

**CORPORATE GOVERNANCE IN PRIVATE NONPROFIT ORGANIZATIONS
IN THE FIELD OF SCIENCE AND TECHNOLOGY: THE BRAZILIAN CASE**

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Abstract

This paper discusses corporate governance concepts and practices with the aim of identifying elements that can be added to the governance model for private nonprofit organizations termed social organizations in Brazilian law. The analysis is based on a case study of five social organizations, all linked to the Ministry of Science, Technology & Innovation: the Center for Management & Strategic Studies (CGEE); the Pure & Applied Mathematics Institute (IMPA); the Mamirauá Sustainable Development Institute (IDSM); the National Education & Research Network (RNP); and the National Materials & Energy Research Center (CNPEM). The study identified many common characteristics due to the regulatory framework governing such organizations and their similar legal status, but also found significant differences such as the existence of governance bodies not common to all the organizations studied, the definition of stakeholders and how they relate with the organization, and the composition, role and dynamics of the board of directors or equivalent body.

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1. Introduction

Based on a discussion of corporate governance concepts and practices, the study described in this paper set out to identify elements that can be added to the governance model for private nonprofit organizations, especially those defined as “social organizations” in Brazilian law (Law 9637/1998). Such elements can be found in research on governance models and practices for private-sector organizations as well as organizations in the public and third sectors.

A case study of five social organizations (SOs) was conducted in order to identify these elements. The SOs were chosen because their core activities relate to science, technology and innovation (ST&I); indeed, they are all subordinated to the government ministry concerned (Ministério da Ciência, Tecnologia e Inovação, MCTI). The SOs were: the Center for Strategic Studies & Management in STI (Centro de Gestão e Estudos Estratégicos, CGEE); the Pure & Applied Mathematics Institute (Instituto de Matemática Pura e Aplicada, IMPA); the Mamirauá Sustainable Development Institute (Instituto de Desenvolvimento Sustentável Mamirauá, IDSM); the National Education & Research Network (Associação Rede Nacional de Ensino e Pesquisa, RNP); and the National Materials & Energy Research Center (Centro Nacional de Pesquisa em Materiais e Energia (CNPEM)).

Besides identifying the specificities of SOs in general, it is relevant to note the distinctive characteristics of organizations that focus on knowledge production and the promotion of innovation. The fact that the SOs concerned specialize in ST&I has important implications for the model because of the indeterminacy of this environment and its distinctive culture, so that this is a far from trivial proposition.

The study followed the OECD’s Principles of Corporate Governance (OECD, 2004) and the Brazilian Corporate Governance Institute’s Code of Best Practice in Corporate Governance (IBGC, 2009) in examining above all the board of directors, management, the supervisory board, the rights of shareholders, the control environment, transparency and disclosure, conduct, and conflicts of interest.

The SOs studied were found to have a common governance structure, which is best explained by the fact that they are all governed by the same law (Law 9637/1998) and have the same legal status (“nonprofit civil association”). However, a number of important differences were also noted, especially (a) the existence of governance bodies not common to all the SOs studied, (b) different definitions of stakeholders and stakeholder relations, and (c) differences in the composition, role and dynamics of the board of directors.

The discussion below proposes a number of premises and practices for SOs in ST&I on the basis of these common and different elements, evidently taking into account the scope for management autonomy between the terms of each organization’s mandate

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(including its legal structure and management contract) and the specifics of its institutional mission.

The paper is organized into four sections besides this introduction and the conclusions. The next section discusses corporate governance principles and practices in general. This is followed by a closer look at governance in nonprofits. Section 4 focuses on ST&I social organizations in Brazil, and Section 5 on the characteristics and corporate governance of the five SOs covered by the case study.

2. Corporate governance: principles and practices

A discussion of corporate governance makes sense only when there are agency problems or conflicts of interest between actors within an organization, such as shareholders and executives, majority and minority shareholders, or owners/managers and employees/suppliers (Hart, 1995; Saito & Silveira, 2005). The vast majority of research on conflicts of interest refers to conflicts between shareholders and executives, since the separation of ownership and control entails significant risks of the expropriation of shareholders' wealth by executives.²

This type of conflict of interest arises when large firms are taken public, and more precisely when ownership structures become diffuse, so that individual shareholders have limited decision-making power because of significant information asymmetry between principals (shareholders) and agents (management). The latter have far greater access to information and hence decision-making power. Improved corporate governance aims to avoid such problems, which are discussed in the literature under the heading of agency theory.

