

How to make ends meet with business results, using the right tool for the right job.

Marcus Possi¹; Peter Berndt S Mello²

¹ Spider Team - Ecthos CD

mpossi@ecthos.com.br

² Spider Team - X25

peter@thespiderteam.com

Abstract - Working with different limitations and constraints often leads the Project Manager to look for a miracle instead of a solution. The majority of these miracles are supported by tools and neo-born techniques that aren't really tested or approved nowadays. These miracles become more and more emphatic if we consider managing with a few or limited resources, which is the most common situation in our everyday lives. Based on such affirmative we got two examples with two different large Project Management applications to show how miracles are dispensable if the leader knows the basic techniques and how to deal with the different tools and their limits. The first case is the improvement of the available labor working time we had to fix electrical and hydraulic systems in four big warehouses at "*Cidade do Samba*" (Samba's City) in Rio Janeiro, while facing other competitors in order to expand their contract with extra warehouses, and maximizing their profits and simultaneously reducing the idle time. The second case is related to a project of a bridge construction in Venezuela, over Orinoco River, where limited budget, workers and equipments, forced the planning team change the application tool to support their work on high administration's decisions.

Introduction

The two cases bellow were chosen to analyze three different aspects. The crisis concept, the project management as a duty and not as a job, and the most adequate tool and technique to support the proper project's demand. We will not break every step into these pointed details but I sure will mark then during the narrative and their analysis. We believe that people started thinking about crisis heavily after the 2009 economic disaster that contaminated the world's economy and everywhere business. Of course there were other economic bad times, tough times, but since that specific one project management was really responsible for better chances of success. The lack of human resources, materials, and equipment were present in big and long projects, as well financial resources became recently more important. We may affirm that crisis always existed and it let us think about the next step: the project manager responsibility on business results, not only on the project's life cycle. Although it is well spread that a PM deals with everybody, above and bellow him, sometimes this behavior is restricted to preserve the target results and

not using the tools and techniques to overtake them. The boss way of thinking must be present, not only on the assumptions' lists included in the project charter or the initial contract terms but also during the planning stage. This point will be found under the narrative of the two selected cases when we emphasize the presence as an active component understand the way the best practices are being used and including new and unknown expectations during the project team, the production method, and the controlling and earn value procedures definition. Here comes the mentioned duty as a response to increase the business value and to prove that project management is indispensable. With this "new" scenario the ability of defining methods, staff and tools to support the project management is elevated to a degree where it is possible to use non standard or limited solutions. On the report of the two cases, with different sizes and times, we really see the importance of bringing the PM as an ally to business success, not only in 2010 but also in 2004, far before the big known crisis had begun.

Context

Understanding our allies and tough times

Let's consider the meaning of ally according to the English dictionary: a noun referring to "somebody associated for some common cause or purpose; or someone that associates or cooperates with another as "supporter". In other words somebody you must rely on doing something of interest. Here, the coordinator, under the skin of project manager title is the ally responsible to fulfill business needs. He is not an ordinary worker, he acts more as a solicitor or a personal doctor, and his competence must be representative not only during the project management usual work but also in supporting the high stakeholders needs. These expectations will lead in the majority of the time to the business success. Summarizing: the project managers are this ally and must use the best of their knowledge and competence. Referring to tough times we cannot avoid discussing it in a global and complete way. Some difficulties, that affected developed countries after 2009, were present very earlier on the emerging nations. Some lessons are only learned after hard struggling. Not very recently (2000) in Brazil all the consumers were obliged to reduce their electrical energy consume in 30% due to a lack of rain during the "raining season", in order to save water and its benefits. During this particular crisis, people have learned a lot about electrical equipment and its cost-effective solutions. Today the concept of best practices in lighting and its consumption has become a reality. Let's use the same rule for these usual considered best practices in PM if they are not used. Every time is tough time; even it seems not to be so. Tough times must be understood as caused only because of lack of money. They may be caused, as happened by the last economic crisis, but frequently they are caused by other reasons like project environment, local leaders and government, and most frequent by resources stresses. The planning stage and its importance on production and business how to deal with techniques and tools to approach actual interests.

