IT master plan effectiveness in Public Sector

Rosemeire Araujo Oikawa
Centro Paula Souza
roseoi@microsoft.com
Napoleao Verardi Galegale
Centro Paula Souza
nvg@galegale.com.br
Getulio K. Akabane
Centro Paula Souza
getulio@akabane.adm.br
Tereza Cristina M. B. Carvalho
Universidade de São Paulo
terezacarvalho@usp.br

Abstract

This work aims to verify IT effectiveness based on descriptive survey and semi structured interviews in municipal, state and federal agencies in Brazil. It concluded that IT governance mechanisms used in the world's top performer companies in the private sector, identified in research conducted by CISR/MIT, can also be used in public sector.

Keywords: IT Governance Mechanisms, Public Sector Governance, IT Master Plan.

Introduction

Information Technology (IT) assumed a vital role in recent years in Brazilian public Organizations. The focus of IT is the effective use of information to support organizational practices. The IT supports organizations to meet the requirements for agility, flexibility, effectiveness and innovation. In this context, for a public administration with a better management of resources and higher quality in the provision of services to citizens, it is essential to have a good IT planning to enable and leverage the continuous improvement of organizational performance (SISP, 2013).

Effective IT governance can result in the rationalization of resources and transparent administration, increasing the efficiency and effectiveness of the services placed at the disposal of society thus generating benefits to citizens. Best practices related to IT Governance recommend that organizations, no matter they are public or private, must have IT Governance mechanisms implemented to support its strategies.

In 2008, after bad results identified in auditing realized by Court of Accounts, Brazil Government determined that an Information Technology (IT) Master Plan would be

mandatory for all federal government organizations. Nowadays not only federal organizations but also state and municipal organizations produce IT Master Plans, however, citizens do not have visibility about its effectiveness.

This research focused on understanding the effectiveness of IT Master Plan by analyzing the percentage of goals achieved, the plan update process and risk management. It also analyzed how IT Governance Mechanisms influence those results. The survey had 39 respondents from public agencies in Brazil in the municipal, state and federal spheres; and from three public agencies in Japan. The survey had 39 respondents from public agencies in Brazil in the municipal, state and federal spheres; and from three public agencies in Japan by interviews. The research has shown that 82% of respondents uses IT Master Plan. The IT Master Plan effectiveness was high in 38% of public agencies which carried out 75% to 100% of plan execution; while 62% of public agencies achieve only until 75% of plan execution.

The public agencies with higher percentage of implementation supported at least two important IT Governance Mechanisms, which were Budget approval Committee and IT council with business and IT executives. The survey also showed that the IT Governance Mechanisms used in the world's top performer companies in the private sector, identified in research conducted by *Center for Information Systems Research (CISR)* of *MIT Sloan School*, were found also in public agencies, demonstrating that there is no paradigm that management models used in the private sector do not apply to the public sector.

Method

The method used in the development of this work was a descriptive survey and semi structured interviews. The survey had 39 respondents from public agencies in Brazil in the municipal, state and federal spheres; and from three public agencies in Japan that responded the interviews. Data results were analyzed through Survey Monkey software, Excel application and Statistical Package for the Social Sciences (SPSS) applying decision tree and cluster techniques.

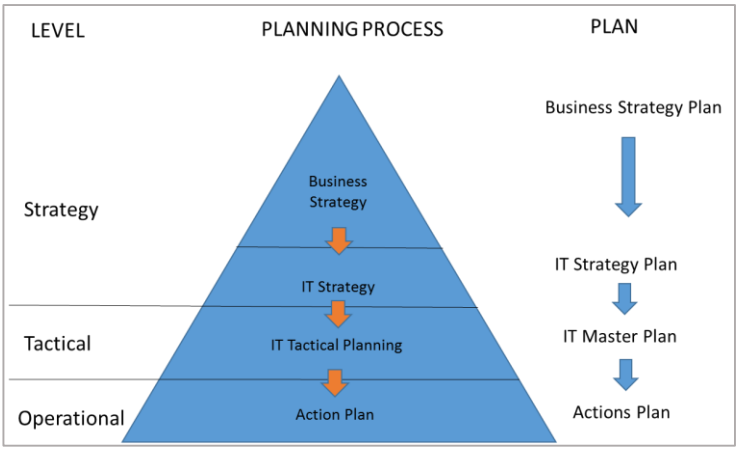
IT Governance Framework and Mechanisms

According to Weill and Ross (2005) IT governance is the decision rights and accountability framework for encouraging desirable behaviors in the use of IT. IT governance reflects broader corporate governance principles while focusing on the management and use of IT to achieve corporate performance goals. Because IT outcomes are often hard to measure, firm must assign responsibility for desired outcomes and assess how well they achieve them.IT governance shouldn't be considered in isolation because IT is linked to other key enterprise assets financial, human, intellectual property, physical and relationships). Thus, IT governance might share mechanisms (such as executive committees and budget processes) with other asset governance processes, thereby coordinating enterprise-wide decision making processes.

