

CRC Construction Innovation – Clients Driving Innovation Conference **QUT**

Research Scholars Paper

“A Conceptual Framework to Investigate the Performance of Financial Incentive Mechanisms in Construction Projects”.

Timothy Rose

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12:30-12:50



Research Association **QUT**

- Principal Supervisor:**
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- Associate Supervisor:**
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- Industry Supporter:**
Mr Don Allan, Executive Director, Building Division, Queensland Department of Public Works
- Research funded by the CRCCI and am aligned with the CRCCI 'BRITE' project (Project 2001-002-B).



Research Journey **QUT**

1. Financial Incentive Research
2. Financial Incentive Design
3. Financial Incentives and Project Performance
4. Financial Incentives and Contractor Motivation
5. Motivational Theories
6. Integration of Motivational Theories
7. Motivational Variables
8. Conceptual Framework
9. Research Contributions



Financial Incentive Research **QUT**

- Outlines the results of an international literature review
- Proposes an analytical framework – integration of psychological and economic motivation theory principals
- Provides a sound basis for empirical case studies to follow in context of Australian commercial building projects



Financial Incentive Research **QUT**

The objectives of the PhD research are to:

1. Identify the indicative motivational variables influencing effort.
2. Empirically explore and evaluate the operation of the indicative variables in Australian commercial building projects.
3. Recommend measures to increase the impact of FIM's in future projects in this sector.



Financial Incentive Research **QUT**

Research Phases

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    graph TD
      LR[Literature Review  
-Research deficiencies  
-Conceptual framework] --> DC[data collection protocol  
(interviews/  
document review)]
      DC --> CS[Case Study selection]
      CS --> PCS[Pilot Case Study  
Test data collection  
and analysis protocol]
      PCS --> QDC[Qualitative Data Collection  
(Feedback loop)  
- 2 Round semi-structured interviews/  
- Documentation review/ site visits]
      QDC --> QDA[Qualitative Data Analysis  
- Individual Case and cross case Analysis  
- Formulation of categories of contextual drivers]
      QDA --> RO[Research Outcomes  
-Results  
-Recommendations of optimal FIM implementation.  
Development of FIM toolkit.]
      QDC -.-> LR
  
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Financial Incentive Design



- FIM's used to promote the attainment of client goals and can impact significantly on contractor motivation (Bower et. al, 2002).
- Potential to be a major driver of improved project performance in the construction industries.



Financial Incentive Design



FIM's offer the contract agent a financial reward to motivate them to align their goals with that of the principal.



"I BELIEVE IN THE CARROT-AND-STICK APPROACH, DEMPSEY."



Financial Incentive Design



- FIM's include:
 - Profit sharing mechanisms
 - Bonus provisions
 - Multiple incentive mixes.
- Counteracts the motivational problems experienced by standard lump sum and cost reimbursable contracts.



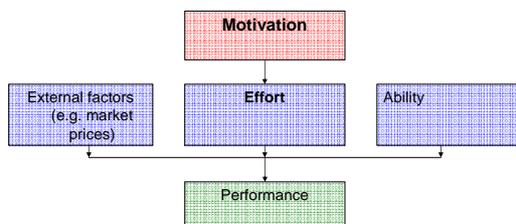
FIM's and Project Performance



- Optimal FIM arrangements maximise the contract agent's motivation - which directly impacts on the level and direction of effort.
- *Effort* positively influences the *performance* (attainment of client goals) of contract agents, combined with *external factors* and *ability*. (Van Herpen et. al 2002).



FIM's and Project Performance



FIM's and Contractor Motivation



- Misguided assumption that motivation is assured if financial incentives are introduced into a construction contract (Bresnen & Marshall, 2000).
- FIM's can be difficult to implement due to complexity of the motivational environment and the contextual issues influencing motivation.



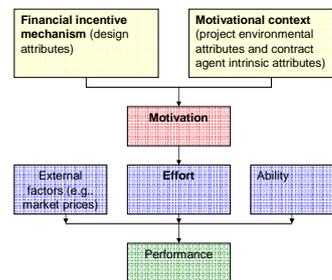
FIM's and Contractor Motivation



- Understanding the specific motivational environment is the key to the successful implementation of incentives (Zenger & Marshall, 2000).



FIM's and Contractor Motivation



Motivational Theories



- Motivation is a process where an individual or group uses resources such as their time, talent and energy and allocates them as they see fit (Maehr & Braskamp, 1986).
- Motivation of individuals and semi-autonomous groups is determined by both economic and psychological motivational theory principals.



Motivational Theories



Contributions from Psychological Research

- Expectancy theory (Vroom, 1964).
- Equity theory (Adams, 1963)
- Goal setting theory (Locke & Latham, 1990).
- Attitude theory (Ajzen & Fishbein, 2000).

Contributions from Economic Research

- Principal-agent theory (Jensen and Meckling, 1976)



Integration of Motivational Theories



- Recent attempts have been made in the organisational management literature (eg. Van Herpen *et al.*, 2002; Kunz & Pfaff, 2002, Moers, 2001).
- Has not been attempted in the context of a construction project.
- 8 major motivational variables that should be considered when developing FIM arrangements in construction projects



Motivational Variables



- The 'level of effort' (effort intensity) indicative motivational variables are broken down into expectancy theory categories.
- The final indicative motivational variable (performance measurement characteristics) determines 'direction of effort'.



