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Title

Making use a new open-multipurpose framework for more realistic estimation process in project management

Summary

The current turbulent times call for adaptability, especially in non-repetitive endeavours being a vital characteristic of project management. The research organized along five objectives commenced in the autumn of 2008 with a pilot study. Then it proceeded through an inductive research process, involving a series of interviews with well-recognized international experts in the field. In addition conceptualized long-running observation of forty-five days was used, before proposal of a new framework for improving the accuracy of estimates in project management.

Furthermore, the framework's "know-how to apply" description have been systematically reviewed through the course of four hundred twenty-five days of meetings. This achieved socially agreed understanding assured that it may be possible to improve accuracy of estimates, while having flexible, adaptable framework exploiting dependency between project context and conditioned by it, use of tools and techniques.

Track

Organizational Transformation, Change and Development

Word count

1345

1 Introduction

The following points serve to explain the way the proposed workshop would be organized and conducted.

2 Explanation of an idea for the framework

The research examined the importance of project context on the accuracy of project estimates and, as a result, generated a new framework for improving the accuracy of estimates to encourage a more adaptable view within Project Management (PM) practice. For the purposes of improving estimation accuracy, the research aimed to identify useful tools and techniques and determined their application by way of contextual factors, such that usage of particular tools is governed not just by the choice of a specific project management methodology but also by a project's contextual circumstances.

The cognitive process resulted in the framework that is configurable to context and open to further development, which in turbulent business times shifts attention away from more prescriptive methodologies. Practitioners can then make direct use of project context itself and own collected knowledge. This idea is depicted in Figure 1 where the configurable link between "roots" and "leaves" could be identified.



Leaves = tools, methods & techniques

Trunk = various methodologies

Roots = contextual factors & dimensions

Figure 1 Tree of relationships – a process to develop a configurable link between “roots” and “leaves”

3 Workshop organization

3.1 Workgroups

All workshop's attendees will be split into workgroups. It is planned to have maximum 3-5 people per workshop group. Size of the workshop group is limited to due to the communication efficiency – number of a created communication channels. The number of groups should range from two to six to give an opportunity to efficiently compare results on the workshop's forum.

3.2 Room configuration and time

Room configuration should allow to support the following requirements:

1. Projector and flipchart will be required.
2. Room must accommodate around 30 people.
3. Group workplaces/tables must allow 3-5 people to sit together in groups.
4. For a discussion on the forum all groups must have comfortable/ergonomic view on a projected ppt presentation.
5. Due to the looping character of the workshop it should last at least one hour. Maximum effective time of work, conditioned also by projects' scenario descriptions, is estimated for two hours.

4 Workshop

4.1 Introduction and assumptions

In order to better understand the uniqueness of the adopted approach, the underpinning assumptions should be presented.

1. The whole workshop turns into practice visible in the PM-related literature and scientific investigations, “movement” of “critical schools” (Crawford et al 2014; Hodgson and Cicmil 2011; Hornstein 2015; Kerzner 2014; Oellgaard 2013; Svejvig and Andersen 2014). There, a project does not have “essential characteristics to be discovered and described independent of its context” (Oellgaard 2013, p.65) or of its company (Kerzner 2014). Project context may be seen as more important than PM methodologies, and context may offer not one but many “silver bullets” (Špundak 2014) to problems encountered. It can configure the “answer” through selected methods and the use of a continuous learning process (Hartmann and Dorée 2015; Leybourne and Sainter 2012)
2. A project's contextual factors can be more important in the understanding of PM complexity than the influence of any predefined PM methodology.
3. A project's contextual factors can be associated with many of the tools and techniques already present within various PM methodologies.
4. To turn into practice PM discussion brought by “critical schools”, the quality of practice identified by some practically-observable anchor point is necessary. For that matter accuracy of estimates has been proposed, as a key element distinguishing projects from repetitive processes.

4.2 Major limitation of the framework

The framework does not attempt to directly shape project context as some presumably would expect (Morris and Geraldi 2011; Morris 2013). However, what distinguishes this research from that of “critical schools” is that its anchor point and focus is based on the accuracy of estimation, which is used to drive improvement and offer greater practical orientation.

4.3 Presentation of the framework

Table 1 systematizes findings in a more convenient, readable form of the framework. The framework depicts the workshop-initial form. Rows present individual methods which support an increase in accuracy of estimates and overall estimation process. The sequence of rows neither describes their relative level of importance nor steps in implementation.

Columns describe a contextually dimensioned project. Dependencies between methods and context dimensions were marked to help in the process of applying the framework. Four types of dependency are proposed:

1. “Empty” – no dependency identified. An exception to this lack of dependency is when a “+” sign is placed in the column: “Generally considered to be applied”. It was marked in this way only if a particular method addressed more than half of the contextual aspects or if experts in general promoted raised practice.
2. “+” – method may be applied.
3. “++” – method is recommended. This designates a high level of significance, the consistent view of experts, or significant examples and observations having been identified.
4. “-” – method should generally be avoided or may carry negative risks.

