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"
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 £87 million

Average cost overrun is 189%

Average time overrun is 222%

The Boeing 787 Dreamliner was delivered 3 years late (and $1.8B over budget)
88% are past deadline, over budget or both...

HS2 Ltd has overshot its allocated £101million budget by £87million


Average cost overrun is 189%
Average cost overrun is 189%
Average time overrun is 222%

The Boeing 787 dreamliner was delivered 3 years late.... (and $18B over budget)
Why do projects fail?

Project Failure

- Stakeholders

- Culture

- Leadership

- Risk

- Planning Variables

Socio-cognitive Perspective

- Politically Induced Bias
  - Primo, B. (2005).

- Professionally Induced Bias
  - Primo, B. (2005).

- Ethical Impacts
  - Primo, B. (2005).
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 in Project Management

- Proactive measures to prevent cognitive bias
- Awareness of the potential for cognitive bias
- Use of data analytics to mitigate bias

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.

**Environment**

**Individual:**
Personal Experiences

Individuals learn behaviors, which inform action, judgement and decisions, mainly by replicating the actions of others.

**Collective:**
Corporate Culture or Function

Individuals' knowledge is acquired through observation within social interaction.

**Time**
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 describe your experience with DRA?
2. How frequently are key project stakeholders informed?
3. How well do project management processes align with organization structure?
4. How often do project team members feel pressure to meet timelines?
5. How are project risks managed, and what is the typical risk management approach?
6. How do you handle project changes, and what is the process for approving changes?
7. How do you evaluate project success, and what metrics are used to measure performance?
8. How do you manage project dependencies, and what tools or techniques are used?
9. How do you handle project issues, and what is the escalation process for resolving problems?
10. How do you track project progress, and what reporting mechanisms are utilized?
11. How do you handle project conflicts, and what strategies are used to resolve disputes?
12. How do you prepare project closeouts, and what steps are taken to ensure proper project closure?
Quantitative

Quasi-Experimental survey

Project Management Bodies of Knowledge

Professional Induced Bias
Survey questionnaire

Stage 1: Priming paragraph

Stage 2: Measure engagement with PMBoK

Stage 3: Time constrained (implicit) measure of bias

Stage 4: Collect information about the respondent

Stage 5: Explicit Measure of bias

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

- Escalation of Commitment (Sunk Cost)
- Overconfidence
- Influence of the PMBoK
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.