THE CORPORATE PERFORMANCE MANAGEMENT METHODOLOGY, AS AN ANALYSIS TOOL FOR THE ORGANIZATIONAL BEHAVIOR.

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Abstract

The performance management system has an indispensable place in the Company´s financial management area, because it is essential that the organizational goals have a clear, correct and close relation with the planning and financial control since the aforementioned, the administration might have a better perspective of the business situation and allow the soon and periodical detection in opportunity areas, so that the best possible human and economic capital performance is obtained according to the operations annual plan, the above along with highly dynamic global economic conditions and competitive in the first 21st century decades cause a strong pressure on the continuous improvement of the business performance through the design and implementation of methods and flexible tools that meet the institutional needs, consequently, the investigation management performance and development is increasingly important for all sectors, because the absence of a relationship budgetary strategy-

implementation is susceptible of generating misleading effects or to turn the strategy into purely formal indicators.

Keywords: *Business Performance Management, Zero Based Budgeting, CPM, Organizational Behavior, Government Agency.*

1. Literature Review

Interest to operate the organization system according to methodologists as the corporate performance management (CPM) is on the rise, however, there is little formal research on the processes to follow for their implementation, existing documentary work focuses mainly on the reports presentations, bypassing the CPM comprehensive nature, which has a wider scope, and involves the business planning, monitoring, and analysis through an integrated management process and depends to some extent of context in the organizations performance (Van Decker, 2010).

In this regard, Richards indicates that several authors have submitted studies, concluding that there are inhibitors that can prevent from obtaining the added value derived from the performance management methodologies implementation, among which are: the lack of IT skills, insufficient data, lack of directors commitment with the implementation efforts, difficulties related to measurement performance definitions, the time and the needed efforts, difficulty to guarantee the appropriate metrics punctual availability, workers resistance to change, lack of time, and the process complexity (Yeoh, Richards, & Wang, 2014).

Another study found related to the topic, performs a CPM application comparison in two regional organizations of North America and China, in which the author concludes that there

are differences in the information system implementations terms and decision-making styles. First of all, there are techno-cultural reasons that are factors for failure in the information systems implementation, especially when the software is developed by a different culture programmer, since the author explains that systems from western countries, such as the ERP systems as part of the CPM system, experience high failure rates when they are unfold in Asian countries due to the mindset of how to solve a problem being so different (Buresová & Dvoráková, 2014).

On his part, Rausch states that the use of CPM as a means to understand the organizational metric is not only increasing as a methodology but also as a field where the companies start to invest in software that is not only capable of providing the decision-makers strategic intelligence; but to allow them pervade in all the organization the performance key objectives of each member in the organization (Rausch, 2011), This has caused global business consultant and intelligence investigators companies to include in their terminology, the name of corporative performance management (Nantiyakul et. Al, 2014), because they use performance key indicators of different information systems of each company´s department which in turn allows them to collect all the information of the businesses processes, to show an idea of what is happening up to the moment, in addition to helping plan and control the corporate strategy´s behavior (Roldan, 2012).

Case studies of the CPM methodology are focused on four basic steps: reviewing the strategy, financial planning development, monitoring the implementation, and the result´s periodically analysis that is how Bolaños´ work shows evidence in which a feasibility study is done for an standard model application for financial planning using the methodology CPM in Quito´s

savings cooperatives, resulting in the models viability as long as the used tools are adjusted to the particular skills and competences of each organization and its staff (Bolaños, 2015).

Maryska poses a CPM process supported on authors Frolick, Ariyachandra and Paladino unifying two points of view: The first point of view from the architecture of business operative units with their objectives and different command levels (strategic, tactical, operative, and etcetera). The second point of view from the CPM architecture, this means the relationship among the used tools, its measured attributes, parameters used, data acquisition systems, and the operatic process RPC tools so that all together provide the information without omitting any business´s aspects, having as a result an iterative process whose feedback comes from three processes: line up, evaluate, and maintain, which in turn are divided in six stages: strategy, planning, measuring, analysis, execution, and adjustment (Maryska & Sladek, 2015).

