



Everyone's Smart University

project (Spring 2021)

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Section

Master

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(PMG510)

Project Risk Management

Project Risk Management in Buildings construction

Introduction :

Risk is defined as an uncertain occurrence or a condition that, when it occurs, has positive or negative consequences for project goals.

Risk management is the process of identifying, assessing and controlling threats to an organization's capital and earnings. These threats, or risks, could stem from a wide variety of source and it differs according to the project lifecycle and affects all or a part of the project goals. Project risk management is not about risk reduction and elimination, but about risk identification, risk assessment and risk management.

potential risks :

Construction is a risky business. Each construction project is unique and comes with its own set of challenges and opportunities. Identifying and managing construction project risks can be tricky, but not impossible with careful planning and execution. When a risk turns into reality it can disrupt and derail a project which is why construction risk management is so important. In order to avoid disaster, you need to be able to properly assess, control, and monitor risks once they've been identified.

Risks aren't always a negative. Being able to effectively identify and manage risks can lead to increased profits, establishing good relationships with clients that result in more projects, and being able to expand your business into new markets and sectors.

Types of Construction Risks

For proper construction risk management, you need to know the types of risks inherent in construction projects. These can be financial, contractual, operational, and environmental and can be caused by both internal and external sources.

Common risks include:

1. Safety hazards that lead to worker accidents and injuries
2. Managing change orders
3. Incomplete drawings and poorly defined scope
4. Unknown site conditions
5. Poorly written contracts
6. Unexpected increases in material costs
7. Labor shortages
8. Damage or theft to equipment and tools
9. Natural disasters
10. Issues with subcontractors and suppliers
11. Availability of building materials
12. Poor project management

When risks come to fruition, they can have a serious impact on costs, schedules, and performance of your project which will lead to delays and disputes down the road. The good news is most of these risks can be managed and mitigated with proper planning and good project management

Most likely risks

After filtering the above list we can put these four risk factor with high probability

of occurrence

1. Safety hazards that lead to worker accidents and injuries.
2. Unexpected increases in material costs
3. Issues with subcontractors and suppliers
4. Incomplete drawings and poorly defined scope

Risk impact:

This is the possibility of the occurrence of risk in the project. Task Risk likelihood is split into four ranges of percentages:

- 0-25% – less likely to occur
- 26-50% – occasional
- 51-75% – likely to occur
- 76-100% – likely to cause serious problems

Risk Matrix



		Impact			
Likelihood	Risk Matrix	Minor	Moderate	Major	Critical
	76-100%	0	0	0	2
	51-75%	2	0	5	0
	26-50%	0	3	0	0
	0-25%	1	12	0	0

Risk impacts on project

Risk no	impact	Probability	Impacts on
1	LOW	10%	Time schedule
2	MODERATE	30%	cost
3	LOW	25%	Cost &Time Schedule
4	MEDIUM	60%	Cost , Time & Quality

EMV PROBABILITY AND CONTINGENCY CALCULATIONS

Risk	Probability	Impact (USD)	EMV (Probability * Impact)
1	10%	-4,000	-400
2	30%	-1,000	-300
3	25%	2,000	500
4	60%	-1,500	-900
		-4,500	-1,100

Risk response plan

Stakeholder	Messages	Medium	Frequency	Communicators	Feedback or tracking
Project manager	Checkpoint of previous day achieved	Board meetings	Weekly	Project management team	Teleconference
Project sponsor	Communicate updated status of project	Weekly status report	Monthly	Project manager	Email, in-person
Project team	Communicate to resolve the issue	Team meetings	Daily	Team members	In-person in conference
Project chartering committee	Escalate the issue and provide resolution	Weekly executive reports	Weekly	Administrative members	Shared drive or In-person