How to deal with techniques and tools to approach actual interests

IPMA and PMI, among other institutes and associations have been working to put together the most usual and profitable techniques to help Project Managers to accomplish their goals. But, under such amount of papers, one may get confused when their responsibilities increase on the same level with the complexity of their project and results. Lots of items can be found, but the most proper ones are not really pointed out from them, so the same to the best "info-tools" sold nowadays as miracles makers or Saint Graals. The project manager's maturity and the involvement of High level stakeholders and sponsor sometimes run in opposite direction. The project manager's experience must be the leading string to the team organization, as well as the project business interests must be the leading string on the assumptions and constraints collection. The techniques and the project management tools must be very well chosen before the planning stages, and project management must impose the instruments under the piece to be played. The project manager must act as a real conductor. That is the best moment to discuss the "Project Management Configuration Set".

The challenges of Cidade do Samba's project



First of all, some numbers:

Amount of work to be done from an US\$ 42 millions budget: 2 millions

Time to accomplish their final result: 1 year

Number of workers on that specific work: 45

Number of workers for the entire project: 350

Investment involved by the company: US\$ 1 million

Controller: 1 professional

The case:

The competition established between two suppliers, would end in electing the one which would be recognized as the best, and elected to finish with the remaining warehouses. Limited specialized resources, limited time to fulfill the local Samba Schools Association, local Tourism associations and other agencies, and the district Government requirements and expectations, were a challenge to them. At last, a very short time to present a proper and solid construction plan completed the scenario. We need not to mention problems with financial budget support. The client's request

asked for a pre-plan that should be presented before starting the activities, and the authorities made really clear that the best reached result would be considered to elect the supplier in command of the last three warehouses and complementary work to be done, considering the methods and the given deadlines, the finish date accomplish should be a must. Our planning team brought into the initial meetings with company commercial representative in order to evaluate their needs, during the planning stage and team definition. Initially the first warehouse was planned according to a specific scope definition technique to produce a deliverable oriented WBS with its dictionary and main attributes based on contract terms and some internal company criteria. The activities list was developed using all the engineering expertise as well as their attributes. Thanks to this dictionary we were alerted to some adequate milestones and check points which resulted later in support for the traditional claims. The estimated duration was result of traditional practices used in engineering, particularly by experts knowledge, with duration established by reliable work sheet, and to similar works done before. We proceed into a project net analysis. The relationships were fixed according to real physical construction possibilities and not driven by some previous or traditional and usual particular assumptions like the lack of some specific resource or construction traditional method. The result was a reasonable and a "feasible" work process. The second step was the developing of a consistent schedule, contemplating specific and mutual calendar with well understood exceptions, real calculated effort production activities, and adequate milestones. The resource histogram was a consequence, as well the warehouse baseline resource cost. The analysis was limited only to human resources and its availability. According to the original scope we replicated the other three warehouses into the schedule, using this pre-studied model. The use of "learning curves", another known estimating effort practice drove the team to reduce the other warehouses production with 5 to 10% total effort decrease. The final histogram was the result of the available / necessary resources analysis with another well known project management

technique "resource leveling", the task start date rescheduling, according with resource availability. As we have said before, the human resources were limited as they were distributed and allocated into different other company contracts. Then the resource usage was compatible with the four warehouse's scheduling and the main contract assumptions were fulfilled, using the signed contractual time. Thus comes the contribution of the commercial stakeholder, he knew the amount of money allocated for that contract, and saw the resource cost and the result histogram. He asked the planning team to include other warehouse in the performed schedule, creating a new scenario. The planning team and the experts relied on the chosen application to solve the resource leveling with some new adjusts and the registered learning curves concepts they received in order to check this new scenario. The final result for this new plan showed that it was possible to produce five warehouses using the same amount of human resources and under the contractual time, besides reducing their idle time. With these two scenarios they proved they were capable to set up five warehouses instead four, at the same contractual time, offering and selling the extra one with a significant discount. They did it using project management tools and techniques, the other two competitors did not!