Jensen & Meckling (1976) define an agency relationship as a contract under which a principal engages an agent to perform some service on his behalf which involves delegating some decision-making authority to the agent, and argue that if both parties to the relationship are "utility maximizers, there is good reason to believe that the agent will not always act in the best interests of the principal", so that their interests frequently diverge. Principals clearly seek to maximize wealth (or return on investment), whereas agents may strive to improve earnings, power, security and/or recognition, among other things (Fontes-Filho, 2003).

Agency problems would not exist in situations governed by comprehensive contracts detailing exactly what management is to do on the principal's behalf. This is not the case in practice, however, given the frequency of unforeseen events, so contracts are necessarily incomplete and insufficient to avoid all conflicts of interest (Hart, 1995; Silveira, 2005).

One way to limit divergences between principals and agents, according to Hart (1995), would be to institute monitoring and/or contractual incentives that could force

² Fontes-Filho & Picolin (2008) note the frequency in recent Latin American history of organizations owned or controlled in a highly concentrated manner by individuals, families, governments or shareholder agreements, so that the most relevant form of agency conflict is not between owners and management but between majority and minority shareholders. As emphasized by Silveira (2005), this is not the case in the United States, where dispersed ownership of large corporations is the rule.

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agents not to maximize utility to the detriment of principals. But any such effort to ensure that agents do not behave opportunistically in the ways cited incurs agency cost,³ defined as the cost of avoiding conflicts of interest between principal and agent.

The agency problem exemplified above can also be circumvented by the adoption of mechanisms to align the interests of principal and agent in accordance with best practice in corporate governance. These mechanisms may be internal (board of directors, compensation schemes, ownership structure etc.) as well as external (hostile takeovers, labor market, auditing etc).

This paper follows the definition of corporate governance presented in IBGC's Code (IBGC, 2009, p. 19): "the system whereby organizations are managed, monitored and incentivized, involving relations between owners, the board of directors, management and controlling bodies". In practice, corporate governance is designed to ensure that decisions are taken in the best interests of the principals. To this end, it comprises external and internal mechanisms to control management by limiting inadequate or opportunistic behavior and foster monitoring of agents (management) by principals (owners, shareholders, society).

Given the growing worldwide importance of corporate governance and its centrality to the sustainability of organizations in increasingly competitive markets, the OECD has published a guide to corporate governance principles, in which it stresses that corporate governance is a key component in the enhancement of a corporation's economic efficiency as well as a country's economic growth (OECD, 2004).

IBGC's guide to best practice in corporate governance (IBGC, 2009) defines four core principles as follows:

Transparency

Disclosure of all relevant information to stakeholders rather than only as required by law or regulation.

Equity

Equitable treatment for all shareholders and stakeholders.

Accountability

The obligation incumbent upon governance agents⁴ to report and explain decisions and be answerable for the consequences of their actions and omissions.

Corporate Responsibility

The obligation incumbent upon governance agents to promote corporate sustainability and longevity, especially by including social and environmental considerations in the organization's mission, business vision and operational strategy.

These principles are the foundation for corporate governance practices and mechanisms. In other words, the principles are materialized in objective

³ Jensen & Meckling (1976, p. 308) define agency costs as the sum of (i) "monitoring expenditures" by the principal; (ii) "bonding expenditures" by the agent (who expends resources to guarantee he will not take certain actions that would diminish the principal's wealth); and (iii) "residual loss" (when the principal fails to maximize his wealth because of an agent's decision).

⁴ The term "governance agents" refers to executive and non-executive directors, managers, and internal and external auditors (IBGC, 2009, p. 19).

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recommendations designed to align interests, preserve the organization, optimize its value, facilitate its access to resources and contribute to its longevity (IBGC, 2009). It is important to stress that corporate governance practices differ from one country to another owing to the differing institutional contexts and national markets in which organizations are created and develop (Silveira, 2005).

