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Increasing BPM maturity: a study in a brazilian energy company

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Abstract

Companies are being structured along its organizational processes and, in this transformation, various practices of business process management (BPM) are adopted. A brazilian energy company has outlined a strategic plan for transformation, to ensure its performance in a competitive environment. Among its objectives, the implementation of BPM is listed as one of the most important projects. Condeixa (2011) developed a survey that examined the perception of the company's experts on the BPM maturity desired, using a questionnaire developed from the BPM Maturity Model of Rosemann and Bruin (2005b). Since then, the company has embarked efforts on initiatives to implement business process management. This paper aims to investigate how the change planning can contribute to BPM become part of daily management of the company. According to Kotter (1999), the change process involves a series of phases that consume considerable time, and elimination of phases only creates the illusion of speed and never produces satisfactory results. The literature review addressed the key factors of BPM identified by Rosemann and Bruin (2005b) and the eight steps for organizational transformation proposed by Kotter (1999). Was carried out a documentary research, which identified the initiatives made in the company until the present moment. As results, were identified in the initiatives found the key factors of BPM deployed, and was tried to determine their suitability to the stages of change presents in the theoretical postulate of Kotter.

Keywords: business process management; bpm maturity; key factors; organizational change.

1 Introduction

The current competitiveness in various economic sectors has required from organizations to seek innovations in their management models, so significantly increasing their ability to respond to sudden crises the world market and the opportunities that come with them. To this end, the business strategy should ensure that their deployments are planned, involving the entire organization, with its integrated areas in a systematic way. According to Kaplan and Norton (2004), design and operation of organizational processes must reflect the vision of top management to the direction the organization should follow. The companies are abandoning the structure of functions, predominant in companies of the twentieth century, and organizing their resources and flows along its basic processes (GONÇALVES, 2000). According to the author, its own logic of operation is going to follow the logic of these processes, rather than the compartmentalized thinking of the functional approach.

Nevertheless, the functional structure has rooted strongly the philosophy of work and management with culture of "functional silos", and this permeated the culture of its professionals, the software structure of the corporation, the work procedures, the strategy and all other resources that make up the organization (DE SORDI, 2008). According to the author, there is a strong conflict that occurs within organizations between traditional culture by functions and orientation by business processes, which is implemented gradually. And the shift in paradigms deeply rooted in culture executive, needed to manage business processes, can be seen as one of the main challenges of modern organizations (MÜLLER et al, 2003). Condeixa (2011) conducted a survey that aimed to analyze the maturity desired of business process management (BPM) in the brazilian energy company, using the BPM Maturity Model developed by Rosemann and Bruin (2005b) for the construction and application of a questionnaire with employees involved in the implementation of BPM in the company studied. The results regarding desired maturity pointed to the fourth stage - managed, while the perception of employees on the current maturity

pointed to the stage 1 - initial, in which the organization has specific initiatives, with little coordination and demonstrating, typically, minimal involvement of employees. From these results, the company has embarked on efforts in deploying BPM initiatives.

But the organizations that intend to deploy BPM realize that this implies a profound organizational change, reflected in its structure, processes, systems, people, etc.., encountering the following questions: What are the priority actions? In which areas of the organization should be started? The implementation is progressing in the right direction, towards the vision of the company's future? To what extent? In this way, the results of this case study may contribute to readers, researchers and experts from companies, to analyze how an organization well positioned in the brazilian energy sector is trying to achieve the BPM maturity desired, with implementation of practices so planned, based in the steps of organizational change found in a referenced theoretical model.

2 Scope

This paper aims to investigate how the change planning can contribute to BPM become part of daily management of the company. Specifically, this study aims to answer the following questions: What key factors of BPM were deployed in the initiatives of implementation of BPM in the brazilian energy company? How the initiatives found relates to the eight steps proposed by Kotter (1999)? Initially, the literature review is intended to address the key factors of BPM identified by Rosemann and Bruin (2005b) and the eight steps for organizational transformation proposed by Kotter (1999). Then, in the case study, will be carried out documentary research in order to investigate the BPM initiatives developed by the company so far, identifying key factors of BPM deployed in these initiatives. Finally, the intent is to assess the suitability of BPM initiatives implemented by the company to the change stages present in the theoretical postulate of Kotter. After the presentation of results, conclusions and recommendations on future research complement this paper.