IT Master Plan

In the area of Information Technology, IT Master Plan is a leading planning outcome. According to Brazil Ministry of planning (2012/2013), the IT Master Plan is a diagnostic tool, planning and management of resources and processes of information technology, which aims to meet the technological requirements and information from an agency or entity for a certain period; should contemplate the information needs and services of organization, goals to be achieved, actions to be carried out and deadlines for implementation. The figure 1 demonstrates where IT Master Plan fits in the planning processes and levels. It is the plan that translates strategy in to tactical goals and projects.

Figure 1: Relationship between planning levels

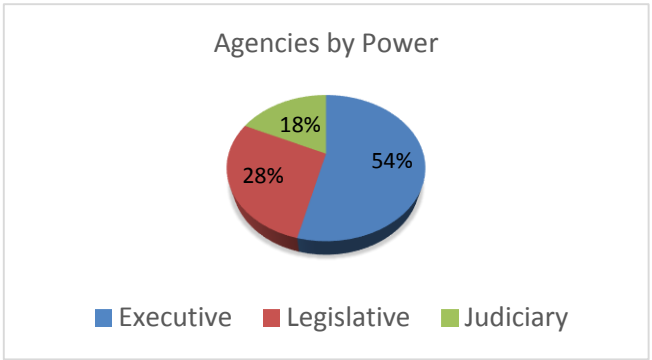


Source: Adapted from SISP (2013)

Results

In Brazil, different agencies from Executive, Judiciary and Legislative powers responded the survey as demonstrated in the figure 2.

Figure 2: Agencies by Power



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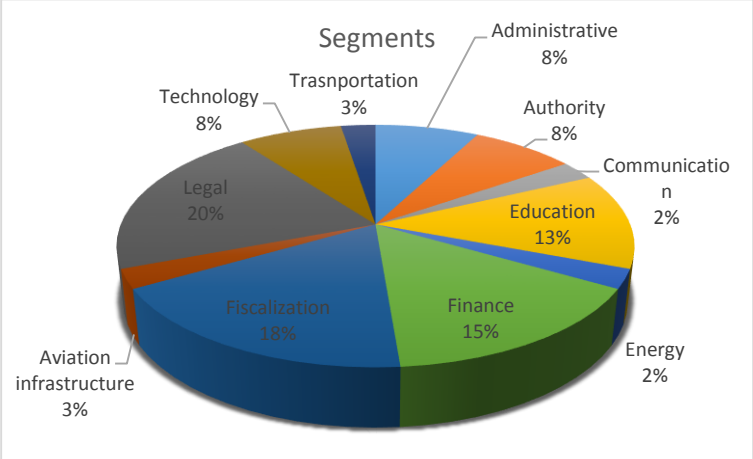
The segments, which participated in the survey, are showed in the figure 3.

Figure 3: Segments



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The public agencies from the sample used in this research demonstrated a low effectiveness in the execution of IT Master Plan where 62% of public agencies achieved until 75% of the plan completion otherwise 38% of public agencies showed 75% to 100% of completion as detailed below in the figure 4.

