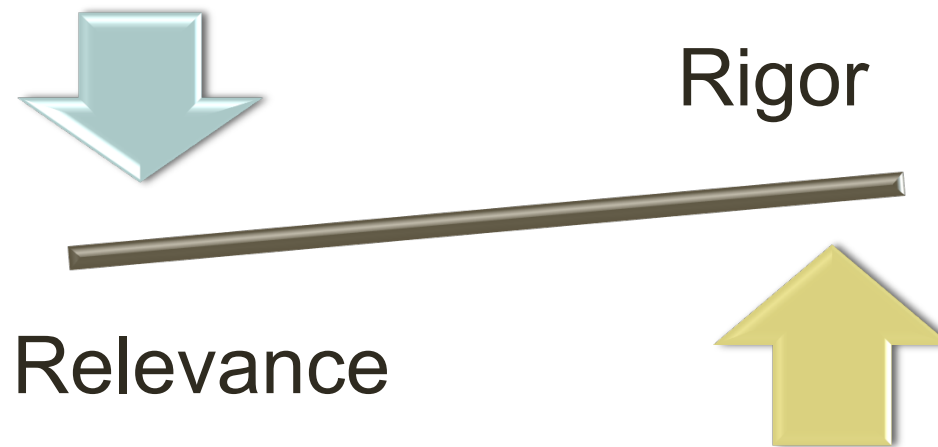


Conducting Empirical Studies in Industry: Balancing Rigor and Relevance

Shilpi Jain, Ali Babar, Jude Fernandez



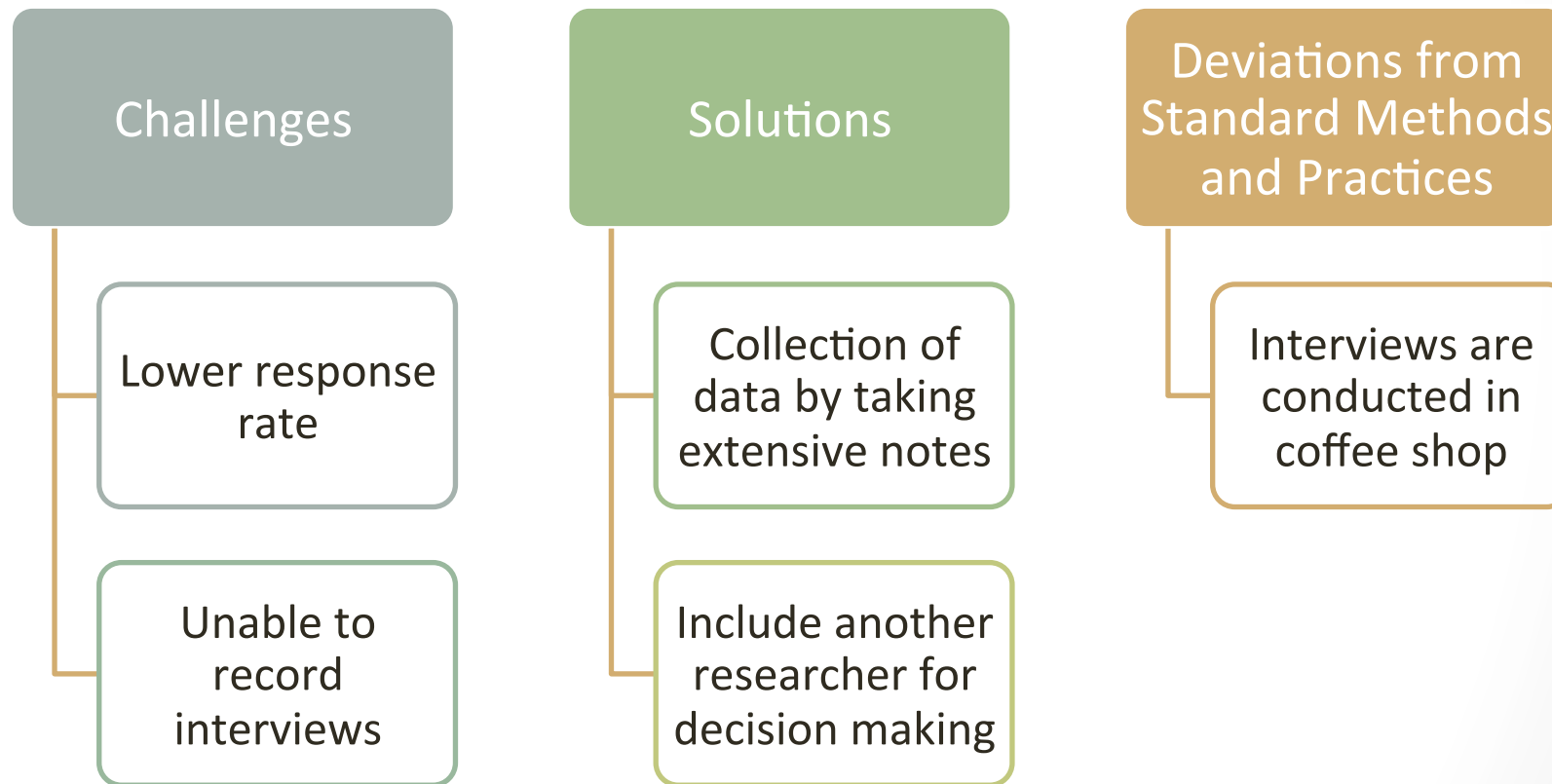
Research Background

- **Conducting an empirical research in industry is challenging and different compared to the academic environment**
- **Reasons being**
 - Short time periods
 - High Expectations
 - Limited Skills
 - Privacy and confidentiality issues
- **Limited literature reporting on the challenges and complexities involved in conducting empirical studies in an industry**

Analysis of Research Study - 1

- Objective
 - To develop a battery of software project characteristics, which need to be taken into consideration when acquiring and (or) tracking a project.
- Method Chosen
 - Semi Structured Interviews (SSI)
- Rationale
 - SSI is an effective method to capture opinions, perceptions, and descriptions and is useful to answer 'why' and 'how' an incident / event occurred.
 - Useful to help the research team to identify a large number of project characteristics based on project managers' experiences and observations.

