

THE IMPACT OF PROJECT MANAGEMENT METHODOLOGIES ON PROJECT SUCCESS:



A CASE STUDY OF THE OIL AND GAS INDUSTRY IN THE KINGDOM OF BAHRAIN



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OVERVIEW

1. Research Problem

2. Research Objectives

3. Literature Review

4. Research Methodology

5. Results and Findings

6. Conclusion and Recommendations



1. RESEARCH PROBLEM

Oil and gas industry is complex and competitive and its projects are characterized by their importance and complexity.



**Cost overruns and
schedule delays in
projects**

**Challenged and failed
projects**



**Methodologies not
investigated for
effectiveness**

**Project success is an
obsession for
organizations**



2. RESEARCH OBJECTIVES

Research Objectives:

Assess and compare different Project Management Methodologies (PMMs) including their strengths and weaknesses.

Assess the impact of PMMs on project success in the oil and gas companies in Bahrain.



3. LITERATURE REVIEW

Concept	Definition	Source(s)
Project	<ul style="list-style-type: none"> Temporary endeavor to create a unique product, service or result. 	PMI (2017)
Project management	<ul style="list-style-type: none"> The application of relevant knowledge, tools, skills and technique to achieve objectives. 	PMI (2013)
Project management methodology (PMM)	<ul style="list-style-type: none"> Set of procedural guidelines that can be tailored and applied to a specific need. Sum of all methods applied in a particular situation. 	Charvat (2003) Joslin and Muller (2015)
Project success	<ul style="list-style-type: none"> Combination of project efficiency and effectiveness 	Serrador and Turner (2015)



3. LITERATURE REVIEW

Project Management Methodologies (PMMs):

Comprehensive
PMM that can be applied to a project without the need for supplementation

Supplemented
supplemented with missing elements during different phases

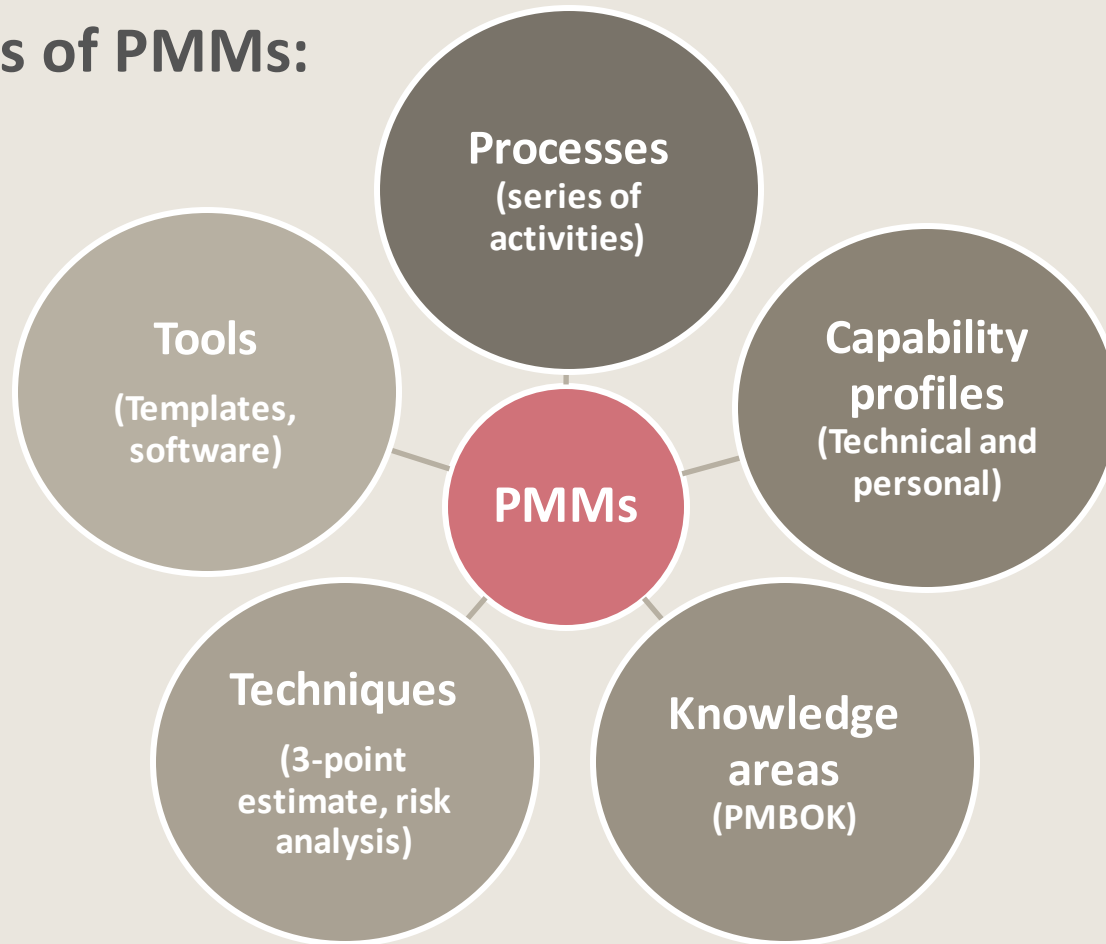
Applied
Determines whether relevant elements were used and applied

