"Cost Control in the Upstream Oil and Gas Industry"

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ABSTRACT

The global oil and gas industry is faced with a problem which has been persistent in every sector of the supply chain of this field. The issue of cost overrun do not only affect project progress but also decreases stakeholders profit, hinders future project developments, and threatens global oil and gas supply. Most especially, capital expenditure (CAPEX) is the worst performer in this category. Hence this work investigates the causes of cost overrun in the upstream oil and gas operations and to develop a validated model that would achieve accurate upstream project timing and cost (CAPEX) predictions. A mixed method approach would be used to gather data on key variables needed for the statistical modelling.

RESEARCH BACKGROUND

- ✓ Average CAPEX overrun is 40% in the upstream oil and gas sector
- ✓ Risk and volatility get complex everyday which calls for prudent and efficient cost management
- ✓ 9 out of 10 CAPEX project overrun its cost
- ✓ Globally every oil company witnesses CAPEX overrun at least once a year.

LITERATURE REVIEW

✓ Common cost overrun factors

- ✓ Existing models focus on cost estimation which lack cost overrun control elements (Dongkun and Xu 2012, IEA 2011)
- ✓ The growing trend in cost overrun has a huge effect on global oil and gas reserves and supply (EIA 2012)
- ✓ Success of project is measure on time, cost and quality (Ameh et al. 2010)
- ✓ Globally the average cost overrun in O&G is between 30-40% (Ismail et al 2012)

GAP IDENTIFIED

✓ There is no validated model in the upstream oil and gas industry that demonstrate how to predict CAPEX project cost and time with 5%-10% error levels

AIMS AND OBJECTIVES

Aim

✓ To develop a validated model that achieves accurate upstream project timing and cost (CAPEX) predictions with 5% error level

Research Objectives

- ✓ Investigate on the causes of CAPEX overrun in the upstream oil and gas sector
- ✓ Examine the effectiveness of the existing cost control models in the upstream oil and gas sector.
- ✓ Probe into the factors influencing the failures of cost control models to predict project cost and time.
- ✓ Identify the weakness in past models to aid in developing a cost control model that would give a guarantee error level of 5-10%

WORK PROGRESS

- ✓ Completion of investigation on cost overrun causes
- ✓ Conducted a survey to rank the causes of cost overrun causes.
- ✓ Variables for the model finalised

FUTURE WORKS

- ✓ Keep refining the depth of the literatures (2013)
- ✓ Do extensive writing on methodology (2013)
- ✓ Develop questionnaires for the study (2013)
- ✓ Develop first modelling (2013/14)
- ✓ Validation of model (2014)
- ✓ Write up final dissertation (2014)

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