In accordance with the OECD (2004) and IBGC (2009), the main corporate governance mechanisms are the board of directors and supervisory board, management, general meetings or assemblies, control systems, transparency and disclosure, conduct, and methods for dealing with conflicts of interest. These mechanisms are detailed in the following chart.

Chart 1. Corporate governance mechanisms

| Mechanism | Definition |
|--|---|
| Board of Directors | Sets strategy, appoints management to implement it, and oversees and controls management’s performance. |
| Supervisory Board | An optional body under Brazilian Law (Lei das SA). When instituted, its duties are to protect the organization’s interests, audit its financial statements, and monitor management’s actions and compliance with legal and statutory duties. |
| Management | Body of executives headed by the chief executive officer (the link with the board of directors) and responsible for day-to-day management of operations. |
| General meetings or assemblies | The organization’s sovereign governance body. The rights of owners or shareholders of all types must be clearly established and respected, including mechanisms for electing representatives to the board of directors. |
| Control environment | Internal and external control systems. Internal controls assure the generation of reliable and accurate financial reports, and efficient and effective operations in compliance with both the applicable laws and internal rules and standards. External controls include independent auditing of the organization’s financial statements and internal control system. |
| Transparency and disclosure | Collection, verification, availability and dissemination of information, whether or not required by law, to shareholders and specified stakeholder groups by authorized members of the organization. |
| Conduct and conflicts of interest | The Code of Conduct is a mechanism for avoiding conflicts of interest. It should be based on the organizational culture, emphasize social and environmental responsibility, and include methods for submitting complaints, reporting suspected misdemeanors and resolving ethical dilemmas. The board of directors is responsible for drafting and approving the Code of Conduct. |

Source: Based on IBGC, 2009.

Following this outline of the key corporate governance mechanisms for organizations in general, the next section focuses on the specificities of nonprofits and their implications for corporate governance in these cases.

3. Corporate governance in nonprofit organizations

The corporate governance principles and practices outlined above are designed for private-sector organizations but are applicable to nonprofit organizations provided they are adapted to the objectives and structure of such organizations. Generally speaking, the goal of private-sector organizations is efficiency and profit making. Nonprofits also pursue efficiency, not in order to make a profit but to offer high-quality goods and

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services in the public interest. Thus mechanisms for aligning the interests of principals and agents are also necessary but must take into account the specificities of the principals concerned and the results expected by such organizations.

One of the points stressed by Fontes-Filho (2003) in his discussion of corporate governance for nonprofits is the difficulty of defining and identifying their results. This is often due to lack of clarity regarding objectives, hindering the measurement of efficiency and effectiveness, and the use of corporate governance mechanisms. Another key point relates to the identification of principals, since there are no clear ownership structures in these cases and only a vague notion of the interests to be defended by agents. It is often observed that the principal is considered to be the government (in the case of public-sector organizations), the main source of funds, or even society as the beneficiary of the results generated. As noted below, while the SOs discussed here are nonprofits they are funded by government to a significant extent and this contributes to the vagueness of the notion of principal.

Chart 2. Specific characteristics of corporate governance mechanisms applicable to nonprofits

| Mechanism | Specific characteristics for nonprofits |
|---------------------------------------|---|
| Board of Directors | Also fundamental for nonprofits to assure alignment of principal-agent interests, but must include representatives of different stakeholders to reflect public interest. |
| Supervisory Board | Recommended but not mandatory for any organization under Brazilian law and hence no specific adaptations or limitations apply to nonprofits. |
| Management | Best method of nomination in accordance with distinctive nature of nonprofits is as a collegiate body to reflect different interests and mediate conflicts more efficiently. |
| General meetings or assemblies | In the case of nonprofits, the idea of shareholder/owner representation and rights should be maintained. Depending on the legal model concerned, there may also be members, whose rights and representation must equally be guaranteed. |
| Control environment | The specific need here is for external audits, which in some cases may be performed by government control bodies. |

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| | |
|--|---|
| Transparency and disclosure | The public-interest focus of nonprofits, and in some cases public funding, makes transparency and disclosure even more important. Disclosure of public-interest results and accountability are especially relevant. |
| Conduct and conflicts of interest | Highly pertinent to nonprofits, with emphasis on social and environmental issues relating to the public-interest nature of these organizations. |

Standard corporate governance mechanisms⁵ are of limited applicability or require adaptation in the case of nonprofits. The next chart summarizes the main points regarding this applicability.