Source: Joslin and Muller (2015)



3. LITERATURE REVIEW

Building Blocks of PMMs:



Source: Joslin and Muller (2015)



3. LITERATURE REVIEW

Dimensions of Project Success:

Project efficiency

- Time
- Cost
- Quality

Organizational benefits

- Learning
- Procedures
- End product

Project impact

- Purpose
- satisfaction
- reputation

Future potential

- Future work
- Capability
- Resources

Stakeholder satisfaction

- Sponsors
- Clients
- Steering group

Source: Khan et al. (2013)



4. RESEARCH METHODOLOGY

Overview:

(a) Quantitative

- Deals with numbers
- Tests hypotheses
- Examines relationships

(b) Qualitative

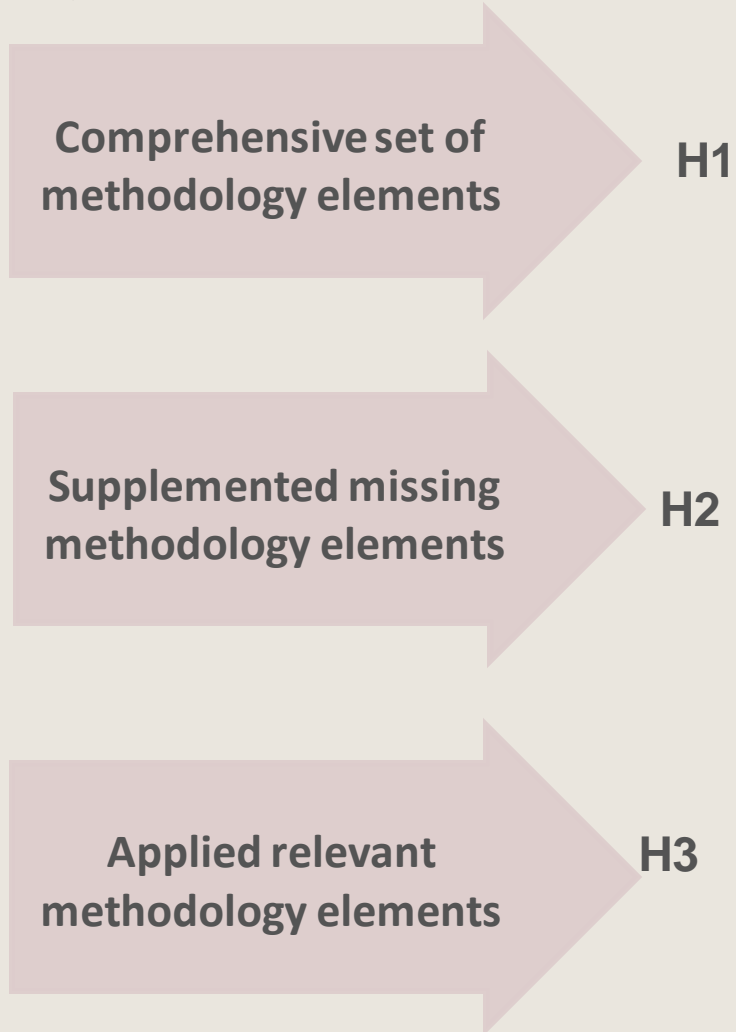
- Deals with words
- In-depth understanding
- Discovers ideas





