

# *King Fahd University of Petroleum and Minerals*

M.S Thesis Proposal

A Comparative Study of Contractor  
Prequalification Models

By

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# Outline of the presentation

- ❏ Problem Statement
- ❏ Objectives
- ❏ Literature Review
- ❏ Research Methodology
- ❏ Proposed Research Schedule



# Problem Statement

- ❶ Owners recognize the role of the contractor in the overall success of the project.
- ❷ Prequalification has been accepted a means of insuring better contractor performance.
- ❸ Prequalification involves screening the list of prospective contractors by the owner of the project according to some predetermined set of criteria in order to determine their capability to perform the required work (Clough & Sears 1994).



# Problem Statement Contd..

- The owner has a choice of a number of models or methods in involving different methodologies in order to prequalify contractors.
- A need is felt to determine the most efficient of these contractor prequalification methods.



# Literature Review

- A vast majority of construction contracts are awarded on the basis of price (Russell and Skibniwski, 1988).
- It has also been proposed to incorporate time as an additional factor in awarding contracts (Ellis and Herbsman, 1992).
- A further proposal was also extended to include quality of work earlier performed and safety performance levels as additional criteria (Ellis and Herbsman, 1992).





# Literature Review Contd..

- As can be observed all these approaches have serious setbacks because of lack of objectivity.
- Thus prequalification models play an essential role in reducing subjectivity in selecting contractors.
- Multiple Criteria Decision Making (MCDM) approach makes the decision making process easier.



# Literature Review Contd..

- The different MCDM methods for contractor prequalification to be considered in this study are as follows:
  - Weighted Evaluation Method
  - Dimensional Weighting Method
  - Two Step Prequalification Method
  - Prequalification Formula Method
  - Dimensionwide Strategy Method
  - Analytic Hierarchy Process (AHP)
  - Point Allocation Method
  - Bespoke Approaches (BA)



# Objectives

- ❏ To survey the different methods of contractors' prequalification in order to identify the different variables used in these methods and their application mechanisms.
- ❏ The primary objective of the research is to run a comparison analysis of the different methods.
- ❏ To assess the different methods of contractors' prequalification by comparing data input requirements to the quality of the prequalification outcome.





# Objectives Contd..

- To assess the sensitivity of the prequalification outcome of each method to the variation in the input variables.
- Based on the above, make conclusions and recommendations on the method(s) most suited for pre-qualifying contractors in the Kingdom.



# Research Methodology

- The first objective will be achieved with literature review.
- The remaining objectives will be achieved by simulation using hypothetical data.
- Research Methodology will be as follows.



# Proposed Research Schedule

TASK	TIME (MONTHS)						
	1	2	3	4	5	6	7
Further literature search							
Analyzing model characteristics							
Generating hypothetical data							
Simulation of models							
Preparation of first thesis draft							
Correction of draft and Preparation of Final thesis draft							



Finally

Thank You