3 Business Process Management - BPM

Many authors have defined concepts of processes, or business processes, under very different perspectives, most of them keeping the same essence: an ordered serie of steps, with activities input and output clearly identified, to generate a result of value to the client. Business process management (BPM) is a concept that mainly unites business management and information technology with a focus on optimizing the results of organizations by improving business processes. Are used methods, techniques and tools for analyzing, modeling, publishing, optimize and control processes envolving human resources, applications, documents and other information sources.

3.1 BPM Maturity

According to Hammer (2007), in virtually every industry, companies of all sizes reported extraordinary improvements in cost, quality, speed, cost and other areas vital when have made efforts to focus, measure and redesign their internal processes and of customer interaction. Unfortunately - he concludes - many have been lost along the way. Due to the increasing complexity and scope of processes in organizations, is increasing the need for companies and institutions to structure themselves to manage its processes (PAIM et al, 2009). And how much longer organization's maturity in business process management, will be better able to provide this structure. According to Harmon (2004), the basic idea behind the concept of maturity is that mature organizations do things systematically, while immature organizations achieve their results due to heroic efforts of individuals using approaches that they create more or less spontaneously. Most maturity models is based on the Capability Maturity Model - CMM, developed by the Software Engineering Institute - SEI at Carnegie Mellon University as a model for evaluating software vendors to the Department of Defense U.S.. Humpfrey (1988) stated that by establishing the position of his

organization in this maturity framework, software professionals and management can more easily identify areas where improvement actions are more likely to produce results.

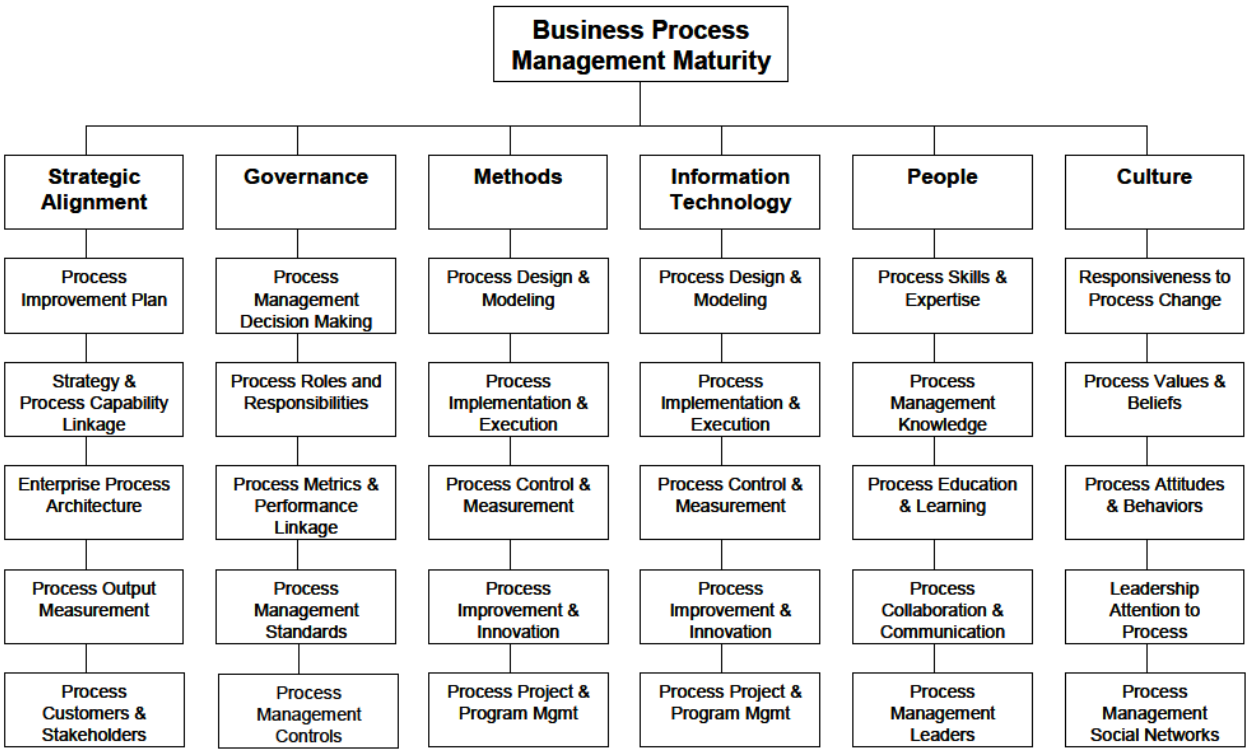
An important presupposition to be considered for the structure necessary for the implementation of business process management in organizations is that there must be consensus on the parameters that must be met for the future vision is achieved. According to Senge (1998), the practice of shared vision involves the skills of finding "images of the future" shared that foster genuine commitment and involvement, rather than mere acceptance. For the author, when actually share a vision, people feel connected, linked by a common aspiration. According to Rodriguez (2007), to transform a vision into a force in people's heart is a major challenge for leaders. Condeixa (2011) developed a survey that aimed to investigate perceptions of employees of the brazilian energy company about the current state of BPM's practices and the desired situation, in the light of the company's strategy. Was selected the model of Rosemann and Bruin (2005b) as a basis for further investigation of the criteria applied to management of business processes and to assessment their maturity. The motivation for the choice of this model can be explained by some reasons (HARMON, 2009; VOM BROCKE and ROSEMANN, 2010):

