Processes improvement and analysis of deviations of positions and functions: a case in a telecom company

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Abstract
The aim of this article is to perform an analysis of improvement/ innovation management processes and positions/ functions deviation, aiming to innovate operation structure services through a study of projects conducted by the marketing department of a company in the telecommunications sector in Brazil. The drivers from operating environment signaled strongly for optimizing productivity and reducing costs involved in the operation. The objectives of the project, throughout the observation period, is to characterize initiatives to improve efficiency and operational productivity in processes that present unproductive activities, possible revisions of workflows, search for automation, optimizations and innovations. On the analysis of existing deviations of positions and functions among human talents belonging to the marketing department's staff, the project intended to resizing positions and balancing activities to optimize labor productivity and reduce costs. The results indicate that the implementation of some strategic decision helped to promote desired change and continuous improvement in the organization. Through techniques, tools, studies and statistical analysis were identified: the activities that add value and those that do not add the causes of failures, defects and waste in carrying out the processes. This procedure was also attempt to identify opportunities to resize the positions, balance activities, innovate the internal service and reduce costs effectively. It is possible to highlight that with this implementation the unit reached several benefits such as the spread of a culture of learning and continuous innovation and productivity, composing an optimized system.

Keywords: processes analysis, functions deviations and adhesion, telecommunications.

Introduction

The transformation process the economy is going through as a result of globalization, mega-mergers, retail concentration and e-commerce growth, has had a profound impact on organizational thinking. In this environment, the corporations need to have a commitment with the continuous improvement and innovation of processes, as a means of raising productivity and business competitiveness, ensuring their survival and success. This research is qualitative and makes use of the case study as a research method. The strategic initiative to improve processes and analyze the variances of positions and functions to optimize productivity and reduce the operation costs of the Marketing Board was held at the company Algar Telecom, of the telecommunications sector. The first step of this work consists of the review of the literature on the topics of innovation and continuous improvement of processes and the influence of culture and organizational learning. The second step consists of a field research, in the form of a case study, as already mentioned.

According to this work, it was possible to raise information for the analysis of processes and human talents, identifying possible improvements to be implemented. It intends to present the results obtained with the surveys carried out in the Marketing Board of the company, analyzing specifically the following aspects. In relation to process analysis: possible automations and/or optimizations in running processes; possible revisions of *workflow* and management models; possible breakdowns of activities; impacts to the business or chain; show the result of the cost savings obtained with the proposed improvements. In relation to the analysis of human talents: analysis of function deviations and adhesions, analysis of positions/functions, analysis of the functions of interns, job descriptions and array of skills; resizing of positions; resizing/balancing of activities; elimination of repetitive and unproductive activities.

Innovation and continuous improvement

According to Porter (1999), companies achieve competitive advantage through innovation initiatives. They discuss the innovation in its widest sense, covering new technologies and new ways of doing things. For Simantob (2006), companies that innovate are always reinventing themselves, seeking a way to find new things and stimulating individuals to think differently. Continuous improvement is pointed by several authors as a way of obtaining innovation Antonello (2005); Caffyn (1999); Davenport (1994), so much so that the concept of continuous improvement has evolved into ongoing innovation, and is understood as the ability to combine operational efficiency with strategic flexibility (Hyland and Boer 2006).

In this sense, the close relationship between innovation and the continuous improvement process may be noted. Caffyn (1999) defines continuous improvement as a broad process that focuses on incremental innovation, involving the entire company. As it has a simple, easy to understand definition and low level of investment, continuous improvement has been singled out as one of the best ways to make an organization more competitive (Bessant et al. 1994). Also, Liker (2005) states that continuous improvement is the process of making even small improvements and achieving the goal of eliminating all waste that adds cost without adding value. In view of this, organizations can adopt a strategy that embraces innovations in processes and continuous improvement tools, which are based on waste disposal, product improvement, increase in productivity, as well as the use of solutions that

support motivation and creativity of employees to improve the practice of their processes. So, in this context, the case study examined a project of continuous improvement and innovation in the Algar Telecom Company as referenced previously. In the next topic, the importance of culture and organizational learning in the consolidation of the processes of improvement and innovation within organizations will be discussed.