ID	Tools, techniques and methods	Contextually dimensioned project env.														
		Generally considered to be applied	Industrial sector	IT and service sector	Public and education sector	Internal projects (internal sponsor)	External projects (external sponsor)	Traditional PM approach	Dynamic/agile PM approach	International projects	Small organizations and projects	Large organizations and projects	Single-project work environment	Multi-project-assignments work	Mature PM teams and organizations	Immature PM teams and organizations
1	Manage priorities in micro-scale	+	+	+	+	+	++	+	++	+	+	+	++	+		
2	Manage priorities in macro-scale	+	++	++	++	+	++	++		++		++	+	+		
3	Prepare for and decrease reasons to use multitasking	+	+	++		+	+	+	+	+	+	++		++		
4	Quiet hours			+		+	-		+	-	+	-	-		+	-
5	Focus on macro estimates not on a whole detailed schedule	+	+	+	+	+	++	+	++	+	+	++	+	+		
6	Standardize chunks of work and apply parametric-based tools	+	++	+								+	+	++		
7	Align sequence of estimation process to business constraints		+	+				+	+							
8	Visualize and keep competences transparent	+	+	+		+	+	+	+	+	+	+	+	++		
9	Balance competences, experience and age of team members	+														
10	Place experts in each major area to provide point of reference		+	+	+	+	+					++				
11	Customer/stakeholder should see combined plan of all involved parties and accept methodology	+	+		+					+		++		++		
12	Develop lessons learned knowledge hubs and assure access to them	+														
13	Reduce and minimize complexity and number of communication channel											+		+	+	
14	IT tools should adjust to project and work environment context	+														
15	Apply brand-named methodologies				+										-	+

Table 1 Framework which supports increase in accuracy of estimates

Two rows of the framework are shaded – rows 11 and 12 – to indicate techniques and methods which should be applied from the outset in order to assure further uptake and update of the framework. Both of these elements also have sections dedicated to them in the know-how to apply guidance – Table .

4.4 Presentation of the know-how to apply guidance

The sequence of steps provided in Table constitutes a description of the know-how to apply in terms of the framework application.

ID	Step	Explanation, commentary
Introductory presentation:		
1	<p>Deliver presentation on the idea that it is possible to work at the level of tools and techniques and project context. Explain that project context focused thinking belongs to modern trends (Morris 2013). Cover four points:</p> <ol style="list-style-type: none"> 1. Explain benefits derived from improving accuracy of estimates (e.g. work planning, budgeting, contractual aspects, motivation, lower number of conflicts, milestones protection). 2. Promote “natural” thinking of context triggering or blocking use of techniques. 3. Discuss contextual elements characterizing customer’s projects and business specificity. Focus on and underline their individuality. 4. Discuss contextual elements within the framework and try to show similarities; if necessary, extend initial list. 	<p>The PM market is under the influence of PMM brands. It is crucial to help the user to understand that PM organizations do not have a monopoly in PM knowledge creation and that the major PMMs often provide general, non-contextualised descriptions. PMMs in general do not search for consensus (Morris 2013).</p>
Assure early acceptance of two major framework techniques:		
2	<p>First – “Customer/stakeholder should see combined plan of all involved parties and accept methodology”. Neither plans nor methodological paradigm must be kept hidden, as this may decrease accuracy of estimates and undermine the possibility of applying framework. This is a “call” for transparency.</p>	<p>Stakeholders and all other parties involved in the project should develop a common “vision” driven by an accepted understanding of what the context is and what schedules it affects.</p>
3	<p>Second – “Develop lessons learned knowledge hubs and assure access to them” to support framework adaptation and uptake process. It must become an element of organizational culture that is used in practice.</p>	<p>Knowledge hubs serve as providers of knowledge but also as collectors of reflections. Without this key element, the framework may not evolve and may remain a static, rather than dynamic, concept.</p>
Detailed and focused analysis:		
4	<p>While addressing history of previous projects and on the basis of observed business constraints, start to systematically define list of contextual elements which are typical to your business.</p>	<p>The very first time may be challenging. However, in the future a previously prepared “context register” may be considered as a starting point.</p>
5	<p>Identify contextual elements only from the perspective of your current, particular project and reflect on similarities and differences to the history of previous projects (business context and “context register”).</p>	<p>Some contextual elements may frequently appear to be present, some are very characteristic of project, project deliverable, or single activity.</p>