- The construction of four identical warehouses to support the Samba's Schools staff and their work on the job of making the allegories and fantasies to be shown on carnival parades.
- The retracted market for new contracts at that time in Brazil;
- The low profitable results signed for this specific contract;
- The difficult conditions of dealing with the Samba's Schools Association, local Tourism associations and other agencies;

The challenges of Orinoco River Bridge's project



Analyzing our Allies in Tough Times here

Our allies:

- The use of Project Management techniques;
- The well known planning practices: scope, and scope documentation, time, resource assignment techniques, and scenario analyses;
- Resource level techniques and availability study;
- The PM application chosen: MSProject Standalone

The tough time environment:

First of all, some numbers:

Amount of work to be done: 100%

Time to accomplish their final result: 7 year

Number of workers on that specific work: 2.000

Investment involved by the company: US\$ 990 millions

Controller: 2 professional + 2 trainees

The case:

The work is known to be always subjected to new and somewhat under unstable rules. This is the third bridge constructed over river Orinoco and their expectations are high and very widespread by the local media. The season and its weather consequences are

singular and must be constantly mapped to accomplish with the desired goals and dates. Risk analysis is an obligation if we do refer to allowed time to work on certain planning and work packages. Limited specialized resources and equipment, limited tolerance to adjust time to fulfill the local stakeholders like "PROPATRIA" – Venezuela's Federal District and government's requirements and expectations. At last but not the least a short staff to present the whole hall of reports and work to keep the proper plan and control. We need not to mention problems with financial budget support under three different currencies. In the very beginning, during the planning stage, the project manager and his team used a very easy and popular project management application to support the data and models they need, as usual people use to get the information under that standard. Soon they noticed the application limits were causing dreadful consequences and limited their options of simulations and solutions. The schedule model was keeping at that initial phase, more than 7500 activities with lots and lots of resource allocation and links, both using human and material resources. Every time they updated the status report with real data, collected from execution teams, "strange things seemed to happen making the software wake into life". Besides, some new requirements deserved attention to accomplish with high level stakeholders needs. They were asking for solutions, now regarding the lack of some critical resources as well as their use and the lack of information of budgeting and cost analysis. Although all the team efforts to increase machines processor power and memory cards, the results were not popping out as they imagined. The constantly "blue screen" and "freezing's" became a stone heavier than their abilities. It also limited their options to include simulations or request some resource maps and their use optimization. To support the new challenge the project manager invested some time and attention to other PM applications in order to replace the first one and get as soon as possible the results they were looking for. It was the first part of tough times to this team – the small earthquake, that was over and the survivors, were well kept. The second season came with strong winds made by the same stakeholders

demands for an specific critical resource path analysis, in such a way they could see the human and material resources and their expenses, under a variable currency time change, and under three different currencies simultaneously. With some more endeavor labor, with more attention into the chosen application features, after some hours of video and audio conferences the new requirements were set and its first results plough. The main schedule was able to show the precise leveled schedule, the precise material and resources demand histogram, the amount of money plenty disposed in three different currencies keeping a proper adherence to its individual variation costs in time – the strong wind had gone. The third season came like a high tsunami wave asking for the "mapping the material and financial supplier" because the budget was to be reevaluated and the suppliers should be ranked and previously understood as part of a logistic play. The new requirement came in a hurry and should be delivered with the same urgency as well. The planning team proceeded in a way to locate the proper data and include it into the PM application with the promises that everything would occur as planned and deserved. After some extra efforts, the results came, leveling simultaneously the human, material and financial resources in such a way it gave the best result under such worse conditions of resource supplies. There is a sentence usually said in meetings and company acquisitions:

"The more and the best you do, the more you are demanded to."

Soon the team had to answer new sponsor's needs: how to budget the next three years investments? Before answering this question we must remark that the execution stage was fully running. They faced these natural events with the project running. That would be called simply tough times if the scenario analyses were not to be done spending up to six hours by the planning team. Every scenario calculation would consume 2 hours and a half processing, with four different budget simulations to be done. Only 6 hours to prepare and solve this "enigma" was given and

just a sole answer was sent: "what is the best scenario be considered?"

Once again breaking traditional paradigms the team used processor power to calculate simultaneously the four scenarios at the same time, at the same machine, with the same data file, achieving the final result in 3 hours.

At the time this article was finished the risk analysis was not demanded, otherwise we could report the "nuclear effects".