- It was developed based on contemporary understanding of business process management as a holistic approach of management;
- It is based on a solid process of academic development. Beginning with a comprehensive literature review, experiments and preliminary versions of three previous models were consolidated. The model was validated, refined and specified through a series of international Delphi studies involving global leaders in the area;
- Distinguishes key factors and areas of training at two levels of abstraction. This hierarchical structure allows different types of analysis granularity. As a result, the definitions of the factors and capability areas are available and provide the basis for a consistent interpretation; and
- It has been applied in various organizations through documented case studies, including surveys and workshops. Thus, the key factors were validated and have proved to be of practical relevance in real life projects.

3.2 Rosemann and Bruin's BPM Maturity Model

Rosemann and Bruin performed an extensive research to the development of a BPM maturity model, seeking to extend the previous update models when addressing the complexities and requirements identified within business process management of a more holistic and contemporary. The authors sought a global standard highly accepted, instead of providing just another maturity model. They performed a series of Delphi studies to incorporate the knowledge of the recognized leaders of BPM, including the contribution of more than 20 experts. According to Rosemann and Bruin (2005a), this effort resulted, as shown in Figure 1, in the identification of 06 key factors for the implementation of business process management, and also for each factor, 05 capability areas, where the maturity is evaluated further. Rosemann, Bruin and Power (2006) briefly describe the six key factors for the success of BPM, as shown:

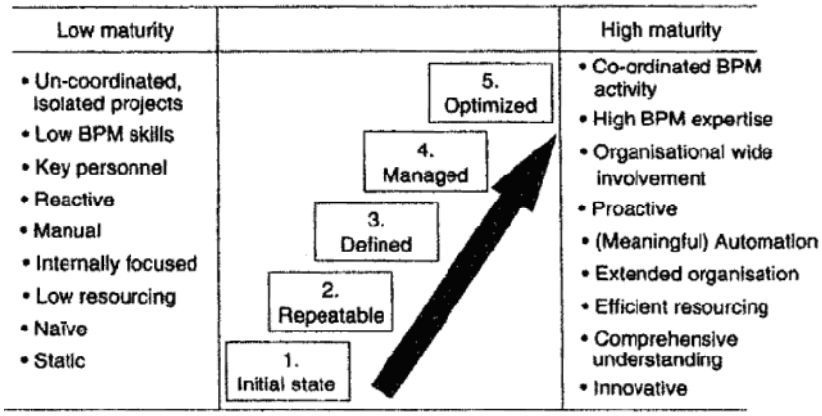
- Strategic Alignment: is defined as the tight linkage of organizational priorities and enterprise processes enabling continual and effective action to improve business performance.
- Governance: establishes relevant and transparent accountability, decision-making and reward processes to guide actions. A focus is on decision-making processes of BPM and related roles and responsibilities.
- Methods: has been defined as the approaches and techniques that support and enable consistent process actions. Distinct methods can be applied to major, discrete stages of the process lifecycle.
- Information Technology: refers to the software, hardware and information management systems that enable and support process activities. The IT capability areas are structured in a similar way to that of methods, and refers first to process lifecycle stages.
- People: the individuals and groups who continually enhance and apply their process skills and knowledge to improve business performance.
- Culture: the collective values and beliefs hat shape process-related attitudes and behaviors to improve business performance.



