

A QUANTITATIVE PERSPECTIVE OF THE IMPLEMENTATION OF BEST PRACTICES ON ITIL: INFORMATION TECHNOLOGY INFRASTRUCTURE LIBRARY IN A BRAZILIAN PUBLIC COMPANY UNDER PEOPLE AND PROCESSES OVERVIEW

Uma Perspectiva Quantitativa Da Implementação das Melhores Práticas Sobre A ITIL: Biblioteca de Infraestrutura de Tecnologia da Informação em uma Empresa Brasileira Pública Sob Pessoas e Processos

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Abstract: The adoption of Corporate Governance in public administration companies has as focus on the beginning of organizational management, the seeking of best mechanisms to control and management itself and how to achieve good results in the provision of public services for clients and the society that uses these services. The term Information Technology Governance addresses the concern of managers to properly apply the available human and technological resources, making it possible to obtain better results in the provision of their information technology services in an efficient and transparent manner. This paper presents the results of a research that had as objective to identify relevant and priority actions in the implementation of best practices of Information Technology Services Governance in a public company, identifying the success factors in its implementation directing the analysis under the optic of people and processes. The method used was the application of a quantitative research with the results achieved through a case study that took place between the years of 2009 and 2014. The data obtained in this research reflect the employees perceptions about the implantation process and evidences that real experience obtained with the application of best corporate governance practices in public administration, the strengthening of its productive processes and, above all, the contribution that this dynamism and the improvement in the productive processes inductively impact on the improvement and quality of services provided in information technology by a public company to society.

Key words: Corporate governance; IT governance; Processes; People

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Resumo: A adoção da Governança Corporativa nas empresas da administração pública tem como foco no início da gestão organizacional, a busca dos melhores mecanismos de controle e gestão em si e como alcançar bons resultados na prestação de serviços públicos aos clientes e à sociedade usuária desses serviços. O termo Governança de Tecnologia da Informação aborda a preocupação dos gestores em aplicar adequadamente os recursos humanos e tecnológicos disponíveis, possibilitando a obtenção de melhores resultados na prestação de seus serviços de tecnologia da informação de maneira eficiente e transparente. Este trabalho apresenta os resultados de uma pesquisa que teve como objetivo identificar ações relevantes e prioritárias na implementação das melhores práticas de Governança de Serviços de Tecnologia da Informação em uma empresa pública, identificando os fatores de sucesso em sua implementação direcionando a análise sob a ótica das pessoas e processos. O método utilizado foi a aplicação de uma pesquisa quantitativa com os resultados alcançados através de um estudo de caso que ocorreu entre os anos de 2009 e 2014. Os dados obtidos nesta pesquisa refletem as percepções dos empregados sobre o processo de implantação e evidenciam que a experiência real obtida com a aplicação das melhores práticas de governança corporativa na administração pública, o fortalecimento de seus processos produtivos e, sobretudo, a contribuição desse dinamismo e melhoria nos processos produtivos impactam indutivamente na melhoria e qualidade dos serviços prestados em tecnologia da informação por uma empresa pública à sociedade.

Palavras-Chave: Governança Corporativa; Governança de TI; Processos; Pessoas

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INTRODUCTION

According to Weill and Ross(2006), information technology (IT) has become, over the years, increasingly becoming an instrument for the competitiveness of companies that are constantly seeking to align this technology with the organization's business strategy, making it strategic for objectives of the organization. Organizations that achieve alignment of business strategies and IT strategies show better economic performance by contributing to the preservation of the value of the organization, one of the objectives of corporate governance defined by the Brazilian Institute of Corporate Governance as the system by which companies are Directed and monitored, involving relationships among shareholders, board of directors, board of executive officers, independent auditors and fiscal council. Good corporate governance practices have the purpose of increasing the value of society, facilitating its access to capital and contributing to its sustainability (IBGC, 2009). Controls, processes, procedures and metrics adopted are terms originating from Information Technology (IT) and in this way a strong dependence on the organizations with respect to the same is created, making it necessary to synchronize with the business. Information technology governance seeks to share decisions in the area with other areas of the organization as well as establishing the rules, organization and processes that will guide the use of IT in the organization.

The term corporate IT governance adopted in the field of information technology (GCTI) as one reference to monitor the results obtained in the investments in information technology in the organization through the proper management of its services (Vanni, 2005). In this paper, we discuss the relationship between the processes and how the processes are involved in managing the organization. With the growing demand increasing the dependence of organizations on information technology, the importance of its management becomes every day, essential.

The premise of adopting governance tools and their impacts within the organization involves high investments in the acquisition and maintenance of its technological architecture as well as directing much of its resources to improving and empowering people to manage IT in the organization (Lunardi, Backer, Maçada, 2010).