Analyzing PM Practices in Tough Times here

Our allies:

- The use of advanced Project and Schedule Management techniques
- The well known planning practices: scope, and scope documentation, time, resource assignment techniques, and scenario analyses;
- Resource level techniques and availability study; Resource Critical Path, budget and cost conciliation,
- The use of different criteria resource leveling techniques, and complete resource scenario analyses.
- The PM application chosen: Spider Project

The tough time environment:

- The construction is under a difficult well known govern behavior and financial limits and funding;
- The budget analysis under three different currencies;
- The optimization of resource usage and suppliers taking into consideration the suppliers limitation.

Understanding the project management work and the duties it brings

According to the presented cases, it became evident at all that we have been thought times earlier than the 2009 world economic crisis. Our day by day work seems to be a sequence of events that lead us to exercise the most of our knowledge and available tools to fulfill the best business results. Our profit range is being always reduced day after day, and as a surgery doctor we must be prepared to choose the best PM practices and the best tools to support then, otherwise the success chances will be substantially reduced. When we are acting as Project Managers, are responsible for the results and not for the beautiful way we carry on the Project management work. We must be upset to help, even during the execution stage, and to attend the new and sudden business demands.

Conclusion

The Project Manager work must be strongly attached to business targets, even if these targets move every time. These mentioned allies are very helpful to reach the desired results, and as we can't see good times coming so early, we must search for new technics, new applications, new methods in order to make our work aligned to business results. We can affirm that in 2011 we are prepared to shot these moving targets, due to the hard experience we are suffering since old times.

Thanks God we were not asked to be prepared to shot random moving targets. Not until today.

References

About the Authors:



Marcus Possi
 Echthos CD director, Spider Team
 Office, Rio de Janeiro, Brazil
marcus.possi@thespiderteam.com



Peter Berndt de Souza Mello
 Project Management Consultant at
 TMSA, Porto Alegre, Rio Grande
 do Sul, Brazil
 Spider Director/Brasil, Spider
 Team Office, Porto Alegre, Rio
 Grande do Sul, Brazil
peter.mello@thespiderteam.com

Resumè

Electrical Engineer, Director of Echthos CD in Brazil and Spider Team Office Rio de Janeiro

Mr. Possi is a Project Management specialist by Fundação Getulio Vargas - Rio de Janeiro, and currently consults lectures and writes about this subject in order to help the application of traditional CPM methodology in Electrical plants and similar engineering projects.

Having electrical engineering as a basic graduation and working for over that 30 years on power plants, he shared his time at Standard National Technical Committees and study groups. He also has presented several works both in Project Management and Electrical Solutions during the last 15 years.

Responsible for the development of two Post-graduation courses in Project Management and several electrical courses, he commanded and wrote 14 Project management books, including MSPProject 2003 to 2010, Primavera 3.1, and Spider Project 2009 to 2010, detaching the practical use of techniques against the academic one in project management.

His last work was translated into English by a local volunteer PMI group, once there was not any published literature of a kind: Spider Project critical and limited resources tool as a solution form to project management.

Mr. Possi is a member of the Project Management Institute, and works there as a volunteer since 2003.

More at <http://www.thespiderteam.com/marcus/english>

Resumè

Program/Project Manager at TMSA. Director of Spider Team / Brazil.

Mr. Mello is recipient of the Eric Jenett Project Management Excellence Award (PMI Best of the Best 2009) and one of the first ten in the world to obtain the PMI-SP (Scheduling Professional) Certification. He also holds the PMP Certification (from PMI) and certifications in configuration management and Spider Project application (Spider Project Specialist).

His experiences varies from medium to large projects in several industries (telecommunications, information technology, oil & gas and more recently with bulk solid conveyors). He is an international speaker with presentations in England, Greece, Mexico, Australia, United States and Brazil.

His career has shifted from Information Technology to Engineer as a result of being one of the first adopters of Success Driven Project Management concepts in Brazil and for consulting/management services of projects for Petrobras, Vale Mining, MPX and others. Now he holds a dedicated position to large projects at TMSA for the delivery of equipments for mining, grain transportation, thermoelectric and warehouses.

He is author to several seminars at PMI Global, National and local events and PM magazine articles and co-author in books related to Project Management Performance Analysis and Spider Project. He is a member of the Project Management Institute and has developed volunteer work as the Portfolio Role Delineation Study Group, the Risk Management and Scheduling Practice Standards.

More at <http://www.thespiderteam.com/peter/english>