Maturity in Project Management Series

Impact of PPPM Maturity on the Success of Organizational Change Projects in Brazil

By Russell Archibald and Darci Prado

The Brazilian Experience with PPPM (Portfolio, Program and Project Management) Maturity is distinguished by longevity of the research (since 2005); by frank acceptance by the PPPM community and the broad range of participants; by the huge amount of results made available on the web site, and by the consistency of those results. In this article we will show the impact of PPPM Maturity on organizational change category of projects in Brazil.

This PPPM research program was initiated by the authors in 2005 and by 2012 it involved 434 participating organizations, including companies, governmental agencies (both directly managed and indirectly managed), and non-governmental organizations/NGOs. The total of projects involved is 8,680. Four major reports are available for download free on-line (www.maturityresearch.com):

- General Report: includes analysis of all types of organizations, all categories of projects and all business areas;
- I. T. Report: dedicated only to the I.T. category of projects;
- Construction Industry Report: dedicated only to Engineering & Construction categories of projects;
- Organizational Change Report: dedicated only to transformational projects that are related with redesign of processes and the business, reduction of expenses, acquisition and integration of competing companies, etc.

In this article we will continue to show some results in the 2012 survey related to Organizational Change Projects. This is a very important category of projects, since it occurs in all organizations all the time.

In the 2012 PM maturity research there were 72 participating organizations from this area, with 1,224 projects. Final results showed an average maturity level of 2.74. The reader should be aware of the fact that this report is totally dedicated to Organizational Change Projects. Here are some examples of projects in this category:

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1 The Project Management Maturity series of articles by Russell Archibald & Prof Darci Prado is based on their extensive research on this topic in Brazil, the United States and other countries. Russ is one of the pioneers in the project management field and the originator of the Archibald Project Categorization Model. Darci is the developer of the Prado Project Management Maturity Model which has been successfully implemented by many organizations in Brazil. More about this model and related research can be found at http://www.maturityresearch.com/.
• Process Mapping / Business
• Redesign of processes / business
• Mapping and redesign of the organizational structure
• Reduction expenses program
• Reduction costs program
• Revenue increase program
• Capital management program
• Increase of productivity of routine processes program (PDCA / SDCA)
• Increase of profitability of processes / business program
• Deployment goals (Management by Guidelines)
• Acquisition and integration of competing companies
• Big improvements in project management
• Formation and launch of a new company
• Consolidation of divisions and downsize of companies
• Big event of litigation.

In this article we will show some Organizational Change Projects results in the 2012 PM maturity research related to leading indicators and some of the groups that the database records. The indicators are:
• Maturity
• Success
• Delay
• Cost Overrun.

This article is divided into two main parts:

1. Summary results for the Organization Change category.
2. Analysis of these results in four groups:
   • Organization Types
   • Businesses Areas
   • Organization Sizes.

To fully understand the Prado-PM Maturity Model, it would be better if the reader could read the third article (March 2014) of this series that describes the model in some detail. To facilitate the understanding, we include at the end of this article a summary of the Prado-PMMM and Archibald Categorization Model.
1. Brazilian PM Maturity Research: Organizational Change Projects - Main Results

The survey shows the following average results for 72 participants and 1,224 projects:

**Maturity Level**
- PM Maturity: 2.74 (scale 1-5)

**Results Indicators**
- Project Success:
  - Total Success Rate: 55.3%
  - Partial Success Rate: 29.4%
  - Failure Rate: 15.4.8%
- Delay: 25.0%
- Cost overrun: 12.0%

**Portfolio Composition by Participant**
- Average projects number: 17
- Average duration of each project: 10 months
- Average value of each project: US$ 3,200,000.00

In this research the participants responded to two separate and independent questionnaires:
- Questionnaire (40 questions) for maturity evaluation;
- Questionnaire (28 questions) to identify the characteristics of the organization and inform the assessor about the department project performance indicators (project and product success, delays, cost overrun, scope adherence, etc.)

With this approach in evaluating the research results we can cross reference between the responses of the two questionnaires.

**Distribution at Levels**
Figure 1 shows how the participants were distributed among the five maturity levels. We can conclude that 48% of organizations are at weak levels (levels 1 and 2) and only 14% of organizations are at excellence levels (levels 4 and 5).