In other words, through the alignment of strategy and the planning; the measurement evaluation and its analysis; and the executing maintenance and the adjustment in a constant cycle, to keep the organization well balanced and with a good performance without leaving uncovered areas. Among the mentioned investigations conclusion, the author underlines the importance for the CPM application to have as a starting point some of the best provided practices by the study entity and from that structure and on, to integrate the performance management resources which according to the business situation analysis promote a progressive, controlled, and continue change.

The University of Applied Sciences in Neu-Ulm, Germany, has also developed a CPM model which is described through five stages: the communication and alignment of the model´s implementation strategic interests, the processes and strategic programs development, the

performance measurement planning through key performance indicators (KPI) analysis and the budget operating plan development and financial controls, and finally the execution and feedback (Jacob et.al, 2012). In the discussion the authors mention that at the beginning, the model caused great confusion, although different CPM methodologies are available, all aimed at the management operative model generation according to Oehler, which allows businesses align and maintain in a consistent and continue manner the objectives with the organization´s processes, since many remain only as an ideal type system, so this research firstly considered the stages as generic way to get a general vision of all involved areas and create an specific model for each stage according to the kind of business, accomplishing with, this to integrate the hierarchies, structures and processes even to the company´s lower levels.

Another methodology is offered by Paladino in his book "Five Key Principles of CPM" in which through five CPM principles each one sustained in North American business successful practices and cases; it suggests an aggressive method to be able to align the operating processes with the strategic principles, such phases model are as follow: to stablish and implement a CPM department, to update and spread the budget and strategic planning, to publish the strategy and the rewards system by alignment to the organizational objectives according to the level of interest, performance improvement programs implementation and finally, to take advantage of the knowledge through identifying the best operating practices (Paladino, 2010).

2. CPM Methodology Description

The corporate performance management (CPM) is a term used by the research and investigation company Garber Group for the first time in 2002 (Urbano, 2004), to group the methodologies,

metrics, processes and systems that are used to control and manage a business performance (Baca Urbina, 2010).

Therefore, a CPM can be defined as a method that proposes the enterprise performance management in four elements: the strategy analysis, the financial plans, the execution monitoring, and the results periodically analysis (Bolaños, 2015). This way the cycle includes analytical and managerial processes supported with technology, to direct financial and operational activities at the same time that enables organizations to link the strategic plans with the financial plans, as well as the consolidation and management of reports, the implementation and key performance indicators monitoring in order to provide executives capable of implementing the organizational strategy and increase the results through the use and processes integration and the best practices.

A number of studies (Yeoh et al., 2014) suggest that one of the CPM cycles key is the efficient business processes implementation, since the design and processes implementation allow an organization to provide added value through the services delivered according to the clients' needs covering the future vision.

Because this methodology implicates the use of business intelligence for one more of the elements involved in the performance management cycle, the high-level management can count on with a better-quality data for the decision-making and the usual activities development, which all together make up a fundamental element to obtain a competitiveness high level and development possibilities (Bogdana, Felicia, Delia, 2009). Because of this information is of vital use (Calzada & Abreu, 2009), so that the information administration and control create the

need to use it in the corporation, to take care of the organization´s own needs. This is the basis of all unstructured decisions which are present at the operational tactical level (middle management) and strategic (top management) on the basis of a precise knowledge, so that the CPM cycle helps the organization to transform the organization´s data into useful knowledge (Dvořáková & Faltejsková, 2016).

According to the above, Axson highlights the following CPM features (Axson, 2010):

1) It promotes the successful execution of the company´s strategic and business plans.
2) It allows the organization to carry out the processes in a more effective and efficient way.
3) It improves the vision on key issues to boost decision-making based in facts.

Given the need to have flexibility to align any of the methods that were analyzed in the bibliographic review with the management systems, which due to policies is managed by the state-owned at national level, it was decided to select the Bolaños model which, in addition, was applied in two entities with mandatory governmental administrative procedures which were not impediments for the CPM application and positive results. Phases considered in this are briefly described below.