STUDY EVALUATIONS

In a public domain, the management of IT resources is fundamental in increasing the supply of services provided by different governmental spheres and aim to strengthen mechanisms of transparency, governance and accountability in public administration (Barbosa, 2002).

For the public segment, information technology has the mission of simplifying the use of resources, increasing transparency in the use of resources through the provision of public accounts, with effective monitoring of budget execution, improving the quality of available public services, Bureaucratizing services and modernizing public management (Basgal, 2005).

In this scenario, benefits such as the importance of more efficient management of IT infrastructure, greater control in processes and elimination of redundant tasks, flexibility of change management and with quality improvements of IT services are being used based on reference models, among them the ITIL library Information Technology infrastructure Library (Ceita, 2006). The implementation of IT service management models, such as those advocated by ITIL, involve the needs for convincing at various levels of the organization, for its effective implementation, as well as the need to find and solve various potential problems, among They, according to Bon (2002):

- 1) It may require time a significant effort beyond the exchange of culture in the organization;
- 2) It requires the involvement and commitment of all levels of the organization;
- 3) If the processes are not integrated, the quality of the service may be affected;
- 4) The expected improvement in services to be provided and the reduction in operating costs may be Imperceptible.

Given this scenario, what practices that a public company of information technology and communication should consider as a success factor, in the aspects people and processes that can qualify the results in the provision of information technology services to its clients and society Users of these services?

Thus, this study aimed to identify relevant and priority actions in the implementation of best IT governance practices, which would allow for the mitigation of processes and optimization of the resources required for their execution (technological and human). To meet this objective, the following

specific objectives were defined:

1) Identify the priority of the processes integrated to the best practices in IT governance implemented and their relationships with corporate governance that could interfere in the resolution of actions and the quality of the services provided by the IT public companies:

2) Identify motivational actions that integrate the composition of critical success factors in the implementation of best IT governance practices in public companies providing information technology services.

THEORETICAL FRAMEWORKS

The theoretical framework was aimed at describing the concepts used in the construction of the theoretical base that served as a foundation to support the research carried out to achieve the study objective, which is the identification of success factors in the implementation of best IT governance practices in companies Public services that provide services to Brazilian society. The detailing of these concepts initially addresses theories about corporate governance and IT governance as well as their relationships, the importance of which has become crucial to the smooth running of business management and, in this case, to impacts on society; Being finalized with the concept of management of IT services, through the best practices advocated by the ITIL model, knowledge management and organizational culture since the study directs its analysis from the perspective of people beyond their processes. The theoretical concepts used in the quantitative research methodology are part of this theoretical framework.

Table 1 Relationship of Concepts and Theories with Specific Research Objectives

Concept / Theory	Brief Description	Autors	Relationship with the research objective
Corporate Governance	"Corporate governance is the system which companies and other organizations are directed, monitored and encouraged, involving relationships between partners, board of directors, board of executive officers, supervisory and control bodies and other stakeholders.	IBGC,2009	Specific Objective II
IT Governance	The implementation of IT-related structures and architectures to successfully achieve activities in response to the environment and organizational strategy It is a tool for the specification of right decision and responsibilities, in order to encourage desirable behaviours in the use of information technology.	Weill & Ross, 2005	Specific Objectives I and II
IT Management Services	IT service management aims to adequately allocate available resources and manage them in an integrated manner, making the quality of the set perceived by customers and users, avoiding competition from problems in the delivery and operation of services	Gaspar, 2011	Specific Objectives I Continue.
ITIL Concepts	ITIL is a set of best practices that meet the new lifestyle imposed on the areas of information technology, which enables the maturity increase of the IT management process	Magalhães; Pinheiro, 2007	Specific Objective I
Organization Culture	Organizational Culture can be considered as a variable capable of intervening in the business dynamics, giving them value and competitive differential, and is therefore seen as a strategic asset	Barbosa, 2002	Specific Objective II
Knowledge Management	A broad and discerning process of identifying, maximizing, coding and sharing knowledge strategically relevant to organizations.	Terra, 2001	Specific Objective II

METHODOLOGICAL PROCEDURES

From the standpoint of the general objective of this research that was to identify relevant and priority actions in the implementation of best practices of IT governance, making them success factors of this implementation in a federal public organization, the present study is characterized as exploratory and descriptive. Exploratory research is usually performed in an area with little accumulated knowledge and tends to fit the purposes of the study in question while the descriptive research, also from this point of view, has as its attribution to describe the characteristics of a certain “population”, in this case: Technicians of operational areas, involving techniques of data collection. To address the problem addressed in this study that aims to identify the success factors when implementing best management practices in IT services in a public company, this research was classified as quantitative with the use of primary data.