Complementing Chart 2, it is necessary to note that the presence of independent board members is a very important dimension of corporate governance not found in the majority of nonprofits. Board interlocks are common in these organizations, i.e. directors of one organization sit on the board of another organization, as noted in the IBGC Code (2009). Board members cannot act independently when they are part of an overarching context of political relations in this way (Fontes-Filho, 2003). This problem should be taken into account when evaluating the time dedicated by directors to board meetings versus the quality of their contribution, given that many sit on several boards of nonprofit organizations (IBGC, 2009).

Another feature that should be considered when analyzing corporate governance models for nonprofits is the importance of accountability, as there is strong pressure in this arena from the various stakeholder groups. This observation means that the most appropriate model for such cases should be associated with the mechanisms that best balance the interests of stakeholders, as exemplified by corporate governance in countries such as Germany or Japan (Silveira, 2005).

Now that the key elements of corporate governance and their application to nonprofits have been duly covered, the next step is to see how they work in a specific set of Brazilian social organizations involved with ST&I. A case study can be the basis for proposing additional elements of best practice in corporate governance for such organizations. This is justified not only because the legal status of SOs entails principal-agent relations with certain specific characteristics, but also because the involvement of the SOs in question with ST&I likewise requires distinctive elements to assure the desired alignment.

4. ST&I social organizations in Brazil

This section addresses the question of a corporate governance model for SOs involved with ST&I in terms of two key points: the legal status of the SOs concerned and the specificities entailed by their involvement with ST&I.

⁵ See Chart 1 above.

4.1 The nature of the social organizations studied

The process of redefining the state's role in Brazil intensified in the 1990s. A milestone of this process was Law 9637 (1998) on the constitution of social organizations (SOs) and the delegation to these SOs of activities performed by government agencies and other public-sector organizations that were then closed down. SOs were defined as nonprofit organizations established with the corporate purpose of operating in the fields of education, scientific research, technological development, culture, health, and environmental protection and conservation (Brazil, 1998).

The creation of SOs in the 1990s was part of a movement that favored public but not state-owned organizations⁶ to provide competitive services or services not exclusive to the state, such as healthcare, education, culture and scientific research. In this context the non-state public sector was to provide such services while the state was to stop doing so and instead to perform the functions of regulating, supporting and promoting such activities. The SO model was part of an institutional framework designed to assist the migration of these activities from the state sector to the third sector and to enhance the quality of public management in both (Bresser-Pereira, 1997).

In sum, SOs are public-interest nonprofits incorporated under private law and entitled to receive government funding⁷ to operate and administer human resources, facilities and equipment in public ownership. Thus non-state public organizations take responsibility for “publicizable”⁸ activities by qualifying as SOs.

For present purposes it is relevant to highlight a few points of Law 9637/1998 that relate to corporate governance. To qualify as an SO, an organization must:

- be set up to produce specific public goods or services;
- be a nonprofit and invest any surplus in its own activities;
- have a board of directors and be managed by an executive committee;
- organize and control the board of directors in compliance with certain clauses of the law;
- have executives with clearly identified roles and duties;
- publish annual financial and management reports in the Federal Register (*Diário Oficial da União*) according to their management contracts;
- have government representatives and professionals of good standing to represent the community on the board of directors.

In addition to the above requirements, SOs must sign a legal agreement with government to formalize the partnership under which they perform their activities. This is

⁶ The organizations concerned are public because they provide public goods or services, but non-state because they are not state-owned and/or not staffed by civil servants or traditional political agents.. “Public non-state organizations are nonprofits that serve the public interest but are incorporated under private law” (Bresser-Pereira & Grau, 1999, p. 16-17).

⁷ SOs may and often do have non-public funding not covered by their management contracts with government, e.g. from research foundations, business organizations etc.

⁸ Literal translation of *publicizáveis*, a neologism referring to non-state production of public goods by third-sector organizations (Bresser Pereira, 1997, p. 9).

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known as a management contract and stipulates agreed performance targets to assure the quality and effectiveness of the goods and services provided to the public (Bresser-Pereira, 1997). Performance of management contracts is overseen by an official body responsible for regulating SOs.