4. RESEARCH METHODOLOGY

(a) The Quantitative Method:



Project success

Source: Joslin and Muller (2015)



4. RESEARCH METHODOLOGY

Hypotheses:

H1: There is a relationship between comprehensive set of PMM elements and project success.

H2: There is a relationship between supplementing missing PMM elements and project success.

H3: There is a relationship between applying relevant PMM elements and project success.



4. RESEARCH METHODOLOGY

Independent and Dependent Variables:

No.	Variable	Type	Dimensions
1	PMMs	Independent variable (IV)	1. Comprehensive
			2. Supplemented
			3. Applied
2	Project success	Dependent variable (DV)	1. project efficiency
			2. Organizational benefits
			3. Project impact
			4. Future potential
			5. Stakeholder satisfaction



4. RESEARCH METHODOLOGY

(B) THE QUALITATIVE METHOD:

Nature of the organization and the types of projects

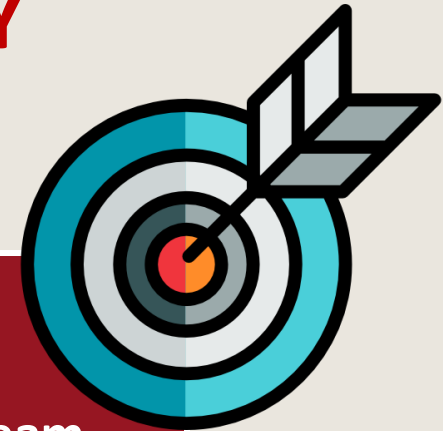
Organizational PMMs

Definition of project success

Impact of PMMs on project success



4. RESEARCH METHODOLOGY



Target Population:

Target Population
Project managers, project engineers, team members

Questionnaire

Company A
 (59 respondents)

Company B
 (11 respondents)

Company C
 (19 respondents)

Company D
 (6 respondents)

Method of Analysis:
 Statistical

Interviews

Company A
 (6 interviewees)

Company B
 (3 interviewees)

Company C
 (4 interviewees)