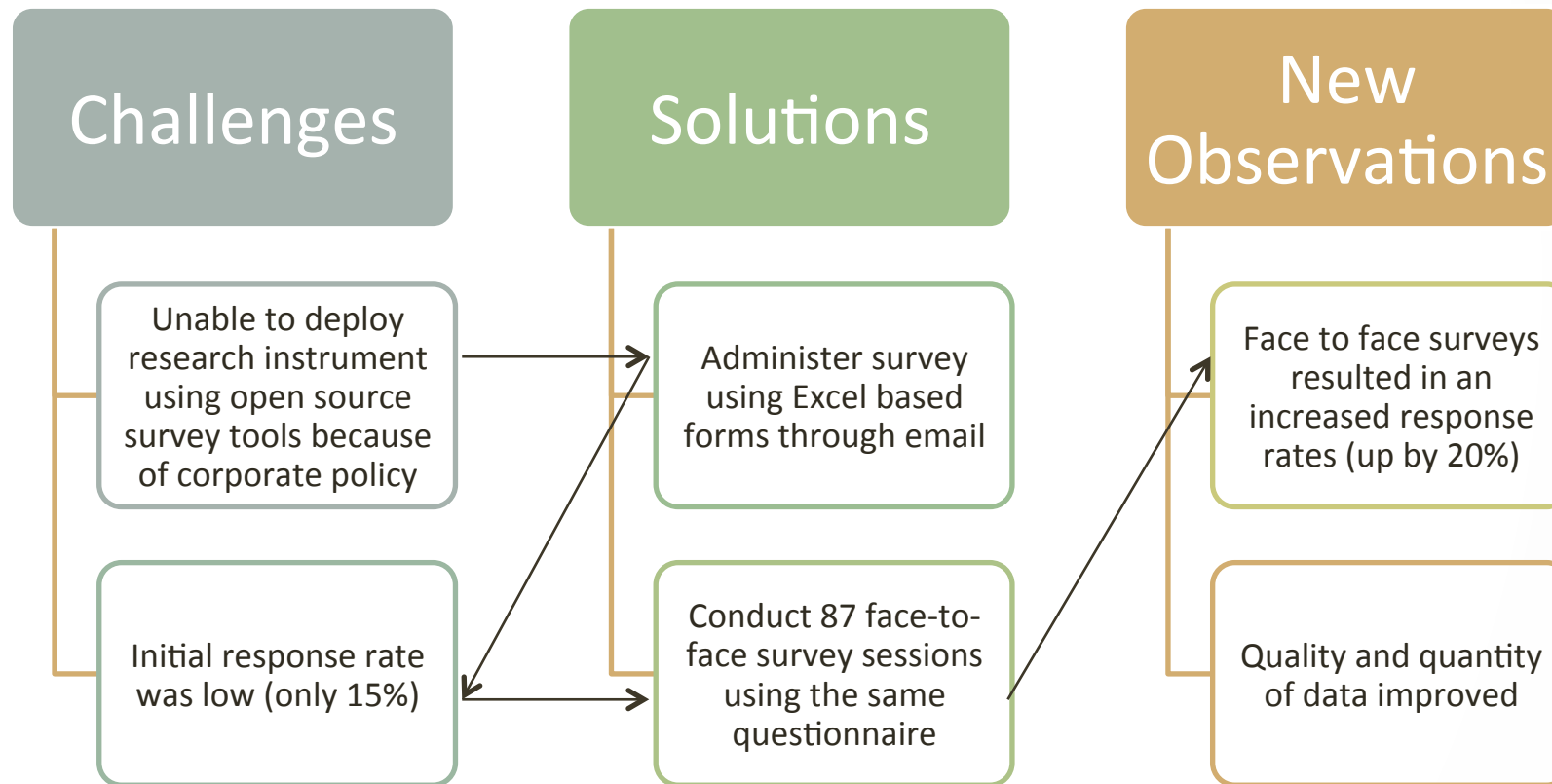
Analysis of Research Study - 1



Analysis of Research Study - 2

- Objective - The objective of the research was threefold:
 - to understand the challenges faced by project managers in distributed teams
 - linkage between these challenges, and
 - impact of the challenges on project success
- Method Chosen
 - Self-administered questionnaires
- Rationale
 - To ensure “standardization and uniformity” across participants
- Analysis
 - Bayesian network modeling
- Findings
 - Challenges related to ‘project planning’, ‘visibility’, ‘communication’, and ‘project management and control’ were having significant impact on project success.