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2 These 28 questions can be found on the site [www.maturityresearch.com](http://www.maturityresearch.com) by registering and then clicking on the “Start Evaluation” button. You can read all questions in both questionnaires there without actually giving answers to the questions. The corporate identity of organizations is not revealed in the study results.
DIMENSIONS ADHERENCE

Figure 2 shows the average adherence to the maturity dimensions used within the Prado PM Maturity Model. This figure shows that Organizational Change Projects are poor in Behavioral Competence and in the usage of PM Organization Structures (Project Manager, PMO, Sponsor and Committee).

Figure 1. Percentage of Brazilian Organizations by Maturity Level in 2012
Organizational Change Projects [1].

Figure 2. 2012 Average Adherence by Brazilian Organizations to the Six Maturity Dimensions of the Prado PM Maturity Model
Organizational Change Projects [1].
MATURITY LEVELS AND SUCCESS

In the research, participants were invited to state how successful the portfolio of projects was in the last period (for instance, the last year) using given success concepts available in the site. The site presents various definitions of success, which depends on the category of projects executed by the department; that is, the concept of success for a construction department is different from the concept for an IT department. For Organizational Change Projects the success definitions are the following:

**Total success:** A successful project is one that has reached the goal. This usually means it was completed and produced the expected results and benefits and key stakeholders were fully satisfied. In addition, but not mandatory, it is expected that the project has been completed within the requirements for time, cost, scope and quality (small differences can be accepted).

**Partial or challenged success:** The project was completed but did not produce the results and benefits expected. There is significant dissatisfaction among key stakeholders. Also, probably some of the requirements for time, cost, scope and quality were significantly exceeded.

**Failure:** Because there is a huge dissatisfaction among main stakeholders, or the project was not completed, or did not met the expectations of key stakeholders, or some of the requirements for time, cost, scope and quality were exceeded in an absolutely unacceptable way.

In Table 1 we show data grouped by levels. In the below text we comment on this data.

<table>
<thead>
<tr>
<th>Level</th>
<th># of Respondents</th>
<th>Percentual</th>
<th>Maturity</th>
<th>Total Success</th>
<th>Partial Success</th>
<th>Failure</th>
<th>Average Delay</th>
<th>Average Cost Overrun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>6</td>
<td>8,3%</td>
<td>1,49</td>
<td>27,5%</td>
<td>57,5%</td>
<td>15,0%</td>
<td>58%</td>
<td>10%</td>
</tr>
<tr>
<td>Level 2</td>
<td>29</td>
<td>40,3%</td>
<td>2,22</td>
<td>43,9%</td>
<td>33,6%</td>
<td>22,5%</td>
<td>25%</td>
<td>17%</td>
</tr>
<tr>
<td>Level 3</td>
<td>27</td>
<td>37,5%</td>
<td>3,11</td>
<td>59,3%</td>
<td>26,0%</td>
<td>14,8%</td>
<td>23%</td>
<td>10%</td>
</tr>
<tr>
<td>Level 4</td>
<td>10</td>
<td>13,9%</td>
<td>4,03</td>
<td>83,5%</td>
<td>15,5%</td>
<td>1,0%</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>Level 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Totals</td>
<td>72</td>
<td>100,0%</td>
<td>2.74</td>
<td>55,3%</td>
<td>29,4%</td>
<td>15,4%</td>
<td>25%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Table 1. Results by Organization Type

In Figure 3 we show the relationship between maturity levels and success for Organizational Change projects. It is very clear that the higher the maturity, the higher degree of total success. On the other hand, the figure shows an aspect that could be considered an
anomaly to be further studied: the failure data for level 1 does not align with the failure data for the other levels.

![Figure 3. Maturity Levels and Success - Organizational Change Projects [1].](image)

### VALUE AGGREGATION PERCEPTION

In the 2012 research [1], the question on the perception by key stakeholders of value aggregation by project management is:

19. Regarding the practice of project management (PM) in your department, what is the perception by key stakeholders on the importance (or value creation) that project management brings to the success of projects and / or for the business of the department?
   a) PM adds a lot of value
   b) PM adds some value
   c) PM adds little value
   d) PM does not add value
   e) We have no PM

The intersection between key stakeholders’ perception of PM value aggregation and maturity levels is shown in the following graph (Figure 4):
From Figure 4 we can conclude that there is a direct positive relationship between Perceived Value Aggregation and Project Management Maturity Levels. The higher the maturity, the greater the perception, by key stakeholders, of added value!