2.1 Strategy Review

The link between strategic planning, tactical strategy and operational strategy should be able to generate an affective synergy; a convenient analogy of the above for instance is, to argue that the organization should function as a geared train working where each gear works together for the same purpose, however, the more the operation is enlarged, the greater the risk of appearing

gaps, not only in the execution of the strategy, but also in the understanding of the institutional goals that may become too ambiguous for the operational level employee and totally unrelated to their job´s function. According to studies carried out by Paladino, the strategy communication represents one of the competitive advantages shared by many recognized companies in the United States with awards such as the *U.S. President´s National Malcolm Baldridge Quality award or the Kaplan and Norton Global Balanced Scorecard Hall of Fame Award.* (Paladino, 2010) (Vokurká, Stading, & Brazeal, 2000).

Therefore, the CPM cycle phase one (Bolaños, 2015), ponders the need to include practices that foster understanding and connection between all the company´s levels, since the authors consider that the more interaction exist of all personnel with the company´s strategic objectives, not only will the results be better, but it can also serve as a means to stablish a psychological contract with the personnel, making them feel self-fulfilling by committing themselves and contributing to the results(Burbano, 2010) which will lead the organization to pursue its success vision.

2.2 Budget Planning

The budget planning complies not only the important administrating function and the allocating of financial resources to obtain the expected results with base on an organization strategic objectives (Muñiz, 2009), but it also should serve as a link between the strategic planning which is posed at a medium term and the operational planning which has a short term outlook that can range from daily to quarterly, with the purpose of integrating all activities to pursue unified and clearly determined objectives (Singh & Yadav, 2011).

For the particular case of the organization subject to review, the technique used for budgeting is the zero –based technique (ZBB), in order to take advantage of ZBB to improve the national level company´s financial situation because it has only obtained net profit in 5 periods the last 14 years.

The ZBB technique central feature is that it requires each executive to justify all the funds requests aligned to the strategic objectives at the corporate level. Each member in charge of planning has to demonstrate that the expenses and costs he proposes are really necessary or if they have to be increased, reduced or even eliminated. For this it is necessary to identify all the activities that they are in charge of in the organization and evaluate them through a systematic analysis to organized them according to their importance, in addition to this, the budget preparation method also has as a premise which is to avoid the budgets from being only a continuity of previous budgets year after year, so it tries to revise new objectives, the internal aspects, and the external that might threaten the previous planned strategy infringement, instead of keeping into account only the variants from the previous period (Martínez, 2013)

2.3 Control and Budget Analysis

Until the 1990s, the Budget control and management literature, suggested that the results measurements should focus in its majority to the financial results (Verweire & Van Den Berghe, 2004). However, executives have currently understood, especially after Kaplan and Norton´s work, that the finances control traditional measurements at business level such as the return of the investment (ROI), the stocks profits and the unitary cost per product could give false signals for the continuous improvement and the constant economical changes demands at a national or international level which is why there is a need to improve the finance control systems and

complement them with strategic performance measurements which in order to be effective, these measurements should be aligned with the company´s mission, objectives, and strategy (Axson, 2010).

For this purpose, the authors (Viaene & Willems, 2007) (Tudor & Hart, 2013) (Jacob, Lien, Exner, & Schulte, 2013) suggest the use of control charts or dashboard (DB), since they allow to establish and monitor the company´s objectives and its different areas or units to accomplish the established results in the strategic plan. It is commonly controlled by the company´s general direction to build a business model which reflects the interrelations among the business different components (Gómez & Bautista, 2010).

