Construction Industry Development Comparison & Acceleration – ‘CIDCA’ *

- Introduction -

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HKU Research Project funded by Research Grants Council, Hong Kong, entitled:
“EVALUATING ‘CONSTRUCTION INDUSTRY DEVELOPMENT’ PROGRAMMES IN HONG KONG, SINGAPORE AND UK”
Research Aim and Objectives

Aim:

• An Independent and Comparative assessment of Industry Improvement trajectories - following (but not limited to) recent high profile reform recommendations in HK Singapore and UK (led by HKU, National University of Singapore and University of Reading)

Overall Objectives:

• To evaluate the effectiveness of the industry improvement programmes against their original objectives, while discounting / allowing for (i) industry development trends that may have continued even without reform inputs and (ii) changing aspirations, priorities and concerns

• To unravel reasons for any perceived shortfalls in the above implementation and to unearth any root causes, with particular reference to relevant public agencies and private organizations involved; and

• To learn lessons that could help to improve future industry development agendas and re-align current development trajectories.
Research Philosophy

- Industry development initiatives are dependent on stakeholder institutions for implementation
- Institutional behaviour is influenced by prevalent regulative framework, industry norms and culture (Three Pillars of Institutional Theory)
- Industry development initiatives generally aim for positive changes in above three pillars to influence desired institutional behavior
- Regulation is (in this context) usually a last resort and the aim of the regulation should be to shape the industry norms and culture appropriately

Desired Environment to Foster and Propagate Desired Results

- Regulative Framework
- Industry norms
- Industry Culture

Industry Development Initiatives
Research Methodology

Research Aims and Objectives

- Literature Review: Review documented progress of the industry
- Prelim interviews: Elicit opinions on key issues from industry stakeholders

Focus Group
Validate findings from lit. review and prelim interviews and refine research agenda

- Quest. Survey: Investigate parameters quantitatively
- Case Studies: Investigate parameters contextually
- Interviews: Investigate parameters subjectively

Workshop
Validate, build consensus and consolidate findings from above

Final Report
- Shortfalls
- Enablers
- Challenges
- Current and future key concerns
- Improvement Acceleration Strategies
CIDCA: Research Findings To Date

Dr. Gangadhar Mahesh
The University of Hong Kong
CIRC Recommendations

Setting Up Institutional framework for driving reforms

Fostering Quality Culture
- A knowledgeable and involved client
- Importance of the planning and design stages
- Realistic project programming
- Clear accountability
- Subcontracting
- Site supervision and quality assurance
- Raising the quality standard of renovation contractors and decorators

Achieving Value in Construction Procurement
- Selection of contractors and consultants
- Effective risk management and equitable contracting arrangements
- Dispute resolution
- Partnering approach
- Incentives for the project team to achieve better value

CIRC REPORT RECOMMENDATIONS

Safer workplace
- Designing for construction safety and integrated management
- Safety promotion and training
- Incentives for sound safety management
- Enhanced enforcement

Environmentally responsible Industry
- Life-cycle costing
- Greener and more energy efficient designs
- Abatement of environmental nuisance during construction
- Reduction and management of construction and demolition material
- Environmental assessment schemes and environmental management systems

Review Setup for Implementation Progress

An Efficient, Innovative and Productive Industry
- Process re-engineering to achieve better integration
- Wider use of: (i) standardisation in component design and processes, (ii) prefabrication, (iii) ICT in project implementation
- Investment in R&D
- More reliable records of underground utilities

Nurturing a Professional Workforce
- Improved and structured training programme
- Promote use of direct labour
- Foster an ethical culture
- Promote industry professionals participation in teaching
Fostering Quality Culture

**Regulative Changes**
- Subcontracting
  - Substantial progress seen in the form of voluntary registration
  - Delays in moving to the next stage (mandatory)

**Normative Changes**
- A knowledgeable and involved client
- Importance of the planning and design stages
- Realistic project programming
- Site supervision and quality assurance
- Raising the quality standard of renovation contractors and decorators
  - Progress is satisfactory but limited to large clients
  - Project programming problems acknowledged, but persist, especially in private sector
  - Supervision has improved to a great extent
  - Renovation contractors are still a concern