In this context all the elements of nonprofit corporate governance discussed above apply to SOs. It should be noted that in this case the government is generally taken to be the principal (as the main source of funding) and the management contract is the key control mechanism (with the respective performance indicators). Moreover, as noted earlier every SO must have a board of directors with at least one government representative.

4.2 Specificities of the ST&I planning and management process

The SOs analyzed in this study focus on ST&I. The production of scientific and technological knowledge and the innovation process, as well as ST&I planning and management, have certain specific features with important implications for corporate governance that require supplementation of the model expounded above for SOs.

Analyzing the production of scientific and technological knowledge and the innovation process is no trivial task owing to the complexity of the relationships between ST&I and social and economic change. In this perspective Salles-Filho (1993) stresses that ST&I is characterized by an environment of uncertainty in which conditions and results are not known beforehand, adding that this environment is influenced by factors relating to the nature of technology objectively sought by economic agents and dependent to a greater or lesser extent on individual and collective learning and technological capabilities.⁹

Considering these distinctive features of ST&I, Bin & Salles-Filho (2012) argue that four specific elements should be taken into account when dealing with ST&I planning and management: indeterminacy; the profile of the professionals involved and the organizational culture; multi-institutionality; and economies of scope.

Indeterminacy derives from two characteristics of ST&I. The first is the non-deducibility of research and development (R&D) results, since research efforts may produce results of various kinds that go beyond or differ totally from what is expected. The second is the time taken to promote innovation and the risks associated with this process. The key point here is the idea that success can be determined only after the fact because it depends on social appropriation of the technology developed.

From the corporate governance standpoint, the main implication of this point relates to the type of control mechanism to be used (and the dissemination of results deriving from it). The results and impacts of ST&I activities are indeterminate and cumulative, so evaluating them is no trivial task. What is essential here is to find a balance between suitable indicators for R&D and innovation indicators, based on the understanding that R&D efforts do not always lead to innovation.

⁹ For a more detailed discussion of the specificities of scientific and technological knowledge production and innovation, see Chapter 1 of Bin (2008).

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The *profile of the professionals involved* and the *organizational culture* are relevant in the case of ST&I planning and management. Both require a specific approach to personnel management tailored to this situation. The individuals concerned are more autonomous and creative than most professionals, for example, and have a stronger attachment to meritocracy (associated with scientific excellence and peer recognition) than mere hierarchy. The result is a gap between the goals and values of researchers and managers. Researchers focus on knowledge creation, social progress and professional prestige. Managers want commercial and financial results. Hence the frequency of conflicts between these two groups of actors.

The solution would be to put in place parallel structures to the board of directors to discuss priorities and the institution's scientific and technological results. These could be internal and external technical or scientific councils. Such structures have been successfully implemented by many organizations. It is also worth considering the need for distinctive career plans and related pay scales, as well as methods for choosing executives, given the importance of taking scientific merit into account.

Multi-institutionality or collective logic are important in the case of ST&I activities, where interorganizational collaboration and permeability to knowledge flows are increasingly prevalent, as evidenced by the growth of research networks and open innovation systems.

Finally, the need to exploit *economies of scope* in knowledge production can be understood on the basis of its intrinsic nature and relates to the learning process that derives from the exchange of knowledge among individuals, leading inevitably to the ability to produce more (new) knowledge.

The last two characteristics further underscore the need to include representatives of partner institutions in corporate governance bodies and create appropriate indicators to measure the results of these interactions. Hence the importance of having the various different stakeholder groups represented on the board of an SO.

While the corporate governance requirements for SOs in ST&I noted here may serve as useful indications for proposing a model, observation of the functioning of SOs in practice is undoubtedly capable of supplementing this analysis significantly. The next section presents the findings of a case study based precisely in this kind of observation.