**MATURITY LEVELS AND DELAY**

The relationship between maturity levels and delay is shown in Figure 5. Here we may notice an unexpected high result for the Level 1 group.
**MATURITY LEVELS AND COST OVERRUN**

The relationship between maturity levels and Cost Overrun is shown in Figure 6. Here we may notice again an unexpected low result for level 1. This anomaly should be the object of further studies.

![Maturity Levels and Cost Overrun - 2012](image-url)

**Figure 6.** Maturity Levels and Cost Overrun. Organizational Change Projects [1].

2. **Results for Organizational and Business Sector Groups**

In this section of this article we show results for the following deployment groups:

- a) Organization Types
- b) Business Areas
- c) Organization Size

**a) Organization Types**

The research grouped the participants into four organization types:

- i. Private companies
- ii. Government – Direct Administration
- iii. Government – Indirect Administration
- iv. NGO - Non Governmental organizations.

Table 2 shows the main numbers for the organization types.
Table 2. Results by Organization Type

According to Table 2 and Figures 7, 8, 9 and 10 we may conclude that:

- Private Organizations have the best indicators (exception: Cost Overrun)
- Government (both Direct Administration and Indirect Administration) have the worst indicators.
### Figure 8. Success by Organization Type - Organizational Change Projects [1].

<table>
<thead>
<tr>
<th>Organization Type</th>
<th>Success</th>
<th>Partial Success</th>
<th>Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Companies</td>
<td>60.9%</td>
<td>27.0%</td>
<td>12.2%</td>
</tr>
<tr>
<td>Government - Direct Admin.</td>
<td>30.0%</td>
<td>38.3%</td>
<td>31.7%</td>
</tr>
<tr>
<td>Government - Indirect Admin.</td>
<td>28.8%</td>
<td>43.8%</td>
<td>27.5%</td>
</tr>
<tr>
<td>NGO - Non Government Org.</td>
<td>28.8%</td>
<td>30.0%</td>
<td>31.7%</td>
</tr>
</tbody>
</table>

### Figure 9. Delay by Organization Type - Organizational Change Projects [1].

<table>
<thead>
<tr>
<th>Organization Type</th>
<th>Average Percent Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Companies</td>
<td>22%</td>
</tr>
<tr>
<td>Government - Direct Admin.</td>
<td>48%</td>
</tr>
<tr>
<td>Government - Indirect Admin.</td>
<td>21%</td>
</tr>
<tr>
<td>NGO - Non Government Org.</td>
<td>21%</td>
</tr>
</tbody>
</table>

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b) Business Areas

The research grouped the participants into the following businesses areas:

1. Agriculture, Cattle Raising and Forestry
2. Food and beverage
3. Banking, finance and insurance
4. Trading
5. Construction
6. Consulting
7. Defense, Security and Aeronautics
8. Distribution (Water, gas)
9. Education
10. Electronics
11. Engineering
12. Electrical Energy (Production and/or Distribution)
13. Pharmaceutical
14. Mining
15. Metallurgy and Steelmaking
16. Paper and Cellulose
17. Oil and Gas
18. Chemical
19. Refractories, Ceramic and Glass
20. Health
21. Information Technology (Hardware & Software)
22. Telecommunications
23. Textile
24. Transportation, Storage & Services, Logistics
25. Tourism & Sports
26. Automotive & Automotive Parts
27. Clothing, Footwear, Fashion and Sports Equipment
28. Other

Table 3 shows the only three areas that showed significant data (above 5 participants). Figures 11, 12, 13 and 14 are related with this table.

<table>
<thead>
<tr>
<th>BUSINESS AREA</th>
<th># of Respondents</th>
<th>Percentual</th>
<th>Maturity</th>
<th>Total Success</th>
<th>Partial Success</th>
<th>Failure</th>
<th>Average Delay</th>
<th>Average Cost Overrun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consulting</td>
<td>20</td>
<td>27,8%</td>
<td>3,26</td>
<td>71,3%</td>
<td>22,5%</td>
<td>6,3%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Engineering</td>
<td>5</td>
<td>6,9%</td>
<td>2,80</td>
<td>52,5%</td>
<td>27,5%</td>
<td>20,0%</td>
<td>49%</td>
<td>18%</td>
</tr>
<tr>
<td>Transportation, Logistics</td>
<td>7</td>
<td>9,7%</td>
<td>2,34</td>
<td>47,9%</td>
<td>35,7%</td>
<td>16,4%</td>
<td>26%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Table 3. Maturity Data Related to Three Business Sector Areas

According to Table 3 and Figures 11, 12, 13 and 14 we may conclude that Consulting has the best indicators of maturity and success.

