of adherence of the company's practices to project governance disciplines. The meanings of transformed values on this scale are:

- Zero: total disagreement with the affirmative, ie, the criterion is not in place;
- 50: partial agreement with the affirmative, ie, the criteria exist in some situations, but not in others;
- 100: total agreement with the affirmative, ie, the criterion evaluated is widely practiced in the company

The results are presented in tables with statistical measures to estimate the average opinion on the criteria and core subjects and the standard deviation to estimate the variability of opinions among the participants, generated with the statistical software R and Minitab 16. These statistical measures were selected due to better adapt to the situation, since the data did not show asymmetries or discrepant results. In this situation, the average, compared with the median, has more advantages due to the property to maximize the use of information collected (TRIOLA, 2005).

The results represent the population census of the company Alfa professionals, since almost all the employees qualified to respond to the survey expressed their opinion. The parameters mean (μ) and standard deviation (σ) of the population were calculated without sampling error. In assessing the results it was considered the following classification of the level of adherence to best practices Alfa governance projects:

- Mean scores at or above 75 indicate a good level of adherence to the criteria, ie, the criterion is widely practiced;
- mean scores between 50 and 75 indicate a reasonable level of adherence to the criteria, appearing in more than half of the situations. However, the practice should be expanded;
- mean scores below 50 indicate reduced presence in the company's criteria, manifesting itself in less than half of the situations. These criteria must be addressed with more attention.

Profile of surveyed professionals

The profile of the professionals as to their position within the Company and their personal characteristics is shown below. In order to avoid groups with an extremely reduced number, which could compromise the confidentiality of individual responses, some categories were grouped for use in the stratification of the answers. Table 1 below shows the positions within the Company which participate in capital projects, with greater participation by specialist engineers, general managers and process engineers.

TABLE 1 – Distribution of professionals per position

Position	Number	(%)
Specialist Engineer	12	20,3
General Manager	12	20,3
Process Engineer	10	16,9
Analyst	7	11,9
Coordinator	6	10,2
Manager	5	8,5
Project Engineer	3	5,1
Maintenance Engineer	2	3,4
Designer	2	3,4

Source: research data.

Table 2 shows that the most active area, which encompasses practically 50% of the professionals, is the project area. The PMO participates with five professionals and the others work in eight other areas, with representatives from most of the functional areas of the Company.

TABLE 2 – Distribution of professionals per area

Area	Number	(%)
Project	29	49,2
Engineering	6	10,2
PMO	5	8,5
Finance	4	6,8
Operation	4	6,8
Procurement	4	6,8
Maintenance	3	5,1
Human Resources	2	3,4
Management	1	1,7
Risk	1	1,7

Source: research data

Table 3 shows a summary of the time of experience of the professionals in capital projects. This length of time is quite variable, with a minimum of less than one year and a maximum of 37 years. On average, the time of experience is 6.8 years, with a standard deviation of 6.5 years.

TABLE 3 – Time of experience in capital projects (years)

	Number	(%)
up to 3 years	21	35,6
4 to 9 years	23	39
over 9 years	15	25,4
Min: 1 year	Average: 6,8 years	
Max: 37 years	SD: 6,5 years	

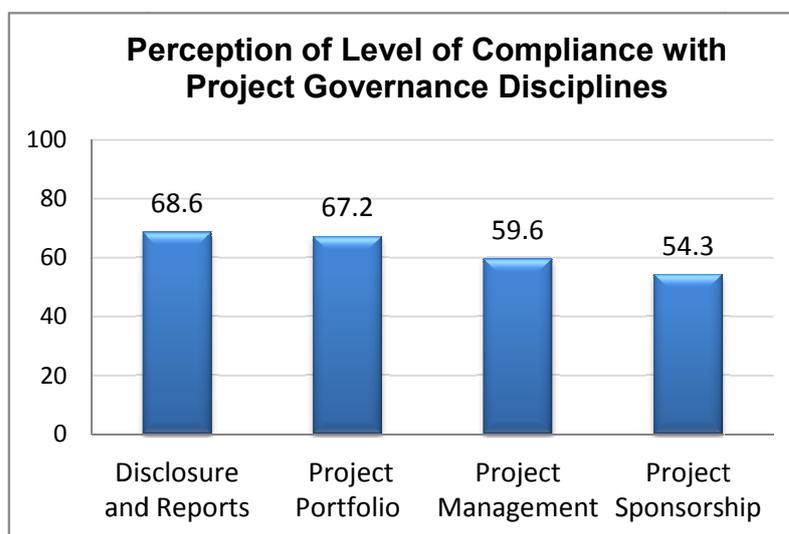
Source: research data

Most of the professionals (86%) who participated in the survey do not hold a PMP certificate. It was also found that the professionals with PMP certification have an average experience time of between 5 and 10 years. Men are much more numerous in the population of professionals, accounting for almost 80% of the total. This concentration is found throughout the Company as a whole.