The main phase of this case study was the quantitative approach performed with the operational employees who participated effectively in the implementation process, the object of the study. The research instrument for this stage, previously presented and approved to the managers of the areas involved, was composed of a questionnaire prepared and made available through corporate electronic mail in order to facilitate its referral and tabulation of the statistical results analyzed. They were distributed to 210 selected technicians, who worked directly in the operational areas of the research object.

For the selection of this group of employees were considered the time of permanence in the operational areas before and after implantation and participation in the qualification process. The research questionnaire had a structure guided by the theoretical basis researched. For the criteria scoring system, the scale of values was used with five categories of responses that aimed to diagnose the level of agreement with the affirmatives of the topics contained in the processes and people dimensions, with the objective of measuring the impacts of the implementation and identifying factors of Successful implementation of best practices advocated by ITIL.

The questionnaire containing the 134 questionnaires answered by the employees, composed the sample and initially identified the profiles of the respondents. (Name, position, time in the company) classified as categorical.

The other data were tabulated and classified in order to reveal the intensity and the impacts in the implementation of the best practices of the ITIL model. In the analysis step the data was entered and later treated by Excel software, spreadsheet editor produced by Microsoft for computers that use the Microsoft Windows operating system.

The questions related to ITIL training aimed to identify the conditions and results verified in the training offered in the organization when implementing the best practices of the ITIL model. The characteristics raised do not take into account the content, but rather its applicability.

The questions that address the knowledge management sought to identify the position of employees in the technical area regarding the process of knowledge management, their participation in the process of their creation and the mechanisms used to gauge and validate the process in the organization under this characteristic that has some well-defined practices in the ITIL process and model.

The work process characteristics were approached in 5 (five) questions to identify the processes that occurred before and after the implementation of the best practices recommended by the ITIL model, measuring its applicability x capacity x structure.

Regarding professional development, the research instrument aimed to measure the organization's strategic processes regarding training in order to keep its content, participation and applicability in mind. It also seeks to identify the creation of some formal plan for periodic training and its actual implementation.

From a process perspective, the main objective of the research instrument is to identify the final, intermediate and management operational processes regarding the preparation, modeling and mapping carried out in the implementation of the best practices recommended by the ITIL model.

For the criteria scoring system, the scale of values was used with five categories of responses that aimed to diagnose the level of agreement with the affirmatives of the topics contained in the processes

and people dimensions.

RESULTS

Categorical data analysis-profile characterization

The categorical data included in the study were: age (average age and number of employees by age group), length of professional experience and time of experience in the study company. In view of the characteristics presented, it was possible to identify the audience of this sample, which identifies a group composed of young technicians, with a maximum of 09 years experienced, which for the technology area, often, does not cause impacts of performance by the Constant change and evolution of the technologies employed. It is noted, however, that its corporate formation was almost entirely in the organization object of the study which can be a differential for the organization, where it was carried out without vices and focused on the specific business of the company.

Quantitative data analysis-applied questionnaire

The relative data for the analysis of the results obtained with the implementation of ITIL from the point of view of people and that identify success factors were subdivided into three themes: (i) Training; (Ii) Knowledge Management; (Iii) Knowledge Integration x Professional Development x Work Processes. In terms of processes, the questionnaire addressed the issues related to the final operational processes, focused on the quality and resolution of the services rendered the intermediate operational processes that focus on the processes to support the implementation of the processes and, finally, the operational management with a focus on diagnosis, Monitoring and optimization of the processes in question.

Analysis of quantitative variables

Based on Table 1 - Variation Coefficients, we can analyze the data whose characteristics could identify if the answers obtained with the applicability of the questionnaire, in the sample in question, have homogeneity or heterogeneity in its composition through the comparison between the calculated coefficients of variation By the arithmetic division between the standard deviation obtained and the weighted average of each item answered. For the analysis of the obtained data the Excel program was used to know the weighted mean (MP) of the results, which represents the sum total of the values of a variable divided by the total number of observations; The Standard deviation and the Variation Coefficient (CV), which measures the homogeneity of the data in relation to the mean and is understood as a relative risk measure. According to Fávero et al (2009), if the obtained CV is greater than 30%, the data set can be considered heterogeneous, but if it is below 30%, the set can be considered as homogeneous. The results of the answers obtained are presented according to the application of the questionnaires.