5. Characterization of the organizations studied and aspects relating to the corporate governance model

Among the organizations studied, the National Pure & Applied Mathematics Institute (IMPA) and the National Materials & Energy Research Center (CNPEM) are the oldest. IMPA was established in 1952 in the city of Rio de Janeiro. It was chartered as an SO in 2001 and its administration was then taken over by the National Pure & Applied Mathematics Institute Association. CNPEM was established in 1987 in the city of Campinas, São Paulo State, as an institute of the National Science & Technology Development Council (CNPq). In 1998 it was chartered as an OS and its administration was taken over by the Brazilian Synchrotron Light Technology Association (ABTLuS). The others were all set up after the publication of Law 9637/1998. The Center for

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Strategic Studies & Management in STI (CGEE) was established in 2001, the Mamirauá Sustainable Development Institute (IDSM) in 1999, and the National Education & Research Network (RNP) in 2002. The next chart summarizes the general characteristics of these organizations and itemizes their corporate governance structures.

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Chart 3. General characterization of CNPEM, CGEE, IMPA, IDSM & RNP

| SO | Headquarters & date chartered as SO | Mission | Budget (in Brazilian Real)* | Corporate governance bodies |
|--------------|--|--|------------------------------------|---|
| CNPEM | Campinas, SP, 1998 | Promoting and contributing to national S&T development via national laboratories, which it establishes with all necessary conditions to achieve its strategic objectives and goals and those of the respective association. | 70 million (2011) | Board of Directors, Executive Board |
| CGEE | Brasília, DF, 2001 | Promoting and performing high-level prospective studies and research in S&T, and promoting interaction and other constructive relations with productive sectors. | 29 million (2010) | General Assembly, Executive Committee, Board of Directors, Supervisory Board |
| IMPA | Rio de Janeiro, RJ, 2001 | Performing research in mathematics and related fields, training researchers, disseminating mathematical knowledge and building ties with other areas of science, culture, education and the productive sector. | 57.5 million (2011) | Board of Directors, Executive Committee, Technical & Scientific Council |
| IDSM | Tefé, AM, 1999 | Performing scientific research for biodiversity conservation by sustainable participatory management of natural resources in the Amazon. | 16 million (2011) | Board of Directors, Executive Committee, Technical & Scientific Council |
| RNP | Rio de Janeiro, RJ, 2002 | Promoting innovative use of advanced networks in Brazil to facilitate interaction between people and remote resources, and developing new applications and network protocols for the benefit of the public in fields such as health and education. | 179.5 million (2011) | Board of Directors, Executive Committee, Technical & Scientific Council, User Committee |

*Approximate amounts including funding under management contract and other sources.

As well as standard corporate governance bodies (board of directors, management, general meeting), each of these SOs has a specific organizational structure (and nomenclature) reflecting the nature of its activities, as illustrated by the following examples:

- All five SOs have a board of directors and executive committee or the equivalent, as can be seen from Chart 3. One has no other corporate governance bodies. The fact that only one (CGEE) has general meetings or assemblies points to limited member participation in most cases, although the characteristics, rights and duties of members (or shareholders) are clearly defined in their constitutive documents. This may be due to lack of clarity in defining stakeholder relations.
- Another important aspect of corporate governance is the composition of the board of directors. Law 9637/1998 requires the board to include representatives of government, civil society and professional experts of good standing, among others. As noted earlier, this may impair its independence and entail the problems deriving from board interlocks.
- Three of the five SOs (IMPA, IDSM and RNP) have a technical and scientific council to help plan and oversee educational and S&T activities. The existence of advisory bodies is an important aspect of corporate governance, given the complexity of the tasks expected of the board of directors, which in the SOs studied include strategic planning and deliberation and general oversight as well as coordination, control, and overall evaluation. Thus boards evidently benefit from the support of advisory bodies. It is also worth noting that one of the SOs studied (RNP) has a user committee, whose main function is to provide feedback on the quality of services provided.
- The Ministry of Science, Technology & Innovation (MCTI) appoints committees to evaluate SOs in compliance with Law 9637/1998, mainly using mutually agreed indicators specified in their management contracts. SOs are also required to file semiannual and annual management reports detailing contract execution. With regard to this point, it is worth stressing the need for a broader set of indicators and/or improvements to the evaluation system in accordance with the growth in categories of stakeholders beyond the ministry in question, including other government bodies, users, the scientific community, private organizations, funding sources, and ultimately Brazilian society.

6. Conclusions

This section summarizes the findings of the study relating to the specificities of the SOs studied and their corporate governance implications, particularly insofar as they affect principal-agent relations and the desired alignment of interests.