Influence of culture and organizational learning

Although there is consensus on the importance of innovation and continuous improvement of processes, many companies have had difficulties with strategic decisions best suited to obtain relevant improvements in a sustainable way. Despite the recognized importance, organizations have found it difficult to implement the concept of continuous improvement: most of the initiatives are failures Anand et al. (2009); Pay (2008); Zampini and Toledo (2010). Among the reasons commonly cited, there is the lack of understanding, the low involvement of people in the programs and the absence of an organizational culture focused on continuous improvement.

Therefore, there is a lack of preparation, in the technical and behavioral sense, for change inherent in any improvement initiative (Bessant et al. 2001).

Organizational culture pervades the whole organization, the relationship among people being its essence, both in the internal environment as the environment external to the organization. For Schein (1989), organizational culture is the set of basic assumptions that a certain group invented, discovered, or developed by learning to deal with the problems of internal integration and external adaptation, and that worked well enough to be considered valid and taught to new members.

This requires that the culture, conditioning individuals and being influenced by them, be prepared and directed to meet the subjective steps of all processes of innovation and continuous improvement. A company can only induce innovations when its employees have the routine of generating ideas and the culture of learning. Group work seeking creative processes develops employees in the constant search for innovation and management improvement. (Simantob 2006).

Considering the involvement of people as fundamental for continuous improvement Bessan et al. (2001) and Davenport (1994), several authors emphasize the role of organizational learning as fundamental, and also a booster of this involvement Anand et al. (2009); Bessant and Francis (1999); Tranfield et al. (2000), stating that it is only achieved when learning occurs in a continuous and systematized way in the organization.

In this sense, the work of Anand et al. (2009) points to organizational learning as one of the main sources of continuous improvement and empowerment. On the other hand, it strengthens the role of organizational culture for the development of continuous improvement programs.

Approach and research method

According to Berto and Nakano (2000), the case study has an empirical nature and investigates a certain phenomenon in a real life context. It performs a deep analysis of cases, giving us detailed knowledge. The field object of this paper is a Brazilian telecommunications company (Algar Telecom) that operates in several States. It provides complete and integrated enterprise solutions,

data communication and 100% digital Data Center and IT services. Innovation, commitment to serve, human talent and sustainability are its strategic drivers. Thus, a strategic and innovative initiative of the Group was the creation of two institutional programs directed to corporate entrepreneurship and innovation and improvement of its processes with a focus on results: the Process Management Program - PGP and the Ideas Management Program - PGI, encouraging registration and implementation of ideas that contribute directly to innovation, entrepreneurship, competitiveness and continuous improvement of their companies.

When there is a need to raise facts and data for measurement and analysis, PGP projects are prepared using their own methodology called PGP Methodology IMAIA (Identifies – Measures – Analyzes – Implements - Evaluates), favoring the use of statistical tools. The study proposed in this article, discusses one of the projects of innovation and process improvement included in the PGP of the company. PGI is focused on processes of generating ideas of fast execution – without the need to develop a project – and it produces direct impact on the productivity of the talents of the Algar group. Thus, the culture of management by processes is considered an important factor of success of Algar.

Qualitative research was adopted, since the relevant information for analysis, understanding and solving the goal presented was raised through interviews with employees of the organization. To study the impact of the phenomenon of analysis of processes and productivity of the Marketing Board of a telecommunications company, specifically its impact on the business system were chosen the techniques: observation and the in depth interview, according to the recommendations of Marconi and Lakatos 2008.

Analysis of results

Some strategic objectives of the company were identified: ensuring the financial health of the company, achieving better results by adopting a culture of continuous improvement and innovation, improving operational efficiency and the relationship with the client. The unit studied was the Marketing Board - DMK.

DMK is composed of four coordination units: Product Coordination – CDP, consisting of 42 members and 08 third parties; Marketing and Communication Coordination -CMC, with 27 members; Relationship Excellence Coordination - CER, composed of 18 members and 12 third parties; Profitability Coordination – CRT, composed of 12 members. Survey interviews were conducted regarding the activities performed by the members and third parties of the DMK. All interviewees underwent specific training in order to understand the scope, aims and expectations of the project.