A business dashboard implementation reinforces two fundamental aspects, that are: the effective business results measurement and the efficient application of an strategy, however, it is built starting from a strategic management in which there must be some involved all the human resources for the established objectives and measured through that tool (Becker, Kollacks, (Ulrich, 2010). Finally, the share information is a fundamental feature in CPM (Paladino, 2013), and such company´s virtue is commonly an intangible factor that has an organizations meaningful impact with systematized entrepreneurial resources planning (Rhodes, Lok,Yang, & Xia, 2011)

3. Measuring Instrument Design

In order to identify abilities, activities, and opportunity areas with reference in the performance management cycle that the CPM methodology proposes, it is needed to make a qualitative study

on the processes related to the methodological variables that the CPM lists and, therefore the elaboration of a measurement instrument, because though the art state exhaustive revision has been done, there wasn´t any instrument found that would fit the analyzed company´s characteristics. For this instrument elaboration, sources of information were used coming from the company´s operational manual and bibliography about the techniques and variables used in the different CPM methodological stages, so that with such information, create a structured survey to identify the gaps between the collected information and the theoretical axes that the CPM indicates, considering also the ZBB theoretical variables which is the current technique used in the Budget Planning Processes, the so called instrument was created with 19 grouped indicators in four sections, which according to the analyzed authors, (Paladino, 2010) (Jacob et al., 2013) (Buresová & Dvorácová, 2014) (Dvořáková & Faltejsková, 2016) (Jacob et al, 2013 (Bolaños, 2015) (Paladino, 2013) (Maryska & Sladek, 2015) (Meadows & Pike, 2009), are key throughout the CPM implementation. These indicators associated to structured questions in a way in which the opportunity areas were possible to prioritize in the subject to study company.

3.1 First Section

The strategy revision is a fundamental base in the company´s operation the projects and strategic objectives absence or miscommunication may cause the organization not to reach the expected results, and that is why each link in the supply chain or service must know the importance of the execution and registration of the actions that build the variables that encompass the company´s strategy (Meadows & Pike, 2009).

In this sense, the sections indicators are the following ones:

- Job Description
- Global Strategic Objectives

- Strategic Projects Generated at the area level
- Internal Strategic Indicators Measurement
- Strategic relation

3.2 Second Section

The purpose of Budget Planning is to integrate the different activities into a single organization to pursue unified and clearly determined objectives. The main difficult lies in the action plans alignment in accountability with the organization´s general objectives, situation that seeks to obtain as a benefit in the Zero-based budget (ZBB), (Singh & Yadav, 2011) which is the technique used in the parastatal.

Indicators for this section were designed according to the ZBB theoretical axes proposed in the bibliography review, but also, taking into account the 2016-2020 parastatal budget projects:

- Zero-based budgeting skills
- Decision packages
- Activities hierarchy according to objectives
- Cost-benefit analysis by decision package
- Decision package generating equipment
- Cost centers aligned with decision centers

3.3 Third Section

The control and analysis consist of the application of business tools that allow stablishing and monitoring an organization Budget Execution and its different areas or units to achieve the planned results (Buresová & Dvoráková, 2014).

To diagnose this section the indicators used were:

- Decision Package Control Indicators
- Action Plans when Budget Failure
- Budget Variations Origins
- Budget Execution Analysis Frequency
- Results Dissemination of Areas of Interests

3.4 Forth Section

One of the most significant consequences of top management failing to ensure the organization´s performance information disclosure is that it isn´t clearly understood according to each employee´s responsibilities execution, it means, it´s the efforts heterogeneity to achieve the company´s mission since "*actions or decisions quality are directly related to the quality information available for the employee*" (Trujillo et. Al, 2016).

According to the parastatal department objectives and functions, the following indicators were defined for the information disclosure rubric:

- Access to Strategic-Financial Results
- Budget information to be exercised
- Compliance Report Budgeted

Based on the indicators described in this section, questions where formulated where each of the reagents that make up each item have predefined value, the survey have mostly answered 5 points in the Likert scale and its weight correspond to the Labor Productivity Management System for the Labor Secretary and Social Security of Mexico (STPS, 2012) the numerical value one, makes inference to not being accomplished or not being known; the two known, but

only occasionally attention is paid to this item; the three, is carried out but records don´t exist; the four refers to being carried out, records are available but not procedures; and finally the five, which means it does and has evidences of accomplishments and follow up.