Table 2 Variation Coefficient

Dimension	Question Objective	Weighted Average (MP)	Dimension Average (MD)	Patern Deviation (DP)	Variation Coefficient (CV)
ITIL Training	Training Efficiency	2,06		1,36	66,23 %
	Management Incentive for Training	2,48		1,04	41,91 %
	ITIL Structure discipline development	3,38	2,83	0,55	16,14 %
	Dissemination of paralel process	3,46		0,58	16,86 %
	Imediate Aplication	2,77		081	29,35 %
Knowledge Management	Knowledge experience valorization	2,66		072	26,96 %
	Individual Knowledges inclusion	2,33		0,68	29,22 %
	Dissemination mechanisms	3,07	2,80	0,88	28,61 %
	Organizational knowledge management	3,51		0,62	17,74 %
	Restricted lesson applied	2,43		0,61	24,92 %
Job Process	Job Force X Knowledge X Capacity	2,73		0,83	30,50 %
	Respect to the characteristics of the activities and functions	2,75		0,95	34,50 %
	Process modeling and structuring	2,45	2,59	0,78	31,91 %
	Integration of people on process implementation	2,30		0,67	29,24 %
	Communication channel	2,72		0,69	25,38 %
Professional Development	Training Needs	2,94		0,59	19,90 %
	Needs X Skills	2,96		0,64	21,51 %
	Developed training plan	2,75	2,64	0,52	18,78 %
	Quality and effectiveness of monitored training	2,93		0,63	21,40 %
	Professional Competence x Requirements	2,15		0,75	34,94 %
	Recognition Incentives	2,15		0,70	32,53 %
Finalistis Process	Modeling Strategy Focus	2,84		0,71	24,91 %
	Modeling with public target focus	2,78		0,66	23,64 %
	Modeling without process interpositions	3,25	3,00	0,57	17,55 %
	Mitigation of Variability	3,07		0,63	20,58 %
	Governance Practises	3,06		0,59	19,12 %
Intermediate Process	Modeling without overlays	2,94		0,69	23,50 %
	Alignment of functional areas	2,63		0,86	32,90 %
	Modeling without process interpositions	2,92	2,87	0,74	25,23 %
	Modeling indicators	3,00		0,69	23,12 %
	Improvements for conflict reduction	2,84		0,55	19,43 %
Management Process	Impact-based prioritization	2,63		0,88	33,56 %
	Optimization and realignment	3,02		0,70	23,12 %
	Monitoring and control	3,02	2,99	0,63	20,87 %
	Periodic Evaluation	3,11		0,79	25,43 %
	Post-Implementationrealignment initiatives	3,17		0,69	21,71 %

CONCLUSIONS

The present study identified in the implementation of ITIL best practices in a public company object of this case, which factors, translated into relevant and priority actions, contributed to the success of this implementation, mitigating the processes and optimizing resources, under the optics people and processes, aimed at improving the quality of services provided to the society and aligned with the concepts of governance.

For this evaluation and identification, the concepts of Corporate Governance, Information Technology Governance, IT Service Governance and the theoretical concepts of the ITIL model used in

this public organization as a service management instrument were searched in the literature review developed by the company's operating areas. From the conceptual perspective aimed at people, motivational theories, knowledge management and organizational climate were also approached in order to solidify the theoretical basis for this study.

In search of answers to identify the practices that a public information technology company should consider as a success factor, in the aspects people and processes and that can qualify the results in the provision of information technology services to its clients and the user society of these services, the evidence points to the valuation of the company's staff that directly reflect their motivation in the performance of their activities, a preponderant factor for the success of their operation, resulting in the qualification of the services rendered. The transparency with which the company worked on this implementation process also reveals one of the basic concepts of corporate governance - transparency, participatory principles and building one of the greatest legacies of the knowledge management process.

The results presented allowed us to infer that the implementation of the best practices recommended by the ITIL model allows the Company to reach more challenging stages involving the high capacity and availability of its information systems and to face great pressure from customers and society for the delivery of results in short times.

This research has also found evidence in the transformation of the final operational, intermediate and management processes and in the possibility of making them flexible in order to keep them adequate at any time and with the consent of those who operate it. Through a flexible process modeling and with the effective participation of its employees, the processes will always be adapted to the moment and needs of the organization, breaking the paradigms of perpetuation of process execution, breaking down barriers and mitigating resistances.

The experience of being able to approach governance relations with the management of information technology services through a case study in a public company, brings us to the conviction that not only are technological resources composed of proprietary or market that services rendered in information technology, whether by private and mainly public entities, the object of this research, reach maturity and consequently the necessary quality.

In summary, it is expected that this study will motivate other research in this area, in order to collaborate to change the image of stigmatized public companies as inefficient and bureaucratic.

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