To conduct the interviews and, simultaneously, generate reliable data with easy handling, a *template* was developed for the analyst interviewers to register the information as dynamically and standardized as possible, thus facilitating the generation of statistics for the study. It is important to note that the measurements used to support the work of resizing, when necessary, were hours worked, which were obtained at the time of the interview.

An overvaluation of more than 20% of time activities was detected in some cases. In these cases, the data was handled to be as close as possible to the actual hours spent. The following proposals were pointed out: discontinuance of activities, solutions to optimize or automate repetitive and operational activities and readjustment and reduction of hours of activities. These arrangements generate a smaller package of hours for the area to operate.

Once the package of hours spent had been adjusted, it was also possible to determine the amount of resources needed to serve it. In some areas that work with fulfillment of *Service Level Agreement* - operating SLAs, the new package of hours also takes into account the volume of incoming events, namely whether it is possible to reconcile the activities and hours as existing ones and that already have an estimated delivery time.

When using the concept of balancing, there may be areas where the current structure is already sufficiently prepared for the operation, as well as others that may be inadequate or have a surplus to meet the demands required of the chain. When coupled with the hours of activities of an area, we get a total package, however, one cannot apply the necessary dimensioning calculation in a direct Cartesian form, because it runs the risk of incoherence in non-convergent activities, which generally require professionals with different skills and knowledge to focus and execute them, thus ensuring the reliability of the product generated.

To treat this possible diversion and incoherence of activities, they were segmented as follows: *Specific Activities from the Result Center*, which imply clarifying the issues of scope and responsibility in the area, which in short, are the reason for the area to exist within the chain of the company and the *Common Activities*, involving clarifying corporate activities that are usually in all areas or in most of them, and that need to be administered with similar skills. In relation to Human Talents, the analysis took into account the following items: the Process Cyclic Time - TCP, which will be the reference for analysis of the activities developed by the associates; position and payout sheet reference information in the period studied; analysis of the numbers of diagnosed deviations in the Result Centre; concept of deviation analyzed: correlation between challenge and function; parameters which will serve as a basis for diagnosing deviation of positions and functions. With the tabulation of the data collected by means of interviews, the following statistics were generated: % automatic, semi-automatic and manual activities; % activities related to product/service/customer; % activities related to management and internal controls; % hours committed to meetings; % activities impacting on business; % activities adherent to performing functions; % deviations of functions x challenges.

Results of the analysis of the processes of the marketing board

The consolidated percentage of manual, automatic and semi-automatic activities, referring to the Marketing Board, including the coordination involved – CDP, CER, CMC, CRT – is as follows: 88% of the activities carried out are manual, 9% are semi-automatic, and only 3% are automatic, consuming a great deal of time from their performers. It was also possible to show the type of activities carried out by coordination. The Relationship excellence coordination - CER has 97% of manual, 3% semi-automatic and only 1% automatic activities. In the Marketing and communication coordinating - CMC - 92% are manual, against 7% semi-automatic and 1% automatic. In relation to the Products Coordination – CDP – the study shows that 83% of the activities carried out are manual, 13% are semi-automatic and 5% automatic, i.e. in spite of the high manual percentage, it is better than in the previous coordinations. Finally, in the Profitability coordination - CRT - 70% of activities are manual, 30% are semi-automatic.

The percentage of activities related to the product/service/client was raised, which are those executed in order to bring some result for the product/service/customer or that somehow can cause an impact on them. The percentage of activities related to management/internal control is also evidenced, which are those carried out with the aim of governance in the

company and in the areas. The data refer to the Marketing Board, representing a consolidation of the coordinations involved – CDP, CER, CMC, CRT. It was concluded that 42% of the activities are focused on the product/service/client and that 58% of the activities are focused on the management/internal control, i.e. more than half of the activities performed are related to control, bureaucracy and governance.