Compliance by Alfa Company with the disciplines of governance and projects

Chart 1 shows the summary of the results of the evaluation of the four disciplines of capital projects governance. In the opinion of the professionals, all of the disciplines are present in the Company at reasonable levels, with the best management practices being perceived in the discipline Disclosure and Reports, and Project Portfolio. The discipline Project Sponsorship showed the lowest level, with a performance slightly above the middle of the evaluation scale used.

Chart 1 – Overall Alfa Company compliance with Governance and Projects disciplines



Source: research data

Perception about the discipline (Project Portfolio)

This discipline received an average score of 67.2. There are two criteria with good performance here: “portfolio projects are aligned with the strategic objectives established by the organization” (score 81.0) and “ the organization applies planning, financial controls and review processes to the project portfolio investments” (score 75.0). The other criteria have a reasonable level of compliance, with lowest performance observed for the “project portfolio which is consistent with the capabilities (resources) of the organization” (score 56.4). Table 4 shows the results of each criterion of the discipline “project Portfolio” in decreasing order of performance.

TABLE 4 – Perception of compliance with discipline “Project Portfolio”

	Valid Replies	Average Score	Minimum	Maximum	Standard Deviation
Project Portfolio	57	67,2	22	97	16,6
Portfolio projects are aligned with the strategic objectives established by the organization.	58	81,0	25	100	18,3
The organization uses planning, financial control and review processes of investments to the project portfolio.	59	75,0	25	100	18,6
The involvement of the organization with clients and markets motivates the project portfolio.	58	70,3	25	100	23,6
The organization correctly separates the activities that should be treated like project activities from the operation activities.	59	64,8	0	100	27,9
The organization guarantees that the impacts of project implementation are known, approved and well accepted by the operations.	59	64,8	0	100	23,7
The project portfolio is given priority, revised, maintained and evaluated so that a mix of projects supports the strategy and considers external questions.	58	63,8	0	100	23,5
The organization evaluates and treats risks associated with the project portfolio, including the risk of corporate bankruptcy.	58	62,9	0	100	27,4
The portfolio of projects is consistent with the capacity (resources) of the organization.	59	56,4	0	100	32,7

Source: research data

Perception of discipline “Project Sponsorship”

The discipline of “Project Sponsorship” showed the lowest level of compliance with best governance practices for capital projects, with a score of 54.3. The results of each criterion which composes this discipline are shown in Table 5, in decreasing order of performance. There is a criterion with good performance “All of the large projects (Type D – over R\$ 100 million) have dedicated sponsors (with effective participation)” (score 78.0), 11 criteria with reasonable performance (score between 50.0 and 75.0) and four with poor performance (score under 50.0).

Considering that the main metrics for this discipline of project governance are related to the project performance indicators of cost, delivery/execution timetable and scope, one can see that this discipline was strongly impacted by the poor performance of these criteria. One of the aspects that stands out is the contrast between the practices adopted for large projects (Type D - over R\$ 100 million) and the B and C type projects (under R\$ 100 million), particularly with regard to effective sponsor participation.

TABLE 5 – Perception of compliance with discipline “Project Sponsorship”

	Valid Replies	Average Score	Minimum	Maximum	Standard Deviation
Project Sponsorship	55	54,3	17	89	17,0
All the major projects (type D - above R\$ 100 million) have dedicated <i>sponsors</i> (with effective participation).	59	78,0	0	100	31,2
Projects undergo independent evaluation and auditing.	59	68,6	0	100	26,9
D projects are concluded within the planned scope.	57	64,5	0	100	23,6
D projects are concluded within the planned cost.	57	60,5	0	100	29,1
Interests of key <i>stakeholders</i> , including <i>clients</i> , <i>suppliers</i> and <i>regulatory agencies</i> are aligned with the project KPI.	58	59,5	25	100	24,3
B and C projects are concluded within the planned scope.	58	57,8	0	100	22,1
Sponsors support project managers with guidelines and decisions at opportune moments.	59	56,8	0	100	25,4
B and C projects are concluded within the planned cost.	58	54,7	0	100	27,9
Project sponsors guarantee that project managers have access to resources with the necessary competencies to deliver the projects as planned.	59	54,7	0	100	26,0
<i>Sponsors</i> hold regular meetings with project managers and are well-informed about project progress.	59	53,4	0	100	25,2
<i>Sponsors</i> represent the project for the entire organization.	55	52,7	0	100	31,1
D projects are concluded within the deadline.	57	50,4	0	100	32,9
Sponsors dedicate sufficient time to the projects.	59	47,9	0	100	26,0
The <i>sponsors</i> are responsible for creating and maintaining <i>feasibility studies</i> (<i>business case</i>) of the projects.	57	47,4	0	100	29,4
All B and C type projects (up to R\$ 100 million) have dedicated <i>sponsors</i> (with effective participation).	58	47,0	0	100	29,3
B and C projects are concluded within the deadline.	58	30,2	0	75	26,0

Source: research data

Perception about discipline “Project Management”

The discipline “Project Management” showed the second lowest level of compliance with good practices in capital project governance. There are two criteria with good performance (score above 75.0), 12 with reasonable performance (score between 50.0 and 75.0), and one with poor performance (under 50.0).