Source: Bruin et al (2005).

Figure 1: Domain, Key Factors and Training Areas of the BPMM model.

According to Rosemann, Bruin and Power (2006), the stages of the model have followed the stages of maturity of the CMM, as shown in Figure 2.



Source: Rosemann, Bruin e Power (2006).

Figure 2: Comparison of low and high maturity and the five maturity stages.

4 Organizational Change

Belasco (1992) states that the need for change does not produce change. According to Freitas (1991), although the planning of change can be assumed as possible, the consensus among the adherents of this view is that the process is not simple, is not cheap and is not made without causing some trauma as consequence. For this reason, De Sordi (2008) states that, in BPM implementation, the steering committee of the organization has to have a common understanding of the main benefits of business process management and of the main constraints to be overcome for its implementation. De Sordi (2008) states that, in the case of BPM, we can develop an organizational learning in several ways, such as seminars,

courses, presentation of case studies and visits to companies that have implemented business process management.

For Roberto and Levesque (2006), the learning process involves discovery and experimentation. Discovery refers to the way in which managers collect data and information to define the initiative's goals and the means to achieve objectives. Experimentation is an interative process of testing and refining the components of the initiative before the full-scale deployment. Belasco (1992) argues that, more often, change efforts fail because people do not engage to change, and get stuck in old habits and behaviors, even if it have outlived its usefulness. Sometimes, according to Kotter (1998), too much pressure to make changes in a short time can be a trap; any change requires some term and should not be expected that it has to be accelerated.

According to De Sordi (2008), should be involved not only the internal public of organization, but also the main partners of the organization: customers, suppliers and partners. According to Roberto and Levesque (2006), to incorporate change in an organization, managers must create conditions that enable employees to take ownership of the new processes and systems, and to integrate and apply the key principles of the initiative to the way as work daily is done. Kotter (1998) states that manage the change is basically dealing with keeping it under control. Already leading the change is to drive the transformation process through some kind of internal result which they all understand, making every effort possible to change to occur and be effective.

4.1 The Eight Steps for Organizational Transformation (KOTTER, 1999)

Kotter (1999) developed an eight-step methodology for the transformation of the organization. According to the author, the main problem is not keeping change under control, but propel it in such a way to break the resistance and drop all barriers that impede the company's adaptation to the new reality.

- Step 1 - Establish a sense of urgency: Analysis of market realities and competition, and identification and discussion of actual or potential crises, and major opportunities.
- Step 2 - Form a powerful guiding coalition: Reunion of a group with enough power to lead the change effort and group motivation to work together as a team.
- Step 3 - Create a vision: Development of a vision to help direct the change effort and develop strategies for achieving the vision.
- Step 4 - Communicate the vision: Using every vehicle possible to communicate the new vision and associated strategies, as well as teaching new behaviors by the example of the guiding coalition.
- Step 5 - Empower others to act on the vision: Elimination of barriers to change, including changing systems and structures that seriously undermine the vision, and encouragement to take risks and ideas, activities to non-traditional actions.
- Step 6 - Plan for and create short-term wins: Planning and promotion of performance improvements evident, as well as recognition and reward of the employees who participated in the improvement.
- Step 7 - Consolidate improvements and produce more change: Harnessing the major credibility to change systems, structures and policies that do not fit the vision; Hiring, promotion and development of employees able to implement the vision; and Reinvigorating the process with new projects, themes and change agents.
- Step 8 - Institutionalize new approaches: Emphasis on the connections between new behaviors and achievements of the company, as well as development of means to ensure leadership development and succession.