Figure 4: IT Master Plan Completion

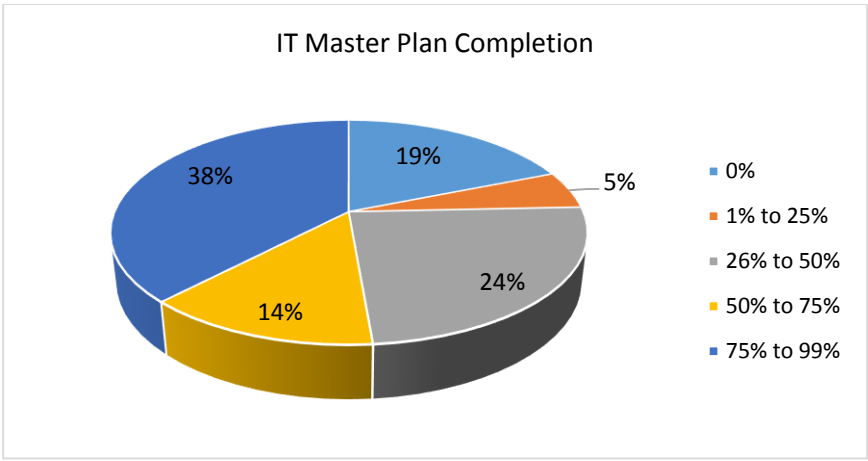

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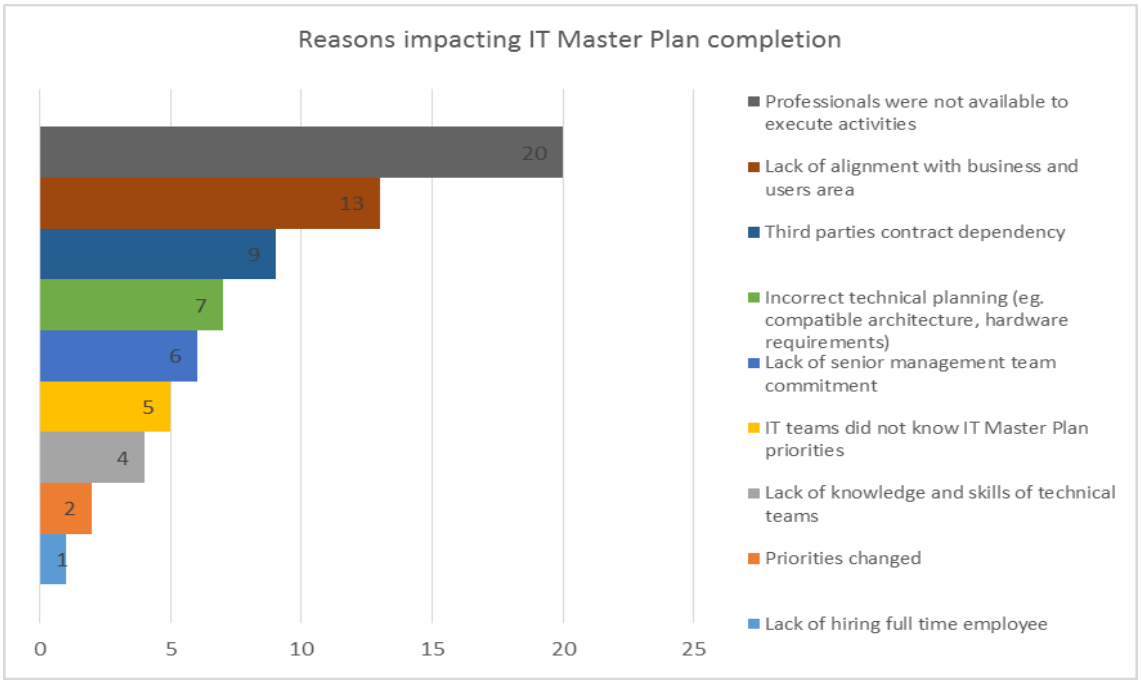
Figure 4 demonstrates the completion execution of last IT Master Plan created by public agencies, where we observe that 19% of public agencies did not execute any plans, 5% of public agencies achieved from 1% to 25% of completion, 24% of public agencies achieved from 26% to 50% of completion, 14% of public agencies achieved from 50% to 75% of completion, 38% of public agencies achieved from 75% to 99% of completion and

any public agency achieved 100% of completion. The reasons why public agencies did not have a high level of plan completion varies from each one but the top 3 reasons are because professional were not available to execute activities, lack of alignment with business and users are, and third parties contract dependency as illustrated in the figure 5.