**Cultural Changes**
- Clear accountability
  - Accountability standards have improved

**Key Challenges**
- Sustainable work load
- Sustainability of workforce and their skill levels
- Pressure groups and economic realities

**Key Drivers**
- A committed and enlightened client
- A supportive procurement strategy
- A supportive main contractor
Value Through Construction Procurement

Regulative Changes
- Dispute resolution

Normative Changes
- Selection of contractors and consultants
- Effective risk management and equitable contracting arrangements

Cultural Changes
- Partnering approach
- Incentives for the project team to achieve better value

- Progress in use of ADR’s
- Arbitration law changes under consideration

- Alternative procurement methods tested primarily as pilot projects in public sector and for complex projects in pvt. sector; not in extensive use.
- Technical and price bids adopted extensively in public sector but, stakeholders skeptical of its impact
- Review of GCC conditions was cursory
- Improved risk management practices

- Partnering delivers on value, but limited to leading players and stakeholders
- Incentive initiatives present but not prevalent

Key Challenges
- Public sector procurement constraints
- Tender selection methodology
- Industry culture

Key Drivers
- A committed and enlightened client
- Incentives to stakeholders
- Equitable contracting arrangements
Workplace Safety & Environmentally Responsible Industry

**Regulative Changes**
- Enhanced enforcement
- Safety promotion and training
- Environmental assessment schemes and environmental management systems
- Charge for waste disposal

**Normative Changes**
- Life-cycle costing
- Greener and more energy efficient designs

**Cultural Changes**
- Incentives for sound safety management
- Abatement of environmental nuisance during construction
- Reduction and management of construction and demolition material

- Clear progress over the last decade, reduction in accidents but a tangible increase in fatalities
- Clear emphasis on safety regulations
- Substantial progress in env. management systems and assessment schemes

- Significant improvement in workplace conditions
- Slow progress in embracing lifecycle costing approach
- Green initiatives abundant and expected to get fillip from Govt. assessment schemes
- Boost in the form of green building council

- Pay for safety a success story that needs to be replicated in pvt. Sector
- Award schemes a clear incentive
- Satisfactory progress in pollution control and waste management practices

**Key Challenges**
- Work place conditions especially in small sites
- Reduction of cost for alternative green technologies
- Existing building upgrades

**Key Drivers**
- Payment or incentives (including recognition) for both for safety and green initiatives
- Worker training and proper planning
- Integration of construction and maintenance activities
Nurturing a Professional Workforce

**Regulative Changes**
- Improved and structured training programme
- Progress by means of workers registration scheme
- Curriculum development in progress
- Upgrading skills of old age workers and attracting youth to bolster workforce a significant problem

**Normative Changes**
- Promote use of direct labour
- Slightly improved but far from satisfactory

**Cultural Changes**
- Foster an ethical culture
- Promote industry professionals participation in teaching
- Targeted through training and guidelines
- Reliant on professional institutions for follow up action

**Key Challenges**
- Attracting new talent into workforce
- Training cost absorption
- Aging workforce

**Key Drivers**
- Improved image of the industry
- Incentives for upgrading skills
- On-job training
Efficient, Innovative and Productive Industry

**Regulative Changes**
- Facilitating regulators
- Standard codes updated and ongoing
- Fragmented and numerous statutory bodies an issue

**Normative Changes**
- Process re-engineering to achieve better integration
- Wider use of: (i) standardisation in component design and processes, (ii) prefabrication, (iii) ICT in project implementation
- Investment in R&D
- More reliable records of underground utilities
- Integrated procurement piloted but not prevalent
- Improvement in standardisation and use of prefabrication
- ICT in project implementation picking up but not prevalent
- Information accessible but accuracy is a problem
- Investment in R&D is ad hoc and needs streamlining

**Cultural Changes**
- Tap export potential of the industry
- HK developing as a strong contender for arbitration in Asia

**Key Challenges**
- Streamlining and expediting approvals
- Upgrading workforce skill sets
- Quality assurance in offsite manufacturing

**Key Drivers**
- Incentivising innovations
- Streamlining R&D investments
- Shared costs of ICT implementation
Mandatory Vs Voluntary

• Mandatory (Regulative) initiatives have found more traction and success in implementation
• Voluntary initiatives propagation through guidelines/ best practices are limited to industry leaders

Public Vs Private

• Some reforms may be easier to implement in public sector of HK (Given large share of public sector projects)
• Public sector more driven by extrinsic pressures towards reforms while private sector prefers intrinsic pressure
• Private sector (except for leading developers and contractors) is slow in picking up the initiatives
Role of Professional Institutions and Trade Assns.