5 Methodology

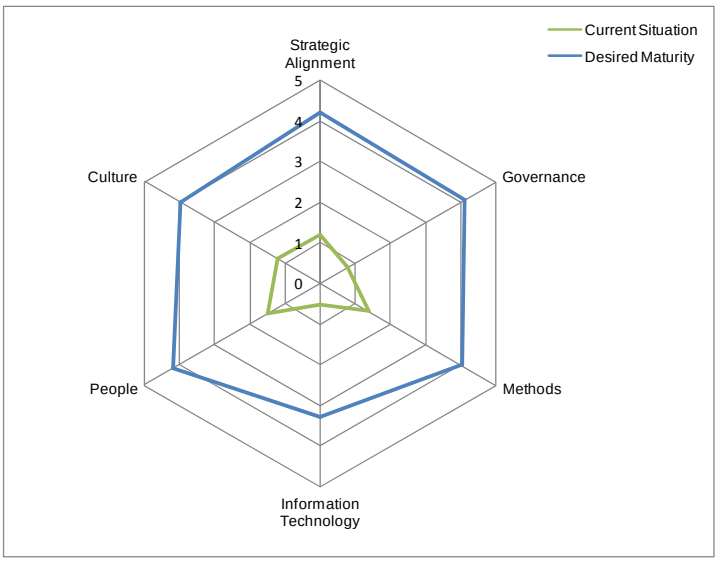
The definition of the type of research will adopt the taxonomy proposed by Vergara (2004), describing it in two respects: as to the purposes and the means. As for the purpose, the research is descriptive, presenting the characteristics of a given universe and phenomena - in this case, brazilian energy company

and the development of practices of business process management, respectively. Regarding the means, it is a literature research, because it includes systematic study based on material already published by other authors, related to respondents themes, and it is also a documentary research, by using materials that have not received analytical treatment. The search can be further classified as a case study, because it is the comparison of methodologies with a real situation.

In this study was used the monographic method, which assumes that a case study in depth may be representative of many others (GIL, 1999). As it was studied the development of business process management in a particular company, where it seek methods to help the planned deployment of practices that maximize the result of efforts, the case study on the comparison of practices BPM deployment with a theoretical model of organizational transformation can become a positivist paradigm appropriate and relevant. Initially, in the literature review, it were described the key factors of BPM identified by Rosemann and Bruin (2005b) and the eight steps for organizational transformation proposed by Kotter (1999). Then, it was carried out a documentary research, in order to investigate the BPM initiatives done in the company until now. Finally, it was sought to identify key factors of BPM (ROSEMANN and BRUIN, 2005b) developed in the company initiatives, and it was sought to further verify its adequacy to the stages of change presents in the theoretical postulate of Kotter.

6 Case Study

Condeixa (2011) conducted a survey that aimed to analyze the maturity of BPM in a brazilian energy company. The present scenario had indicated the initial effort to begin to build the capacity of business process management, increasing the number of people who see the organization from the perspective of processes, as shown in Figure 3.



Source: Adapted from Condeixa (2011).

Figure 3: Employee perceptions of BPM maturity in the company studied.

The studied company has much of its electric energy production from hydroelectric sources, and has invested more in hydroelectric projects and alternative energy sources, generating more energy for the country. To ensure its performance in a competitive environment, outlined a strategic plan for transformation that included, among its goals, the implementation of business process management. Considering the early stage and little involvement of employees, it was necessary that efforts be undertaken to develop the key factors of BPM. In this paper, it was carried out a documentary research using, as sample, specific documents directly related to the implementation of BPM in the organization: records of committees, conferences and working groups, normative documents, records and files of the training and BPM projects developed.

6.1 Results

As results of documentary research, were found documents specifically related to the implementation of BPM in the company studied. These are mainly files and electronic records of 12 types of initiatives, some of them with various actions already developed, totalizing 26 initiatives (15 have already been implemented, and 11 are in development), as follow: 4 normative documents on rules and policies; 1 strategic committee; 2 working groups; 14 BPM projects; 2 IT tools; 1 training program (with 47 courses already done); and 2 conferences. To facilitate later identification of the key factors of BPM in the initiatives found, some initiatives have been grouped by type:

- Initiative 1: Strategic Business Transformation Plan approved and widely disseminated throughout the organization.
- Initiative 2: Establishment of the strategic committee of processes, formed by members of senior management and specialists BPM specifically indicated, having among its goals, the approval and review of the enterprise processes architecture, and also the prioritization of process improvement projects.
- Initiative 3: Approval for the beginning of construction of the enterprise process architecture, which is under development.
- Initiative 4: Creation of Community of Practice of BPM, formed by a group of experts in order to discuss the resolution of specific issues or cases of lessons learned, through regular interaction, have been held ten meetings until now.
- Initiative 5: Development of a standard of internal guideline to standardize business process management, which is not finished.
- Initiative 6: Development of a manual to standardize the tools and methodology used in business process management, which is under development.
- Initiative 7: Six small projects of process improvement have been completed, enabling the achievement of quick wins, and eight processes improvement projects are in development, which were prioritized by the strategic committee of processes.
- Initiative 8: Use of a technological tool for business processes mapping.
- Initiative 9: Use of a technological tool for project management of process improvement.
- Initiative 10: Virtual Office of BPM, used by experts to request and send documents, and record their opinion on problems and solutions in business processes, among other uses.
- Initiative 11: Intensive program of training (as one "BPM School"), with 47 workouts already made, for managers, experts and participants of BPM projects, involving negotiation (1), strategy (4), innovation (2), document management (1), project management (11), management (5), leadership (2), portfolio management (2), mapping and process improvement (3), change management (2), business process management (9), quality management (1) lean (1), lean six sigma (2) and lean six sigma black belt (1).
- Initiative 12: Realization of two BPM Annual Congresses, to present the projects of business process management in the company, and presentations of other organizations invited, to updating all company managers on the progress of implementation of BPM.

6.2 Identification the capability areas of BPM developed in the initiatives found

After analyzing the documents, it was tried to identify, in the initiatives found in the company, the developing of the capability areas of BPM, based on the descriptions provided by Rosemann, Bruin and Power (2006). This is important to allow analysis of the applicability of BPM maturity model, if the company is developing all the six key factors of the model and, thus, if the use of the model appears beneficial to the deployment and development of BPM. Each initiative found was marked by the letter I, followed by its number as identification made in Section 6.1. Importantly, when an initiative appears more than once, it is assumed that is contributing to the development of more than a capability area. Among the 30 areas, 15 did not appear to have been affected so far, 12 appear to have been affected by an initiative, two seem to have been affected by two initiatives and one seems to have been affected by three initiatives, as shown in Table 1. It is important to remember that some initiatives had more events than

others, such as those related to BPM projects (14) and "BPM School" (47). At this stage, this study has already presented elements to answer the first research question: What key factors of BPM were deployed in the initiatives of implementation of BPM in the brazilian energy company? It is possible to identify, in the initiatives found, the effort to structure a strategic bond for business process management across the company.

Table 1: The capability areas of the BPM Maturity Model developed in the initiatives found in the company.

Strategic Alignment	**Governance**	**Methods**	**Information Technology**	**People**	**Culture**
Process Improvement Plan	Process Management Decision Making **I.2**	Process Design & Modeling **I.6 - I.7**	Process Design & Modeling **I.8**	Process Skills & Expertise **I.7**	Responsiveness to Process Change
Strategy & Process Capability Linkage **I.1**	Process Roles and Responsibilities **I.5**	Process Implementation & Execution **I.7**	Process Implementation & Execution	Process Management Knowledge **I.7**	Process Values & Beliefs **I.12**
Enterprise Process Architecture **I.3**	Process Metrics & Performance Linkage	Process Control & Measurement	Process Control & Measurement	Process Education & Learning **I.11**	Process Attitudes & Behaviors
Process Output Measurement	Process Management Standards	Process Improvement & Innovation	Process Improvement & Innovation	Process Collaboration & Communication	Leadership Attention to Process **I.2 - I.3 - I.12**
Process Customers & Stakeholders	Process Management Controls	Process Project & Program Mgmt **I.7**	Process Project & Program Mgmt **I.9**	Process Management Leaders	Process Management Social Networks **I.4 - I.10**

Source: Prepared by the authors.