The percentages of activities related to the product/service/customer and the activities associated with the management/internal control by coordination are the following: in the CDP 78% of activities are related to management/internal control and 22% for the product/service/customer. In the CER the opposite can be seen, with 70% of the activities linked to the product/service/customer and 30% to activities concerning management/internal control. At the CMC, the responsibilities are well divided, with 48 percent for management/internal control and 52% for product/service/customer. Finally, in the CRT 75% are held for the management/internal control and 25% for product/service/customer. With the exception of CER and CMC, which presented a higher percentage in relation to product/service/customer activities, we could realize that in the Coordinations in general the work performed is related to administrative activities, management and control, some of bureaucratic character that could be discarded.

In addition to the data presented above, was also calculated the percentage of hours committed to meetings of the Marketing Board in general. Thus, we can conclude that 78% of the time is spent on meetings and only 22% of the work hours are directed to activities. There is a very significant time spent on meetings. In relation to the percentage of working hours spent on meetings in each coordination, the lowest is in the CRT, with 6%; the CMC, with 11%; the CDP with 28%; and the CER, with the highest number, 33%.

Results of the analysis of deviations of positions and functions of the of Marketing Board

The maximum deviation percentage tolerated in each function were used to analyze the activities regarding performing functions, which will serve as a basis to ascertain the deviations found in the current functions for subsequent corrections. In other words, an assistant can have 65% of his/her activities as an assistant, with 35% as an analyst and 0% of activities that characterize supervision. A full analyst can have 35% of his/her activities as an assistant, 65% as an analyst and up to 5% with supervisory character. The description of the activities of the functions and parameters that serve as a basis to ascertain the deviations found in the functions are shown in table 1 and table 2.

Table 1 - Description of the activities of the analyst, assistant and supervision functions

Functions	Concepts
Assistant	Operational activities, standardized and routine that do not require testing to perform them.
Analyst	Analytical activities, which have different levels of complexity. The professionals who exercise this function require technical knowledge and experience for making decisions and or finding solutions.
Supervision	This refers to the management, support for the implementation of activities, with the goal of generating results in the area. This support requires technical expertise, knowledge and skills for people management, conflict management and focus on results.

Source: Information developed by the project team

Table 2 - base parameters to ascertain the deviations found in functions

Parameters	Assistant	Analyst	Supervision
Assistant	65%	35%	0%
Junior Analyst	35%	65%	0%
Full Analyst	35%	65%	Up to 5%
Senior Analyst	25%	75%	Up to 15%
Specialist	25%	75%	Up to 25%

Source: Data developed by the project team

For the analysis of hours calculations and analysis related to the time spent on activities by coordination were performed and verified if they are according to the package of hours that is considered suitable, i.e. 22 working days in the month and 8 daily hours, with 176 hours per month. In this way, the hours and the activities that are above or below the suggested will be resized. To obtain the new hours already treated with the use of the method of "transforming to standard time" the following calculations were performed:

(A) The total of gross hours cited in the interviews of the studied area are separated by dividing them by the gross time each activity reported. With this calculation, the value that each activity ponders inside the package of hours is obtained. To obtain a percentage, each value is multiplied by 100;
(B) After establishing the above calculation, it is necessary to calculate the standard package of hours in the area. The unit value of a person's monthly hours, typically 176 hours, is multiplied by the amount of existing/people interviewed.

For the redistribution of hours, the value of (A) of each activity is multiplied by (B). The multiplication is done, because as the respondent time exceeding in 20% was transformed for 176 hours. The representativeness of each activity is calculated as a percentage and multiplied by the 176-hour package to transform the time for activity. As the time was based on the 20% surplus before, it was necessary to calculate with the basis of 176 hours.

Resizing processes and human talents in the CDP

Correct package of hours for CDP = 7,392 hours monthly, a result of the product of 42 x 176 hours. Total hours reported: 13,952 hours monthly. Hours spent in meetings: 48 hours of monthly meetings per associate, already included in the quoted package, which is equivalent to 28% of working time. Proposal: New ideal package of hours for the area is of 6,634/hours monthly, consisting of:

- 4,433/h for performable operational activities;
- 1,901/h from meetings.

