A Socio-Cognitive Perspective of Project Failure

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What is a Project?

"An individual or collaborative enterprise planned and designed to achieve a specific aim"

Wedding  PhD  Infrastructure

Project Success Criteria

Time

The Iron Triangle

Budget  Scope/Quality
Project Success Criteria

The Iron Triangle

- Time
- Budget
- Scope/Quality
The problem with projects

They don't always go to plan.....
Project Failure

88% are past deadline, over budget or both...

HS2 Ltd has overshot its allocated £101 million budget by £37 million.

Average cost overrun is 189%

Average time overrun is 222%

The Boeing 787 Dreamliner was delivered 3 years late (and $18B over budget).
88% are past deadline, over budget or both...

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Why do projects fail?
Socio-cognitive Perspective

Project Failure
A discipline wide view

Stakeholders
(Sutterfield, Friday-Stroud and Shiver-Blackwell, 2006; Weng and Hsiang, 2008)

Culture
(Petranikul and Arneson, 2012)

Leadership
(Oz and Sosik, 2000)

Risk
(de Bakker, Boonstra and Wessmann, 2010; Kendrick, 2003)

Planning Variables
(Den and Lechler, 2004)

Professionally Induced Bias
a mental conditioning brought about by the particularities of one's job.

Politically Induced Bias
(Pylarinen, 2003)

Bias
(Barki, 2011; Drummend, 2011; Flyvbjerg, 2008)
Socio-cognitive Perspective

Professionally Induced Bias
a mental conditioning brought about by the particularities of one's job.

Politically Induced Bias
(Flyberg, 2003)

Bias
(Barki, 2011; Drummond, 2011; Flyvbjerg, 2008)
Socio-Cognitive Bias

"A cognitive bias is a pattern of deviation in judgment, whereby inferences about other people and situations may be drawn in an illogical fashion"

Socio-cognition theory suggests a triadic determination of environmental, cognitive and behavioral factors

Environment

Individual: Personal Experiences

Collective: Corporate Culture or Function

Time

Socio-cognition in Project Management

- Social interactions within the project management context can modify individuals and as well modify group behavior in relation to their current level of experience.

- The factors that can be linked to leadership, project experience and methodologies of solving them.

- Question:
  - How does project experience influence working styles?
  - Personal responsibility
  - Incentives to finish
  - Norm of candor
  - Sink cost
  - Reputation and incentive
  - Overconfidence

Research Question

How do tools and techniques in the PMBoK influence or create bias in project management decisions?
Socio-cognition theory suggests a triadic determinism of environmental, cognitive and behavioral factors.
Socio-cognition in Project Management

- Social interactions within the project management practice and academic communities are spread though linguistic mechanisms such as the professional body of knowledge.

- Mechanisms, such as the body of knowledge, cover expectations (of behavior and actions) and methodologies of achieving them.
Question

How are project managers influenced by professional bias?

- Personal responsibility
- Proximity to goal
- Norm for consistency
- Sunk cost
- Reputation and incentive
- Overconfidence
Research Question

How do tools and techniques in the PMBoKs influence or create bias in project management decisions?
Method

Quantitative
- Quasi-Experimental survey
  - Project Management Bodies of Knowledge
  - Professional Induced Bias

Qualitative
- Semi-Structured Interviews
  - Refine and explain statistical results

Survey questionnaire

Semi-structured Interviews
1. Can you tell me a little about your current role?
2. How do you currently allocate your time?
3. How do you perform your role?
4. Can you give an example of a project you recently worked on?
5. What are the biggest challenges you've faced in your role?
6. How do you handle these challenges?

Sample constrained to PMI Certified PMs

PMI
Project Management Institute
Quantitative

Quasi-Experimental survey

Project Management
Bodies of Knowledge

Professional Induced Bias
Survey questionnaire

The questionnaire was designed to measure bias (implicit behavior) which project managers cannot directly link to their experience of the project management body of knowledge.

In order to simulate conditions similar to real life situations, the questionnaire (with the aid of technology) adapts situational and cognitive moderators in an experimental condition.
Qualitative

Semi-Structured Interviews

Refine and explain statistical results
Semi-structured Interviews

1. How SHOULD project managers apply the PMBoK?
2. How DO project managers apply the PMBoK, in the actual sense?
3. How do Project managers respond to time constraints (Pressure) in project decision making?
4. How do Project managers respond information insufficiency in project decision making?
5. What determines the choice of tools and/or techniques in a project situation?
6. Why is “inaction” not an acceptable (or popular) form of action in project management practice?
7. How would you interpret the role and responsibility of a project manager in a failed project context?
8. Based on the PMBoK, do you think project managers are sufficiently equipped to improve a failing project or a failed project?
9. Based on your experience, how would you define a failed project?
10. Based on your experience, how do biased decisions contribute to project management practice?
11. What is your opinion about bias in project management practice?
Sample constrained to PMI Certified PMs
Analysis

Snapshot of results

128 Survey responses (90 valid) coupled with 5 interviews
Analysis

Snapshot of results

128 Survey responses (90 valid) coupled with 5 interviews
Escalation of Commitment (Sunk Cost)

In spite of the awareness of the possibility of cost overrun and consequent project failure, project managers choose to continue with the project as well as increase allocation.

Project managers are disposed to preserving the organisation’s record of project success.
"A CERTIFIED Project manager is sufficiently equipped to manage most projects"

The measure for overconfidence increased in the un-timed section compared to the time-constrained section.
Influence of the PMBoK

While most respondents do perceive the PMBoK is the most reliable source of project management knowledge, the level at which they engage with the PMBoK was only moderate.
Conclusions

"Like other human endeavors, project management practice is influenced by bias"

"Project managers are more likely to make biased decisions in time constrained conditions and when data is scarce"

"Evidence suggests that the use of the PMBoK contributes to professionally induced bias, although this may be substituted with experience over time"

"Project managers are likely to use the PMBoK to support biased decision making in post rationalization mode"

"Some project management practices may indirectly contribute to behaviors which promote flawed project decisions and consequently lead to failed projects."
Implications

There is a dynamic (and complex) connection between project environment, PMBoK, and the project management behaviour of the project manager.

Tools such as contingency planning be adapted to cater for biased judgement. Given that time constraints induces some degree of bias, this implies that contingency plans should be more focused on time buffers compared to cost buffers.

Also, PMO interventions should also provide effective mechanisms of minimizing information paucity.

Modifying the context of the PMBoK to reflect the realities of failed project and to empower project managers with performance improvement skills.
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