From a strategic plan already approved and known throughout the organization, was started to building the enterprise process architecture. To ensure the governance of BPM, was constituted a Strategic Committee and was initiated the development a standard internal guidelines to standardize business process management. In order to develop and standardize the methods of work, has began the preparation of a manual business process management, whose techniques are already being tested by company specialists who are developing their skills and experience in six short projects already completed, and in eight projects of improvement processes in development. To encourage the development of these projects, were acquired IT tools for business processes mapping and project management. To consolidate the depth of knowledge of people about the principles and practices of management of business processes, we designed a program of intensive training (as a "School of BPM"), with 47 different training already undertaken for managers, specialists and employees involved in BPM projects, including methods of BPM and various related knowledge areas. And to encourage the establishment of a culture of BPM within the organization, were established annual conferences and social networking for discussions and exchange of experiences. Based on the results, one can assume that in the initiatives found in the company studied, all six key factors of BPM were deployed in a greater or lesser degree, suggesting that the use of the model is beneficial to implement and develop BPM in the studied company.

6.3 Comparison of the BPM initiatives found with the eight steps of organizational change proposed by Kotter (1999)

Finally, we intend to answer the second question research: How the initiatives found relates to the eight steps proposed by Kotter (1999)? It was sought to assess the suitability of the initiatives implemented by the company with the stages of change present in theoretical postulate of Kotter. This is especially

important to check the aplicability of the eight steps to organizational change proposed by Kotter (1999) for planning the deployment and development of BPM. As results, it is possible to assume that the initiatives found in the study allow us to situate the brazilian energy company in Step 2 - Form a powerful guiding coalition – proposed by Kotter (1999), when the company brings together a group with enough power to lead the change effort, and motivates the group to work together as a team. Table 2 presents a summary of findings that supported this conclusion.

Table 2: Comparison of the BPM initiatives found with the steps of organizational change proposed by Kotter (1999).

Steps of Organizational Change	**Step 1** **Establish a sense of urgency**	**Step 2** **Form a powerful guiding coalition**	**Step 3** **Create a vision**
Features (KOTTER, 1999)	Analysis of market realities and competition, and identification and discussion of actual or potential crises, and major opportunities.	Reunion of a group with enough power to lead the change effort and group motivation to work together as a team.	Development of a vision to help direct the change effort and develop strategies for achieving the vision.
Evidences found	Strategic plan approved and known throughout the organization, which included among its objectives the implementation of business process management.	Establishment of a Strategic Committee of Processes. Initiation of the construction of the enterprise process architecture, of the standard guidelines and BPM manual, whose techniques are already being tested by the experts in the early processes improvement projects. Were acquired IT tools for process mapping and management of their projects. It was drawn up a "School of BPM", with 47 different training already undertaken in various areas of knowledge. To encourage the establishment of a culture of BPM within the organization, were established annual conferences and social networking for discussions and exchange of experiences.	No evidences found.

Source: Prepared by the authors.

7 Conclusion

Based on the results, can be assumed that the company studied is following the steps outlined by Kotter (1999) for the desired success of organizational change, especially the attention of the leadership in planning the deployment of business process management and in the training of the employees. According to Nadler, Gerstein and Shaw (1994), the problems associated with the introduction of change are best solved by developing a specific plan and decided to administer the implementation of change. At the same time, one can see that the company has been executing projects for processes improvement gradually, respecting the time that people need to incorporate new practices and disseminate them in the organization. Kotter (1999) states that the change process involves a series of phases that consume considerable time, and the elimination of phases only creates the illusion of speed and never produces satisfactory results. According to the author, ideally, the role of top management is to help steer the direction of change, try to boost emergency, assemble a team that can lead the transformation and help this team to create a vision and transmit it. Based on this argument can be stated that the leadership of the brazilian energy company is driving the change in the right direction.

It is believed that this study brings contributions to the researchers and practitioners interested in the subject, especially by the combination of different concepts in a novel way, based on theoretical solid and with satisfactory results, allowing a differentiated analysis of the planning of deployment and development of BPM in organizations. Future research could explore more deeply the development of BPM maturity, when trying to describe in detail the five maturity stages proposed by Rosemann and Bruin (2005b), and then, seek to relate them specifically with the eight steps of change proposed by Kotter (1999).

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