In addition, the survey contains dichotomous questions which are counted with values of one in case the answer is negative and five in case the answer is positive, in this case the question is supported through the open description in case of assertion with the aim of identifying bias in the questions asked.

4. Implementation and Results

The departmental organizational behavior analysis according to the CPM methodology was carried out in a Mexican decentralized government agency, duly incorporated and which controls its own assets, which has different regional operative administrative areas defined by the board of administrators which are subordinated to units according to their specific function, the organization segment to be discussed is located within the transmission superintendence East Cordoba area in specific in the administration department in that zone., which is operated by strategic planning elements proposed at national level, likewise the transmission area where the study department is located, has a particular objective which comes cascading from the transmission subdivision which controls the different divisions at the national level, according to the superintendence organization chart where the department is located, its work is of strategic-tactical character and it is constituted by the administrative chief, two analysts, and an assistant.

Given the experts numbers who have strategic responsibility in the subject of study department, a census was carried out; however, it should be mentioned that in case the organization decides to expand the departments, zones or regions sizes the option of statistical sampling option can be contemplated as a tool for the analysis of population above 30 individuals.

The survey results were captured in a competence matrix and grouped by segments in a frequency polygon (figure 4.1) to be able to reflect the diagnose results in functions of the already mentioned CPM and ZBB technique methodological variables and to evaluate them quantitatively.

Figure 4.1 Frequency polygon

The survey results showed a consistent behavior in the opportunity areas not only individually, but at the group level since the personnel consulted being in charge of planning, executing, controlling, and analyzing the parastatal objectives completion in the transmission division they have of course opportunity areas mainly in those factors causing variations in the budget execution and the finance management of the items that are more susceptible to change in the

budget execution, because facing a resource reduction, the administrator distributes the available amount taking the risk of affecting the department operations that depend on him.

In addition, as a result of the competence matrix analysis it was possible to identify that most of the opportunity area is in the budget planning section under the ZBB technique because the methodological variables are unknown which according to the authors (Singh & Yadav, 2011) (Burbano, 2010) (Martinez & Martos, 2013) (ITESM, 2008) are basic for this technique comprehension and development.

The second area of opportunity detected corresponds to the budget control and analysis area, mainly in the indicators for the decision package control which is directly related to the ZBB technique. With regard to the other two sections weaknesses were identified in the strategic indicators internal control and their dissemination within the organization. Therefore, from the carried-out analysis results, a process was designed with the purpose of shortening the gap budget, control and analysis in addition to strengthening the weakest indicators from the other two sections which the subject of analysis instrument has.

In light of the opportunity areas detected, an action plan was drawn up in common agreement with the parastatal experts, which served to design a process for the actions implementation to bridge the identified gaps with the measuring instrument. For such process representation, a systems theory basic structure was used. (Figure4.2)

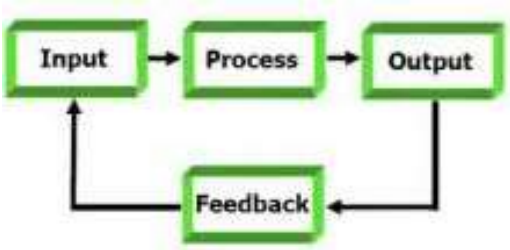

Figure 4.2 Diagram of the system to be implemented. (Own elaboration)

For the parts of process inputs, these were divided in:

- Information Technology Inputs: They are formed with the enterprise resources planning software (ERP), Microsoft Excel, WEKA Predictive Modeled Software and the Microsoft Power Point.
- Historical Data Inputs: Budgeting planning and execution historical information at zone and national level.
- Intellectual Inputs: In this section, the ZBB knowledge is found, and the matrix capacities
- Strategic Inputs: Corporate strategy, zonal and departmental
- Human Inputs: One departmental head, two analysts and one administrative assistant
- Material Inputs: Training room with a maximum capacity of 15 people printed procedures and the indicators formalization

The plant or process began with the Operative strategic planning and ZBB training, in which both were the most important areas of opportunity detected that affected two sessions with the idea of allowing the personnel to be able to identify and understand the ZBB methodological variables and the operational strategic planning.