Figure 5: Reasons impacting IT Master Plan completion



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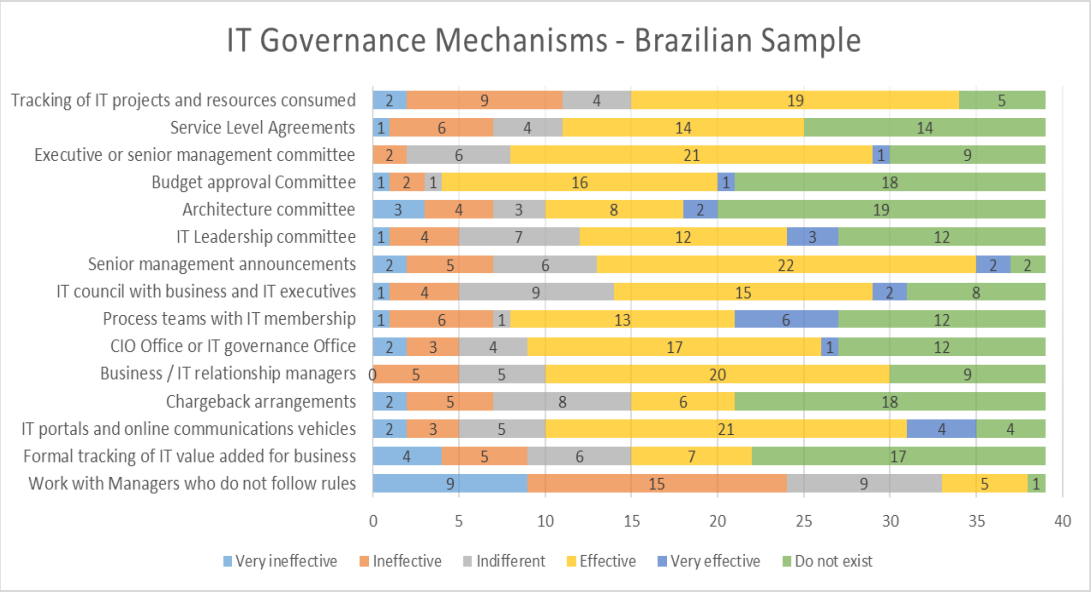
In order to have a comprehensive view about how public organizations are managing their IT, the survey questioned what IT Governance mechanisms and the level of efficiency of each mechanism.

The IT Governance Mechanisms used in this survey were based on the mechanisms found on world's top performer companies in the private sector, identified in the research conducted by *Center for Information Systems Research (CISR)* of *MIT Sloan School*. The figure 6 demonstrates that most of IT Governance mechanisms used in private sector are also deployed in public sector. The mechanisms more implemented are senior management announcements, executive or senior management committee and IT portals and online communications vehicles. Otherwise, the mechanisms less implemented, only 60% of answers, are architecture committee, budget approval Committee and chargeback arrangements.

Figure 6: IT Governance Mechanisms– Brazilian sample



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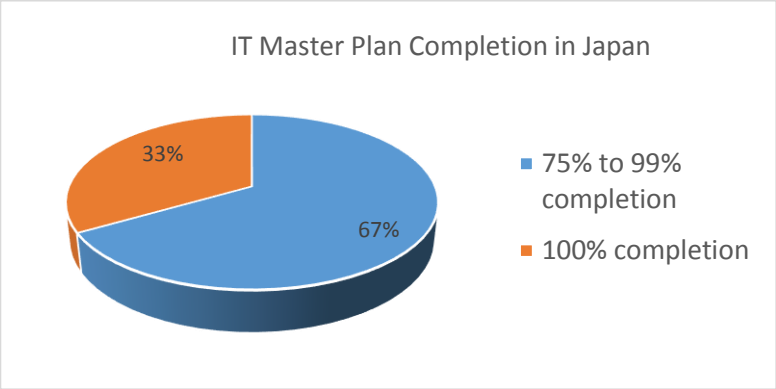
Based on survey results we can observe that internal communication is very important in the Public Sector as 90% of answers told that they have implemented senior management announcements, IT portals, and online communications vehicles mechanisms.

Those results endorsee some Brazil public sector characteristics as they not recover IT costs from business and users departments, as the IT budget is centralized and defined based on previous needs already identified; consequently they do not execute a formal tracking of business value added.

Japanese Public Sector

In Japan, three public organizations were interviewed with the same questions applied in Brazil public sector. The organizations interviewed are from different levels of Japanese Government, which gave a broad view of how Japan's handles IT Governance. The organizations are Ministry of Land, Infrastructure and Tourism, Prefecture of Kyoto and Government Strategic Headquarter. The percentage of IT Master Plan completion is very high stating all organizations above 75% of completion as showed in figure 7.

Figure 7: IT Master Plan Completion in Japan



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The Japanese organizations demonstrated to have a high efficiency and maturity regarding the IT Governance Mechanisms. They have implemented almost all mechanisms used in private sector as showed in figure 8.

Figure 8: IT Governance Mechanisms in Japan

IT GOVERNANCE MECHANISM		Japan (3 organizations)	
		% Organizations with mechanism implemented	Efficiency 1(Ineffective) to (Highly effective)
Making Decision Structure	Executive or senior management committee	100%	4.67
	IT Leadership committee	100%	4.33
	Process teams with IT membership	100%	4.33
	Business / IT relationship managers	100%	4.33
	IT council with business and IT executives	100%	4.33
	Architecture committee	100%	4.00
	Budget approval Committee	100%	4.67
Alignment Processes	Tracking of IT projects and resources consumed	100%	4.33
	Service Level Agreements	100%	4.33
	Formal tracking of IT value added for business	67%	4.50
	Chargeback arrangements	67%	5.00
Communication Approaches	Work with Managers who do not follow rules	67%	5.00
	Senior management announcements	100%	4.67
	CIO Office or IT governance Office	100%	5.00
	IT portals and online communications vehicles	100%	4.67