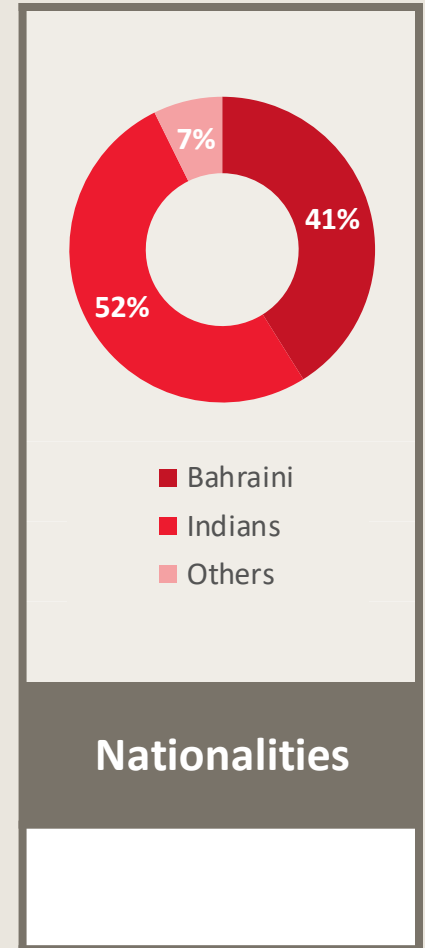
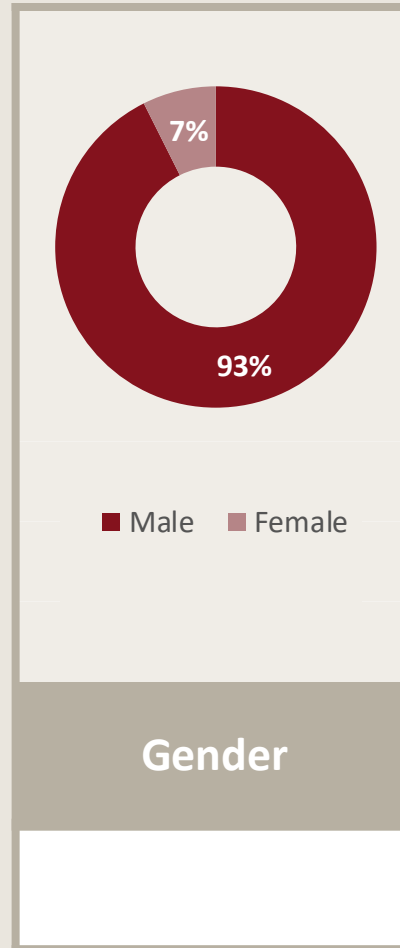
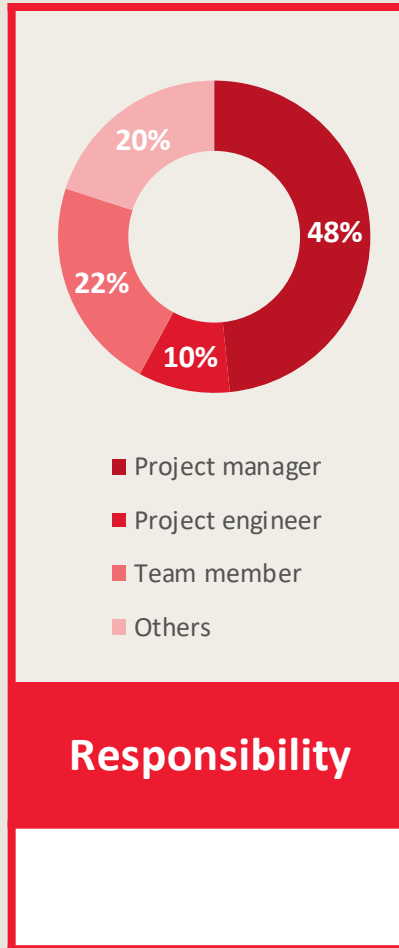
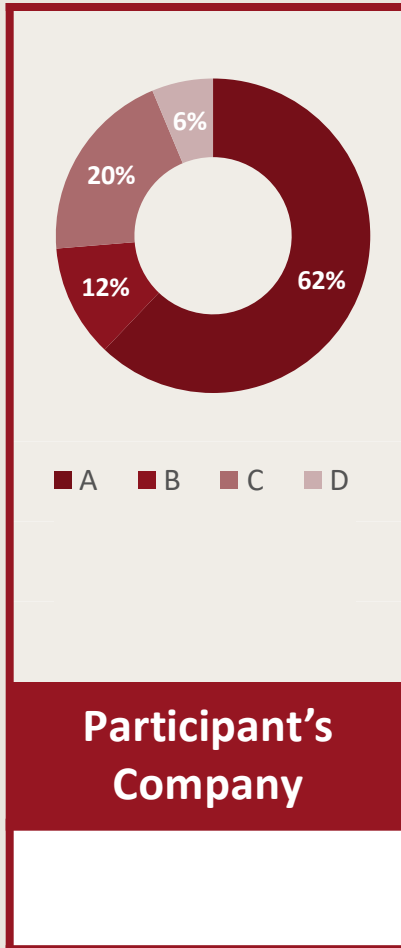
Company D
 (4 interviewees)