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a) The contract agent's perception that their effort will translate into performance.

- 1: Controllability of Performance
- 2: Goal Difficulty and Contract Agent Competency
- 3: Goal Clarity and Feedback



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b) The contract agent's perception that their performance will lead to the financial reward.

4: Procedural Justice



"Bonus time, Harris - which hand?"



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c) The perceived value (valence) of the financial reward.

- 5: Distributive Justice
- 6: Fairness of the Reward Intention
- 7: Intrinsic Value of the Incentive



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Direction of Effort

- Directing contract agent effort towards the attainment of all client defined project goals.

8: Performance Measurement Characteristics

"What you measure is what you get".

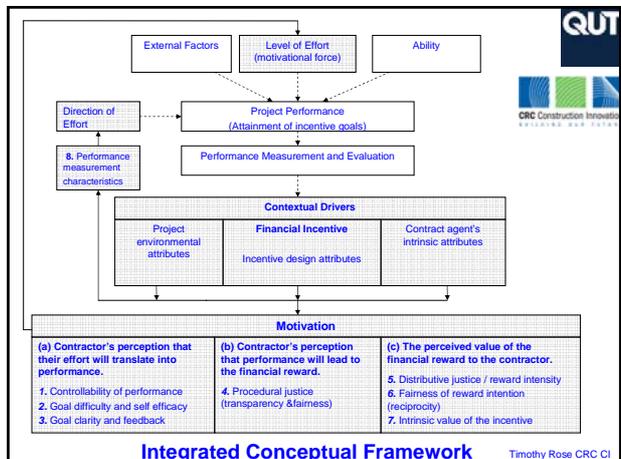


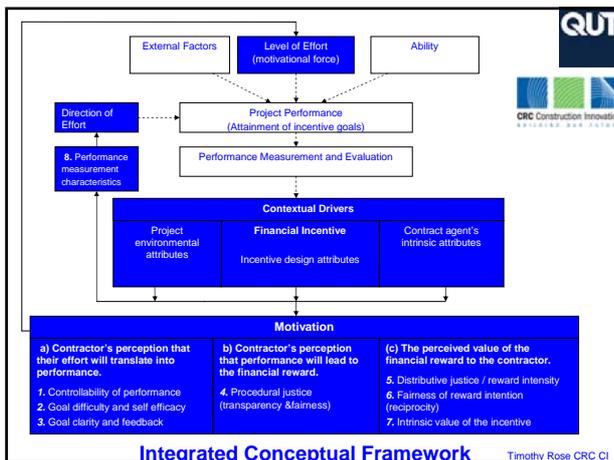
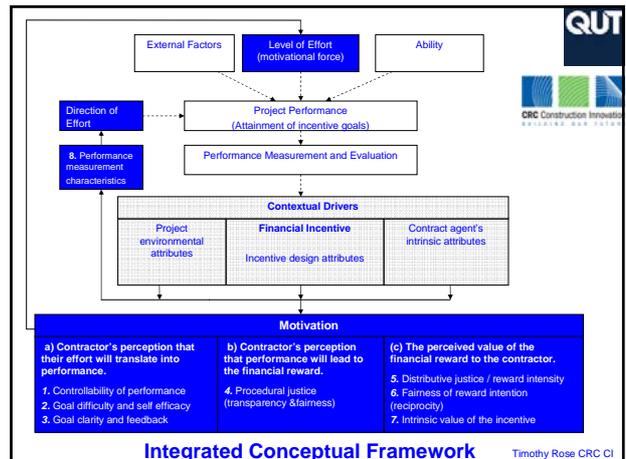
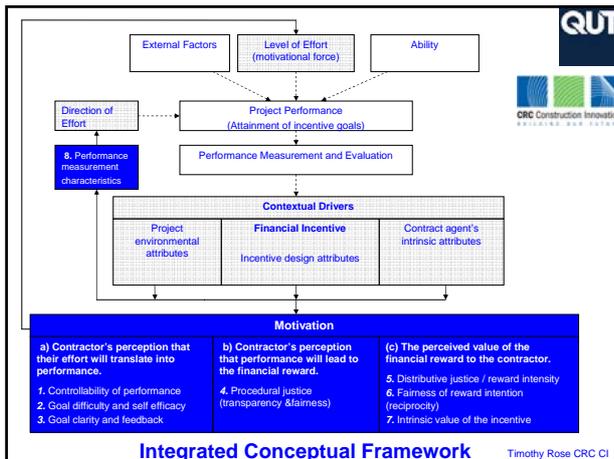

Motivational Variables QUT



"I can't understand why our companies stocks are going down constantly. This sidewalk, for example was finished a long time before deadline!"

Cartoonstock.com



Research Contributions

- Never going to be able control all motivational factors in a complex construction project
- But, can identify the primary influencing variables to decrease client risks in the application of FIM's.
- Next step to determine contextual drivers influencing FIM performance.

Research Contributions

- The results of the research will provide:
 - Guidance in the future development of optimal FIM contracts.
 - Improved understanding of the interrelationships between contractor motivation and FIM design.
 - Contribution to the knowledge of motivational drivers within the construction project environment.

THANKYOU.

"There is no better way to induce behavioural change [in the construction industry] than factoring an incentive element into the procurement system... the major clients are in an ideal position to drive for enhancements through this route".

Honourable Henry Tang, Secretary for Commerce, Industry and Technology, Hong Kong, January 2002.