In the deviations found, there are eight associates exercising activities in which the challenge is greater than the function and three professionals exercising activities in which the challenge is smaller than the function. The diagnosis mapped the possibility of the reduction of one analyst and four assistants, supported by the grouping and/or discontinuance of expendable activities and possible automations. The current diagnosed

situation demonstrated the need to review 27.5% of the associates, in order to adjust the challenge to function. In the proposed situation, the adjustment of the framework will include a reduction in the PTH - request for human talents - of 11.36%. The only trainee of the area has his/her activities adherent to his/her function. Since this CR presents a large number of cores and associates, it should contemplate the role of the supervisor, although the process analysis did not map this need. According to calculations based on wages, the estimated gain is of R$ 446,340.00 per year.

Resizing processes and human talents in CER

Correct hour package for the CER = 3,168 hours monthly, result of the product of 18 x 176h. Total hours reported: 21,589 hours monthly. Hours spent in meetings: 58 hours of monthly meetings per associate, already included in the quoted package, which amounts to 32% of working time. The hours of meetings were not treated with the transformation to standard hours, because it was verified through sampling that the same were reported consistently and with greater fidelity. Proposal: New ideal package of hours for the area is of 1,681/hours monthly, consisting of:

- 854/h for performable operational activities;
- 827/h from meetings.

The deviations found suggest that nine professionals develop activities whose challenges are smaller than those required by the function, and three professionals perform activities whose challenges are greater than those required by the function. The current diagnosed situation demonstrated the need to review 63.2% of the associates in order to adjust to the challenges. In the proposed situation, the adjustment of the framework will include a reduction in PTH, of 26.32% adjusting the level of seniority that needs to be high.
There is a need to raise the level of experience and seniority of the analysts for them to meet the demands and the degree of complexity of activities. This elevation may be supported by the training and/or adjustment plan of professional profiles. The trainee of this area does not show adherence of his/her activities to the role. Depending on the number of third parties administered by the CR, they must analyze the need for discontinuity of contracts from third parties so there is no redundancy of activities carried out.
According to calculations based on wages, the estimated gain is of R$ 703,992.00 per year.

The Resizing processes and human talents at CMC

Correct hour package for CMC = 4,576 hours monthly, the result of the product of 26 x 176 hours. Total hours reported: 9,458 hours monthly. Hours spent in meetings: 20 hours in monthly meetings per associate, already included in the quoted package, which amounts to 11% of working time. Proposal: New ideal package of hours for the area is 3,438/hours monthly, consisting of:

- 2,933/h for performable operational activities;
- 1,690/h from meetings.

The deviations found reveal two associates developing activities with challenges greater than the requirements of the function, and eight associates developing activities with

challenges smaller than those required by the function. The current diagnosed situation demonstrated the need to review 40% of the members, to adjust the challenge to function. In the proposed situation, adjustment of the framework will include a reduction in PTH of 22.22%, supported by the grouping and/or discontinuance of expendable activities. Of the trainees analyzed, one adheres to his/her function and the other does not, as he/she carries out activities of analyst. As for the level of seniority of the professionals, the study points out to the need for profile revision, qualification of members and distribution of activities by degree of complexity. According to calculations based on wages, the estimated gain is of R$ 226,680.00 per year.

Process resizing and human talents in the CRT

Correct hour package for CRT = 1,936 hours monthly, product of 11 x 176 hours. Total hours reported: 2,457 hours monthly. Hours spent in meetings: 11 hours in monthly meetings per associate, already included in the quoted package, which amounts to 6% of working time. Proposal: New ideal package of hours for the area is of 1,796/hours monthly, consisting of:

- 1,690/h for performable operational activities;
- 101/h from meetings.

The deviation found suggests that one assistant carries out analyst activities, whose challenges are bigger than the function. The current diagnosed situation demonstrated the need to review 10% of the members, in order to adjust the challenge to the function. In the proposed situation, the adjustment of the framework will include a reduction in PTH of 16.67%, supported by the level increase of seniority of the area, i.e. reducing the number of assistants/trainees and increasing the number of analysts. Thus, according to calculation based on wages, the estimated gain is of R$ 26,256.00 per year.