ST&I activities – Indeterminacy and risk are inherently acute in the field of ST&I, meritocracy is an important value, merit also typically being externally validated, staff are highly qualified, and the overall environment is both competitive and cooperative. The implications of all these points for corporate governance are that objectives and goals should be agreed in a flexible manner, that external validation of merit can be commissioned from international S&T organizations (as is already the case for some of the SOs studied), that the specificity and uniqueness of the organization's assets (especially human resources and

infrastructure) must be assured, and that the system of communication should be tailored to the above elements.

Qualifications as an SO – SOs are engaged in public-interest activities, are obliged to perform management contracts with government, have a board of directors as supreme corporate governance body, and are required to file a specific set of financial and management reports. The implications for corporate governance in general are the need for communication and specific interaction with the ministry (MCTI) to assure bargaining power (political action) and maintain qualification as an SO; and the importance of specialization in reporting and accountability to all stakeholder categories, continuously pursuing more agile and adequate management mechanisms (managerial development policies and instruments for measuring performance), and improving systems for evaluation and monitoring of results and disclosure to stakeholders.

7. References

BIN, A. (2008). *Planejamento e Gestão da Pesquisa e da Inovação: Conceitos e Instrumentos*. 253 p. Doctoral thesis. Departamento de Política Científica e Tecnológica, Instituto de Geociências, Universidade Estadual de Campinas. Campinas.

BIN, A. & SALLES-FILHO, S.L.M. (2012). “Science, Technology and Innovation Management: Contributions to a Methodological Framework”, *Journal of Technology Management & Innovation (JOTMI)*, v. 7, n. 2, July, pp. 73-86.

BRAZIL (1998). Law 9637 (Lei no. 9.637, de 15 de maio de 1998: “Dispõe sobre a qualificação de entidades como organizações sociais, a criação do Programa Nacional de Publicização, a extinção dos órgãos e entidades que menciona e a absorção de suas atividades por organizações sociais, e dá outras providências”), *Diário Oficial da União*, 18 de maio de 1998, p. 8.

BRESSER-PEREIRA, L. C. (1997). “Reforma do Estado nos Anos 90: Lógica e Mecanismos de Controle”. *Cadernos MARE da Reforma do Estado*, n.1, julho 1997, Brasília: Ministério da Administração Federal e Reforma do Estado.

BRESSER-PEREIRA, L.C. & GRAU, N. C. (1999). “Entre o Estado e o Mercado: o público não-estatal”, in: Bresser-Pereira, L.C. & Grau, N. C. (eds.), *O Público Não-Estatal na Reforma do Estado*. Rio de Janeiro: Editora FGV, pp. 15-48.

FONTES-FILHO, J. R. (2003). “Governança organizacional aplicada ao setor público”, in: *VIII Congreso Internacional del CLAD sobre la Reforma del Estado y de la Administración Pública*, Panamá, 2003, pp. 28-31.

HART, O. (1995). “Corporate governance: some theory and implications”, *The Economic Journal*, v. 105, pp. 678-89, May 1995.

IBGC (Instituto Brasileiro de Governança Corporativa) (2009). *Código das Melhores Práticas de Governança Corporativa*, 4th ed., São Paulo, 73 p.



JENSEN, M. & MECKLING, W. (1976). “Theory of the firm: managerial behavior, agency costs and ownership structure”, *Journal of Financial Economics*, v. 3, n. 4, pp. 305-360.

OECD (Organisation for Economic Co-Operation and Development) (2004). *Principles of Corporate Governance*. <http://www.oecd.org>. Last visited Aug. 10, 2012.

SAITO, R. & SILVEIRA, A. M. (2008). “Governança corporativa: custos de agência e estrutura de propriedade”, *Revista de Administração de Empresas*, v. 48, n. 2, abr-jun, pp. 79-86.

SALLES-FILHO, S. A dinâmica tecnológica da agricultura. Tese de doutorado. Instituto de Economia, Ciência Econômica, Unicamp, Campinas, 1993.

SILVEIRA, A. M. Governança corporativa: desempenho e valor da empresa no Brasil. São Paulo: Saint Paul, 2005.