6	From the perspective of your project, divide contextual elements into three groups: <ol style="list-style-type: none"> 1. Applicable to your project at all times – “persistent” ones. 2. Sometimes applicable, sometimes not – “flickering” ones. 3. Undecided, unclear – “blurred” ones. 	Contextually, it may help to manage priorities. Thus, the “blurred” group should be kept as small as possible.
7	While being aware of the project’s goal and success criteria, can you influence its context?	This topic remains unaddressed by this framework from a know-how perspective. However, among others, Morris (2013) points to this as a future trend – the practice of shaping project context.
8	While comparing, you may initially extend the list of the framework’s contextual dimensions while focusing on identifying “persistent” and “flickering” ones.	As a first step, consider adapting the framework to better fit it to the specific business and project context.
9	Identify the set of PM best practices, tools and techniques that are available, both methodologically and technically. Search for similarities to the framework (rows).	Focus on the ones you are the most knowledgeable about.
10	While comparing, you may initially extend the list of the framework’s tools and techniques. Remain very careful and bear the goal of improvement of accuracy of estimates in mind.	This may be considered as a second step in customizing the framework to better fit it to an individual organization.
11	Revisit with users and major stakeholders the goals of the framework’s application: improved accuracy of estimates, a more realistic estimation process and increased stability of managed projects.	To remind about and recap the goal of the process.
12	Start to use the framework to guide the setting up of links between contextual elements and tools applied. Assess the “persistent” and “flickering” contextual elements previously defined and agree on the tools and techniques they trigger.	Framework initially advises, on the basis of contextual dimensions, what methods should be applied or avoided.
13	Initiate internal business mentoring programmes to widen understanding of context and tools and techniques.	Aim to embed process as a form of best practice.
14	Use the lessons learned process and focus on reflective thinking to propose updates to: <ol style="list-style-type: none"> 1. Framework – contextually dimensioned project environment. 2. “Context register” – in reference to observed project and business context. 3. Framework – tools and techniques. 4. Framework – types of dependencies. 	There is a risk of applying redundant updates, especially within the domain of the framework’s rows relating to tools and techniques, which could – in a worst case scenario – even decrease accuracy of estimates.

Table 2 Framework's know-how to apply

To better support understanding, the major steps were formulated in Figure 2.

↓
Present framework to help to shift from PMMs to contextual thinking.

↓
To decrease risk of implementation assure early acceptance of two techniques (rows 11 and 12).

Initiate lessons learned process based on knowledge hubs.

Detailed and focused analysis.

↓
Identify your business context. Do you have a "context register" available?

↓
Identify your project context. Are there similarities, differences to business context?

↓
For your project, separate contextual elements into three groups: "persistent", "flickering" and "blurred" ones.

↓
Can you influence project context?

↓
You may extend list of framework's contextual dimensions.

↓
Are you convinced that you need to extend list of framework's tools and techniques?

↓
Use contextual dimensions to trigger use of framework's tools and techniques.

↓
Maintain process and mentor others in framework's use as best practice.

Use lessons learned process to incrementally add changes to the framework.

Figure 2 Diagram visualizing know-how to apply

4.5 Making use of the looping workshop scenario

The following makes use of the framework and its know-how to apply description.

1. Split into four groups (3-5 people each).
2. Select leader in each individual group.
3. Leader of each group draws a project case description from the provided pool of projects. Each individual case describes project in its planning phase.
4. On the basis of the selected project each group verifies whether, and if yes, to what extent – two prerequisites (rows 11 and 12 in Table 1) for the making use of the framework are fulfilled. In the light of the mentioned prerequisites and own experience – what improvements may be suggested to the way projects were planned?
5. Presentation of findings on the groups' forum.
6. On the basis of the project cases' descriptions and own PM-practice related knowledge, each group may suggest alteration to the Table 1. Alteration related to the columns (context) and rows (tools and techniques).
7. Presentation of the conclusions on the forum and discussion of identified contextual elements and conditioned by them – PM tools and techniques. Presentation is conducted in a style – “to defend” proposed changes against critical view of the other groups and the workshop leader.
8. Each group receives from the workshop leader an update to its project case. This step simulates project changes and observed events and takes individual cases from its planning to its execution phase.
 - a. In response to the received update – presentation on the forum of the new changes proposed to the columns, rows of the framework and its dependencies.
 - b. The workshop leader register proposed changes to the framework by an each individual workshop group and generates “context register”.
 - c. Looping of the workshop to the start of the point 8. The number of loops serves to generate the history of the changes applied, to develop “context register”, to increase awareness of the value of making use of knowledge management in PM, and technically, to conduct the workshop's time management.
9. After a considerable number of loops a presentation on the forum takes place which is aimed to discuss two aspects:
 - a. Effectiveness of making use of knowledge generated by projects in PM. Especially in the simulated by scenarios – turbulent times.
 - b. Perception of, and expected contribution provided by the framework's contextual adaptability to the accuracy of estimates in PM.

5 Summary

The workshop leader critically summarizes findings collected during the simulation. In addition, attendees are encouraged to make practical use of the generated by projects' knowledge in order to improve accuracy of estimates. Finally follow-up is presented, including further “critical-schools” literary sources and practical presentation of the projects workflow (specific documents) which intends to serve accumulation of a projects' generated knowledge.

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