Figure 11. PM Maturity by Businesses Areas in Brazil Organizational Change Projects [1].
Figure 12. Success by Businesses Areas Organizational Change Projects [1].

Figure 13. Delay by Businesses Areas Organizational Change Projects [1].
c) **Organization Size (Annual Gross Revenue or Budget)**

The research grouped the participants into the following revenue or budget groups:

- Under US$ 250,000
- From US$ 250,000 to US$ 1 million
- From US 1 million to US$ 5 million
- From US$ 5 million to US$ 50 million
- From US$ 50 million to US$ 500 million
- Above US$ 500 million

The Table 4 shows the main numbers for the organization sizes based on revenue or budgets. Figures 15, 16, 17 and 18 are related with this table.
According to Table 4 and Figures 15, 16, 17 and 18 we may conclude that small and medium size organization (until US$ 50 million) have the best performance.
**Figure 16.** Success by Organization Size as Indicated by Annual Gross Revenue or Budget Organizational Change Projects [1].

**Figure 17.** Delay by Organization Size as Indicated by Annual Gross Revenue or Budget Organizational Change Projects [1].
3. The Prado PM Maturity Model

The principal criteria used in the design of the model are [2]:

- Use the same levels (1 to 5) of the model SW-CMM developed by Carnegie-Mellon University for software development.
- Have simplicity (questionnaire with only 40 questions) and universality (application to all types of organizations and the entire list of project categories).
- Relate the maturity of the organization to its ability to execute projects successfully.
- Enable direct indications of where PM practices need improvement in order to grow the organization’s PM maturity and project success rate.

The five levels and seven dimensions of PM maturity in the Prado PMM Model are shown in Table 5.

Figure 18. Cost Overrun by Organization Size as Indicated by Annual Gross Revenue or Budget Organizational Change Projects [1].
Table 5. Levels and Dimensions of the Prado PM Maturity Model [3].

The five levels are characterized as follows:

1. **Initial**
   - Little knowledge of the subject
   - Lack of methodology and/or management models
   - Use of intuition in management of projects.

2. **Known – Isolated Initiatives**
   - Start creating a new culture to build skills.

3. **Standardized**
   - Implementation of a standardized platform for project management:
     - Organizational Structure (Governance)
     - Methodology
     - Computerization
     - Strategic Alignment
   - Skills (behavioral competence) development.

4. **Managed**
   - Improvement of the platform: the standards work
   - Anomalies identified and eliminated
   - Effective human relationships
   - Consolidation of alignment with the organization's business.

5. **Optimized**
   - Innovation in technology and processes
   - Results in high efficiency (optimization of time, scope, quality and costs)
   - High efficiency of management processes
   - Wisdom
   - Low stress and Low noise
   - Something natural.
4. The Archibald Categorization Model

Because there is usually a wide variation within one organization in its PM maturity for different types or categories of projects, the most useful measure of PM maturity relates to each specific project category. To accomplish this PM maturity measurement on a globally consistent basis the Brazilian PM Research Project has adopted the widely accepted project categorization model developed by Archibald [3] with these 10 basic project categories:

1. Aerospace/Defense
2. Business & Organizational Change
3. Communication Systems
4. Events
5. Facilities
6. Information Systems
7. International Development
8. Media & Entertainment
9. Product/Service Development
10. Research & Development.

There are several sub-categories within each of these; for the Brazilian research, for example, within the Facilities category the PM maturity is measured for “engineering design” and “construction and assembly” projects. The benchmarking results at the project category level are averaged for a given organization when one organization has assessed its maturity for more than one project category. More detailed discussion of the purposes and methods of project categorization can be seen in reference 3.

Final Consideration

In the site www.maturityresearch.com the reader can find more information about Organizational Change projects.
This is the ninth of a series of articles on PPPM Maturity.
Click on these titles to read the previous eight articles:

Feb. 2014: The Importance of Knowing Your Project, Program, and Portfolio Management Maturity: PPPMM
Mar. 2014: Foundations of the Prado-PM Maturity Model
Apr. 2014: PM Maturity for Project Categories
May 2014: Maturity, Success and Competitiveness
June 2014: The Brazilian Experience: General Results
July 2014: Impact of PPPM Maturity on the Success of Software Application Development Projects in Brazil
August 2014: Impact of PPPM Maturity on the Success of Construction Industry Projects in Brazil

References

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