Conclusion

This article presented a case study, carried out at the company Algar Telecom, Uberlândia, Minas Gerais, Brazil, on a process improvement project and analysis of deviations of positions and functions to optimize productivity and reduce the costs of operation of the Marketing Board. The proposed improvements were appropriate and effective for the application in the company under study, as they presented a restructuring of processes, reflecting on the service to end-customers and raising the level of customer service as there was an effective reduction of time spent in the implementation of the related activities, an improvement in the quality of the service provided, a standardization of processes and a more effective control in relation to the tasks performed.

The scope of the objectives proposed with the improvements of processes can be seen with the elimination of downtime, activities without added value, taking advantage of operation idle time and adjustment of activities according to challenge and function.

More specific studies are recommended as the potential applicability of new improvements and innovations in the services sector as a means of continuous improvement and expansion of the company's performance.

Bibliography

Anand, G. Ward, P. T. Tatikonda, M. V. Schilling, D. A. 2009. Dynamic capabilities through continuous improvement infrastructure. *Journal of Operations Management* **27**(6): 444-461.

Antonello, C. S. 2005. *A metamorfose da aprendizagem organizacional: uma revisão crítica. Os novos horizontes da gestão: aprendizagem organizacional e competências*. Bookman, Porto Alegre.

Berto, R. M. V. S. Nakano, D. N. 1999. A produção científica nos anais do encontro nacional de engenharia de produção: um levantamento de métodos e tipos de pesquisa. *Produção* **9**(2): 65-75.

Bessant, J. Caffyn, S. Gilbert, J. Harding, R. Webb, S. 1994. Rediscovering continuous improvement. *Technovation* **14**(1): 17-29.

Bessant, J. Francis, D. 1999. Developing strategic continuous improvement capability. *International Journal of Operations & Production Management* **19**(11): 1106-1119.

Caffyn, S. 1999. Development of a continuous improvement self-assessment tool. *International Journal of Operations & Production Management* **19**(11): 1138-1153.

Davenport, T. H. 1994. *Reengenharia de processos*. Campus, Rio de Janeiro.

Hyland, P. Boer, H. 2006. A continuous innovation framework: some thoughts for consideration. M. Corso, A. Martini, & L. Pellegrini, eds. *Proceedings of the 7th International CINet conference 2006: CI and sustainability - Designing the road ahead.* Continuous Innovation Network (CINet), 389-400.

Liker, J. K. 2005. *O modelo Toyota*: *14 princípios de gestão do maior fabricante do mundo*. Bookman, Porto Alegre.

Marconi, M. A. Lakatos, E. M. 2008. *Técnicas de pesquisa: planejamento e execução de pesquisas. Amostragens e técnicas de pesquisa. Elaboração, análise e interpretação de dados*. Atlas, São Paulo.

Pay, R. 2008. Everybody´s jumping on the lean bandwagon, but many are being taken for a ride. *Industry Wee.* Available at http://www.industryweek.com (accessed date February 04, 2015).

Porter, M. E. 1999. *Competição*: *estratégias competitivas essenciais*. Campus, Rio de janeiro.

Schein, E. H. 1989. *Organizational culture and leadership*: *a dynamic view*. Jossey Bass, São Francisco.

Simantob, M. A. 2006. Caracterização de processos sistemáticos e assistemáticos de Inovação em organizações brasileiras. Unpublished doctoral dissertation, Fundação Getúlio Vargas, São Paulo, Brasil.

Tranfield, D. Duberley, J. Smith, S. Musson, G. Stokes, P. 2000. Organisational learning: it's just routine. *Management Decision* **38(**4): 253-260.

Zampini, C. S. Toledo, J. C. 2010. Proposta para estruturação da gestão da melhoria contínua em uma fabricante de bebidas. *GEPROS – Gestão da Produção, Operações e Sistemas* **5**(2):107-138.