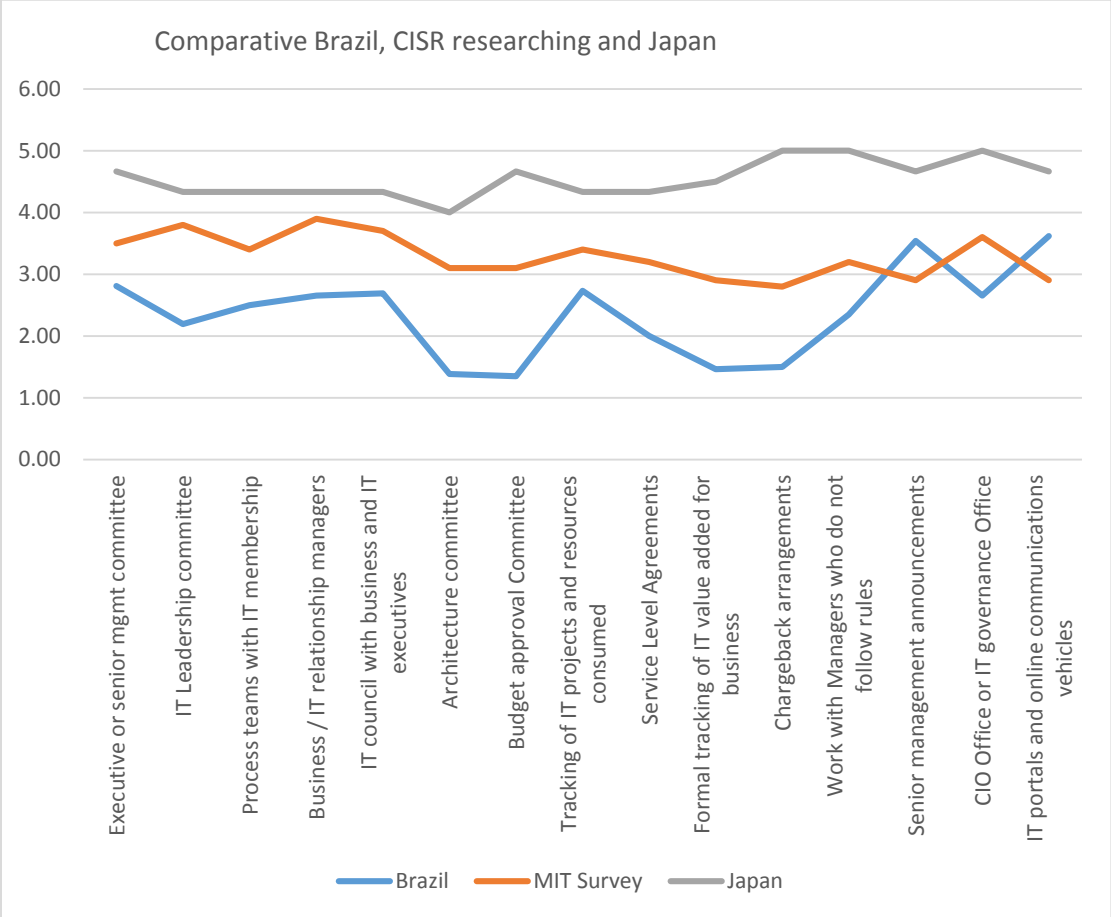
Source: Created by authors

Public Sector versus Private Sector Results

Japan and Brazil have different organization cultures and characteristics as well as private and public sectors also. Despite it, this research presented that regarding IT Governance Mechanisms they have same needs and controls in place.

Figure 9 shows the comparative efficiency of the mechanisms of Brazil research sample, the MIT research companies and Japan; the result shows that in 87% of it mechanisms, Brazil's public agencies have much lower efficiency than the organs of Japan and companies surveyed by MIT. On the other hand, in 100% of the mechanisms, the organs of Japan have higher efficiency to others.

Figure 9: Comparative Brazil, CISR researching and Japan



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Conclusion

This research found out that the IT Master Plan is already used in 82% of organizations from the sample in Brazil and 100% of organizations from sample in Japan. However, the execution of the plans and achievement of goals still have to be improved in Brazil.

The IT Governance Mechanisms used in private sector was also found out in public sector demonstrating that in both sectors the needs and principles of IT Governance are the same ones, respecting the characteristics and goals of each sector.

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