As with the discipline “Project Sponsorship”, one finds a sharp contrast between the practice adopted for large projects (type D – over R\$ 100 million) and B and C type projects (under R\$ 100 million), with emphasis on the difference in perception with regard to the structure and team allocated to their development.

TABLE 6 – Perception of compliance with the discipline “Project Management”

	Valid Replies	Average Score	Minimum	Maximum	Standard Deviation
Project Management	58	59,6	17	88	16,1
The maturity of projects is evaluated as approval criteria in internal portals.	59	78,0	25	100	20,8
D type projects have a structure and team that is appropriate for their development.	58	76,3	0	100	29,4
The organization has systematized efficient methodology to evaluate the maturity level of the projects.	59	68,6	25	100	23,9
Project contingencies are estimated and controlled by competent personnel.	59	66,5	0	100	25,7
The PMO promotes effective training for project managers, ensuring that knowledge is shared through project management.	59	64,4	0	100	25,5
The project managers are motivated to develop opportunities to improve the results of projects.	59	63,6	0	100	23,8
The risk and change management practices implemented are in line with the organization's policies.	59	63,1	0	100	25,2
Authority in projects is delegated at the appropriate level, balancing efficiency and control.	58	58,2	0	100	25,0
The organization's board guarantees that the persons responsible for project delivery, especially project managers, are clearly defined, have the necessary competence and capacity to generate the expected results.	59	58,1	0	100	23,4
All projects have defined performance indicators and these are used in the decision-making process and for correcting deviations in relation to the original planning.	59	56,4	0	100	21,1
The project supply area has sufficient capacity to provide the resources and services demanded by the projects.	59	56,4	0	100	27,7
The roles and key responsibilities of the PMO are clearly defined and divulged throughout the organization.	59	55,5	0	100	25,9
The project control philosophy is clearly internalized in the organization.	59	54,7	0	100	24,8
The PMO guarantees appropriate structure, processes and tools for development (planning, management and execution) of B and C projects.	58	53,9	0	100	26,4
B and C type projects have a structure and team that is appropriate for their development.	58	36,2	0	100	24,0

Source: research data

Perception of discipline “Disclosure and reports”

This discipline presented the highest level of compliance with best governance practices for capital projects, obtaining a score of 68.8. There are two criteria with a good performance (score higher than 75.0), while the others have a reasonable performance (score between 57.8 and 75.0). The practices that showed the best performance refer to the role of the Executive Board in properly informing the shareholders about the status of the project/portfolio and verifying the reported information as needed. In addition, the Company applies financial controls to the projects at all levels. A fundamental criterion for the good evaluation of this discipline is the fact that the company leaders are responsible for the validation of the financial and economic assessments of the projects, for they

participate actively in the evaluation of the maturity of the projects at the internal approval gates for submission by the governance committees to the shareholders.

TABLE 7 – Perception of compliance with discipline “Disclosure and reports”

	Valid Replies	Average Score	Minimum	Maximum	Standard Deviation
Transparency and Reports	57	68,6	18	100	16,5
The board maintains key <i>stakeholders (shareholders) adequately informed on the status</i> of the projects/portfolio.	59	83,5	25	100	19,5
The board verifies the information reported on the projects/programs and portfolio when appropriate.	59	76,3	0	100	21,0
There is an adequate support policy for whistleblowers who make accusations of unethical conduct in project environments.	57	70,6	0	100	29,2
The board receives reliable and relevant information on a timely basis on the project forecasts in the approval gates and during the execution.	59	69,5	25	100	20,8
The Company's culture allows information on projects to be reported openly and honestly.	58	67,7	0	100	28,9
Relevant matters like project risks and opportunities are evaluated before they are brought before the board.	59	67,4	25	100	20,4
The Company hires independent auditors for its projects.	58	67,2	25	100	24,0
The project progress report are efficient and faithfully represent the results.	59	64,8	0	100	22,3
The board has sufficient and meaningful information on the project risks and on how these are being treated.	59	64,4	0	100	20,9
The organization uses critical success factors and performance indicators to control the execution of its projects.	58	63,8	25	100	21,5
The board is the main party responsible for project information.	58	57,8	0	100	27,0

Source: research data

CONCLUSION

The company showed an acceptable level of adherence to the Code of Best Practice Governance Project of the APM as well as meeting the criteria governance under Sarbanes-Oxley Act based on the APM's code. The research shows that the company made a consistent effort to achieve the current performance level, indicated the ways in which increased faster and was more successful, as well as issues requiring focus of attention for the improvement of their practices governance projects. In the opinion of professionals, all four disciplines of governance projects are present in company with the best management practices in the subjects perceived "Transparency and reporting"

and "project portfolio". On the other hand, the discipline "Project Sponsor" showed the worst performance level.

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