Method of Analysis:
 Thematic



5. RESULTS AND FINDINGS

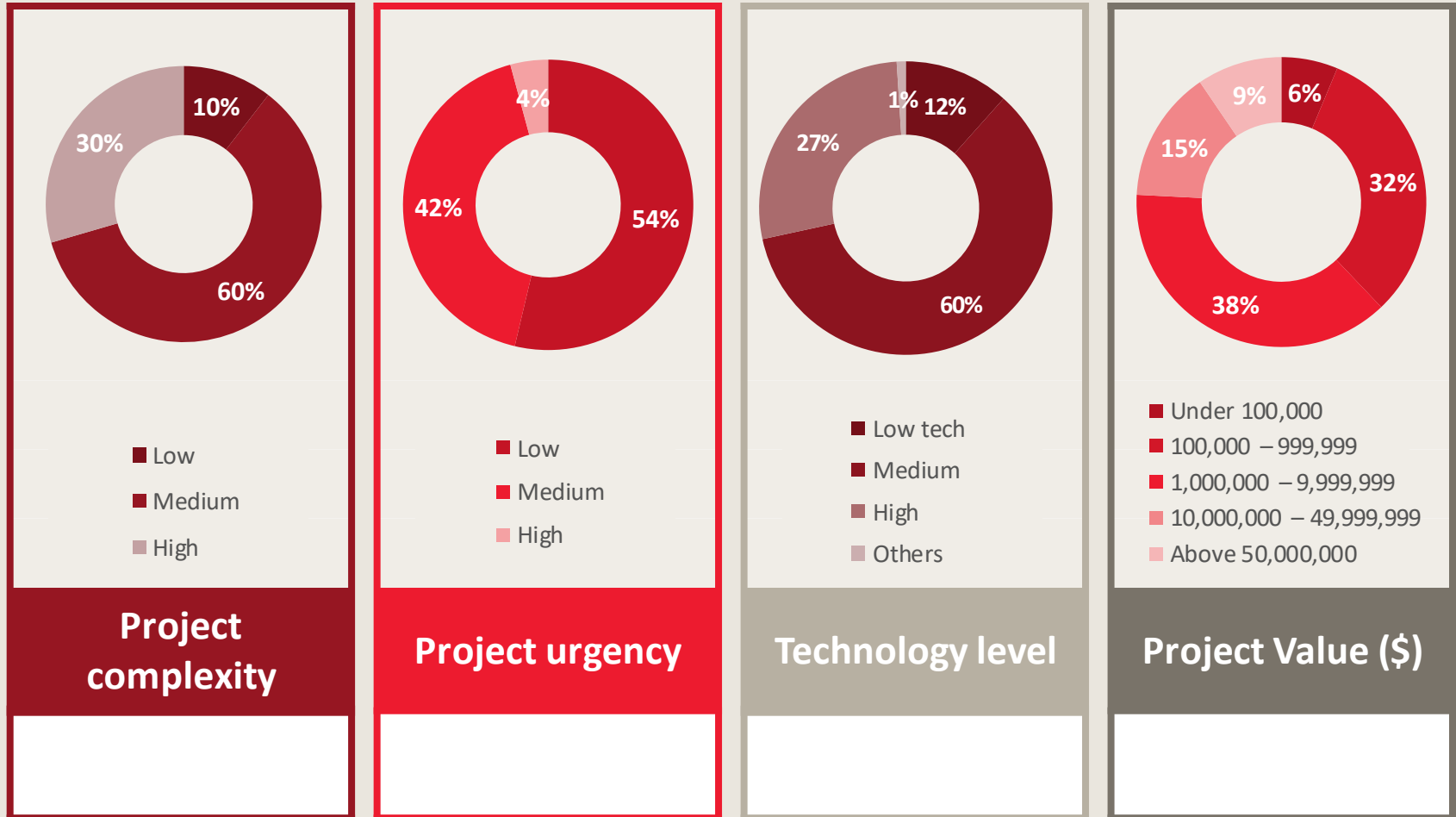
Demographics:





5. RESULTS AND FINDINGS

Demographics:





5. RESULTS AND FINDINGS

Correlation: measures association between variables

PMM	Project success	
	Correlation coefficient	Significance
Comprehensive	0.395	0.000
Supplemented	0.043	0.679
Applied	0.423	0.000

Correlation coefficient ranges:

- 0.10 – 0.29: small
- 0.30 – 0.49: medium
- 0.5 – 1.0: large

Pallant (2011)



5. RESULTS AND FINDINGS

Regression: Investigate the relationship between variables by examining how changes in one variable affect the other.