- Fragmentation is still rampant; but improved with CIC as a platform.
- Clear role in:
  - Reform formulation
  - Reform propagation
  - Encouraging members to buy into reforms
  - Regulating member’s behaviour
- Satisfactory in participation but clear shortfalls in propagation.
- Evident shortfalls in updating their charters and codes in rapidly changing industry environment and culture.
Implementing Reforms in Projects, Organisations and Industry

- Easier to deliver normative and cultural changes in project environment than organizational and industry environment
  - Selling a reform is the key in organization and industry settings
  - Buying into the reform is the key in project settings
- Top-down approach suitable for capital intensive initiatives and innovations while bottom-up approach recommended for incremental changes
- Consensus and commitment is essential for industry-wide reforms
Key Concerns and Issues

- Sustainable workload
- Improved image of the industry
- Attracting new entrants to work force and upgrading skill sets of existing workforce
- Protecting local industry
- Payment guarantees (Regulating developers/ private sector)
- Speedy dispute resolution (Amendments to arbitration clause)
- Regulating renovation contractors
- Sustaining alternative procurement initiatives
- Promoting cross pollination of industry improvement initiatives
Conclusions

• Overall progress is satisfactory
• Clear shortfalls in workforce nurturing and fostering innovations
• Sustainable workload is a root cause for shortfalls
• Public sector quick on the uptake of initiatives, but short on following up
• Private sector enthusiastic, but slow in embracing cost intensive and potentially ‘risky’ changes
Q & A
Refreshment Break
Focus 1: Institutional Framework in the Context of Reforms

Proposed Co-ordination Framework for Local Construction

Source: CIRC Report 2001
Focus 2: Key Drivers of Construction Industry Reforms

- Setting Up Institutional framework for driving reforms
  - Continued support of industry stakeholders

- Fostering Quality Culture
  - A committed and enlightened client
  - A supportive procurement strategy
  - A supportive main contractor

- Achieving Value in Construction Procurement
  - A committed and enlightened client
  - Incentives to stakeholders
  - Equitable contracting arrangements

- CIRC REPORT RECOMMENDATIONS
  - Safer Workplace and Environmentally Responsible Industry
    - Payment or incentives (including recognition) for both safety and green initiatives
    - Worker training and proper planning
    - Integration of construction and maintenance activities

- Review Setup for Implementation Progress
  - Quality feedback from the industry

- An Efficient, Innovative and Productive Industry
  - Incentivising innovations
  - Streamlining R&D investments
  - Shared costs of ICT implementation

- Nurturing a Professional Workforce
  - Attracting new talent into workforce
  - Training cost absorption
  - Ageing work force

- Regulating Renovation Contractors

- Nurturing Local Industry

- Wider Propagation and Percolation of Reforms

The University of Reading
National University of Singapore
Focus 3: Key Challenges to Construction Industry Reforms

Setting Up Institutional framework for driving reforms
- Attracting quality professionals on a continued voluntary basis

Fostering Quality Culture
- Sustainable work load
- Sustainability of workforce and their skill levels
- Pressure groups and economic realities

Achieving Value in Construction Procurement
- Public sector procurement constraints
- Tender selection methodology
- Industry culture

Regulating Renovation Contractors

CIRC REPORT RECOMMENDATIONS

Safer Workplace and Environmentally Responsible Industry
- Work place conditions especially in small sites
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An Efficient, Innovative and Productive Industry
- Streamlining and expediting approvals
- Upgrading workforce skill sets
- Quality assurance in offsite manufacturing

Nurturing a Professional Workforce
- Improved image of the industry
- Incentives for upgrading skills
- On-job training

Nurturing Local Industry

Review Setup for Implementation Progress
- Access to quality information

Wider Propagation and Percolation of Reforms
Thank You