After that the parastatal accounts catalogs analysis and collection took place, and the vertical and horizontal analysis was created from the real and budget financial statements of the last ten years with the purpose of identifying the main accounts with more variation.

Then the knowledge extraction was done through historical data input into a software platform for data analysis and predictive modeling (Trujillo & Romero, 2017) to conduct experiments and test different datasets to identify related patterns.

With the obtained results in the competence matrix, the related patterns and the financial analysis a procedure was carried out to standardize the budget planning aimed to the ZBB technique.

Finally, the plants last phase, based on the same results, accounts were grouped by modules and it was created in Microsoft Excel, an application that, is based on the reports the ERP system provides with what the parastatal counts on, and can show on a dashboard the exercised budget percentage

The system´s output is the improvements achieved measurement and feedback based on CPM methodology, in this case, given the impossibility of measuring in economic terms an impact such as net profit, several authors have developed different techniques that vary in complexity for finding the most appropriate solution to execute a decision-making process, one of the most used for the evaluation of social and environmental projects is the independent valuation method (Devereux & Acosta, 2013), which consist in presenting the experts or opinion leaders a behavioral hypothesis that is expected with the implementation of social measures and ask them in which items this could have economic significance from a holistic view.

In order to have a reference to be able to make the independent valuation analysis, it was decided to collect the budget execution historical data from the last ten years of the parastatal and through a vertical and horizontal analysis to obtain the budgetary accounts with greatest areas of opportunity through two scenarios, one for the exceeded budgetary accounts and the other for the no exercised items (See the table 4.1), with this information two scenarios were elaborated, for the CPM implementation impact calculus: one with the designed instrument implementation in this research, which implicates the budget variation reduction and another without the process implementation.

Table 4.1. More significant budget variations. (Own elaboration)

Account Number	Exceeded Index	Non-exercised Index	Average
456670	10.38	291.72	151.05
456740	4.30	77.37	40.83
459660	43.44	4.52	23.98
452796	5.67	25.74	15.70
452794	0.09	29.26	14.67
451000	22.37	0	11.19
456640	2.91	16.78	9.85
456700	9.64	4.57	7.11
454000	11.97	0.61	6.29
459650	10.93	0.64	5.78
450010	10.37	0.61	5.49
456650	9.96	0.83	5.39
450270	9.50	0.45	4.97
454040	7.92	0.42	4.17
459560	7.59	0.25	3.92
459570	0.22	0.02	0.12

Once having identified the budget items with the largest area of opportunity, which corresponds to the account 459660 that represents 26% of the main exceeded items, later, it was projected by simple lineal regression until the year 2025 using the historical data starting in the year 2006 to analyze its behavior without the CPM application. In order to carry out the assumption

resulting from the CPM application it was set as a desired indicator the cumulative decrease of 5% annual from the budgeting variation in the parastatal operative zone, this information is expressed in the table and graph represented below. During the first quarter Budget execution this year, the system implementation results have been favorable because the budgeted amount has been kept for the analyzed account in a variation of + 6%, which is in the allowed levels for the organization.

5. Conclusions

The corporate performance management within a department which has human, technological and monetary resources that might imply the organizations objectives an efficient execution, faces a very important paradigm: data and generated information through the information management tools in which some national impact organizations count on for the entrepreneurial resources planning and execution, it is so much that it turns into diffused information, that is not used to the advantage of generating a tacit knowledge that allows the department to become efficient, firstly, the department indicators performance so that later with the help of collective intelligence, generate explicit knowledge that are diffused among the team members and they focus on the innovation of new operative practices that allow the performance improvement based on the proposed strategic objectives in the directive level, which might lead such generated knowledge to pass on to corporate plans.

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