Model	Standardized Coefficients	Sig.
	Beta	
(Constant)	---	0.000
Comprehensive PMM	0.270	0.009
Supplemented PMM	-0.014	0.884
Applied relevant PMM	0.323	0.002

Significance levels for comprehensive and applied PMMs is less than 0.05 indicating a significant relationship with project success.



5. RESULTS AND FINDINGS

Regression:

One unit change in applied relevant PMMs has 32.3% impact on project success.

One unit change in comprehensive PMMs has 27% impact on project success.

Results are in line with Joslin and Muller (2015):

- 22.3% of project success can be explained by applying the relevant PMM elements throughout the project life cycle.



5. RESULTS AND FINDINGS

Qualitative Study:

Organization A

PMM

- Adopted phase-gate methodology.
- Developed by Chevron Corporation.
- Five sequential phases

Definition of Project success

- Meeting scope, budget, time, safety and customer requirements.
- Alignment with company's strategic goals.

Impact of PMM on project success

- Scope clarity.
- Regular team.
- Peer-reviews.
- Front End Loading.



5. RESULTS AND FINDINGS

Qualitative Study:

Organization B

PMM

- In-house developed methodology.
- Sequential manner.
- Starts from receiving request to commissioning.

Definition of Project success

- Completing on time, on budget and meeting customers' needs.
- Accomplishment of the agreed number of change requests per year.

Impact of PMM on project success

- Clear workflow.
- Proper planning.
- Well-defined scope of work



5. RESULTS AND FINDINGS

Qualitative Study:

Organization C

PMM

- In-house developed methodology.
- More toward the guidelines of the PMBOK.

Definition of Project success

- Vertices of the iron triangle, safety and customer satisfaction.
- Meeting governmental requirements.
- satisfied team.

Impact of PMM on project success

- Stakeholder engagement.
- Risk identification.
- Lessons learned.



5. RESULTS AND FINDINGS

Qualitative Study:

Organization D

PMM

- Ad-hoc, classical system.
- No written guidelines for the methodology.

Definition of Project success

- Vertices of the iron and minimized variations.
- Meeting governmental requirements.
- Building extra facilities.

Impact of PMM on project success

- Direct communication with top management.
- Requirements for performance testing.

5. RESULTS AND FINDINGS



Qualitative Study: Similarities and differences:

No.	Similarities	Differences
1	Common sequence of activities starting from initiating a project, planning, execution, monitoring and closing.	Project closure checklist of one of the methodologies is sent along with the project execution documents during the construction phase. Other methodologies circulate the closure documents at the end of the project.
2	The methodologies were general and not used for a particular project or service.	All methodologies were developed in-house except one which is using an adopted methodology.
3	The methodologies integrate the “what to build” with the “how to build” something.	

5. RESULTS AND FINDINGS

Cont. Qualitative Study: Similarities and differences:



No.	Similarities	Differences
4	The methodologies evolve with time.	Productivity is assessed by the number of project requests processed per year.
5	Multidisciplinary team. Effective communication channels are established.	
6	The methodologies have some sort of bureaucracy. They are cumbersome and time consuming.	

6. CONCLUSION AND RECOMMENDATIONS

Applied and comprehensive PMMs are both linked to project success.

- One unit change in comprehensive PMMs has 27% impact on project success.
- One unit change in applied PMMs has 32.3% impact on project success.

Supplemented PMMs are not making a significant contribution to project success.

Project methodologies have a tendency to evolve over time in the form of adding new processes, tools and techniques.

Clear and proper project definition will lead to a higher success rate.

PMMs are bureaucratic and have lengthy procedures.

6. CONCLUSION AND RECOMMENDATIONS

Recommendations:

Combining different phases of a project reduces bureaucracy and optimize the time. customization of methodologies could be considered.

Establishment of a project management office (PMO) to standardize project related documents and processes and facilitate the sharing of resources and knowledge across the organization.

Effective electronic system that facilitates the flow of project documentations and monitors the budget and schedule.



THANK YOU

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