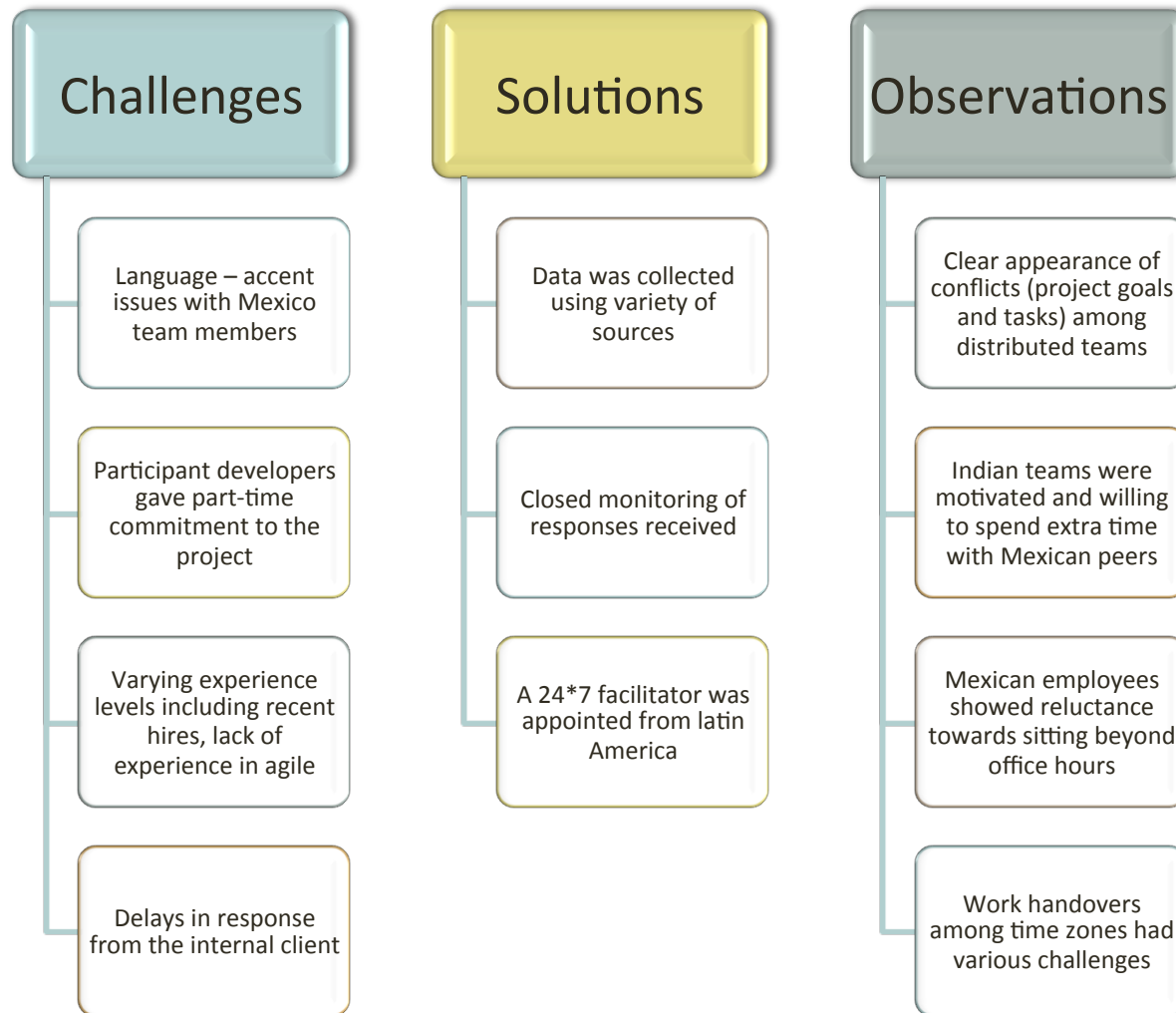
Analysis of Research Study - 2



Analysis of Research Study -3

- Objective
 - To assess the operational feasibility of the Follow-the-sun (FTS) model in an industrial setting.
 - To understand challenges and limitations and also the open areas of research
- Research Setting
 - A joint collaborative research between corporate researchers and external university researchers.
 - Teams were spread between India and Mexico locations
- Data Collection
 - Using questionnaires and interviews.
 - Also collected from tools such as Microsoft Office Communicator, data repository, telephone bridge call records (to assess time taken), project execution portals and notes from meetings
- Method Chosen
 - Case study with Field Experiment

Analysis of Research Study - 3



Challenges and Lessons Learned



LESSONS

A typical research effort in an industrial setting, irrespective of the methodological choice, usually requires tradeoff decisions between methodological rigor and requirements and available time and resources

Aim for 'just enough rigor' rather than a text book based ideal rigor.

Focus on sourcing - We appointed university interns for preliminary data collection and analysis

Use different mechanisms to enhance the response rate

Need to be flexible with research methodology

Prepare in advance – Collect information regarding projects a priori