

DECLINING STANDARD of PROJECT DOCUMENTATION QUALITY & ITS IMPACT ON EFFICIENCY IN THE BUILDING & CONSTRUCTION INDUSTRY

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OUTLINE of PRESENTATION

- the Problem
- Preferred Project Environment
- why things haven't changed
- dimensions of real solutions
- Engineers Australia (Q'land) Task Group
- proposals

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Scale of the problem

- 60 – 70 % of all variations due to poor design & documentation
- 1 price variation results from every 3 Requests for Information
- Poor documentation contributes to about 10% of project costs

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Impacts

- Cost over-runs, re-work & extensions of time
- High stress levels, loss of morale & reduced output (efficiency)
- Adversarial behaviour
- Decline in safety standards

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Basis of claims

- Research by CSIRO & others
- Confirmation by industry – case examples
- Engineers Australia (Queensland) activities – seminars & workshops

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Elements of the problem

- Design quality is often deficient
- Documentation quality is often poor
- Unrealistic expectations on designers
- Poor co-ordination across project phases

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Design quality is often deficient

- Inappropriate design
- Inadequate checking
- Constructability problems
- Lack of innovations

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Documentation quality is often poor

- Accuracy, clarity and timeliness
- Inadequate or incorrect detail
- Co-ordination problems
- Confusing & conflicting information

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Unrealistic expectations on designers

- Impossible timeframes
- Mean-spirited budgeting in planning and design stages
- Low-bids → inadequate resourcing

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Poor co-ordination across project phases

- Project phases not interlinked
- Little involvement of constructors
- Programming changes
- Poor sequencing of works

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Some principal causes – *interlinked & all stakeholders involved*

- Inadequate time for project planning
- Inadequate review & insufficient checking
- Design by crisis – short timeframes
- Adversarial attitudes (all parties)
- Failure to appoint an overall project manager
- Clients persist with short-term views :
 - *lowest possible costs in the development phases*
 - *unaware of whole-of-life considerations*
 - *unrealistic expectations about time & cost constraints*

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Preferred project environment

- End users satisfied –
useful infrastructure of good standard
- Sustainable & efficient industry
- Equitable project delivery –
reasonable profits for all stakeholders

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Dimensions of the preferred situation

- Well qualified people, sensible time frames, realistic budgets
- Sufficient planning prior to commencement of design
- Competent processes of design, design co-ordination & design review
- Client acceptance & commitment at key stages of planning & design
- Effective communications & collaboration
- Equitable forms of contract with a no-blame culture

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Someone has to turn things around

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Engineers Australia (Q'land) Task Group

- Whole-of-industry outlook
- 14 industry stakeholders participating
- Identification of Root Causes – themes
- Package of solutions
- Implementation plan

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Root causes

- Poor understanding of risk assessment
- Inadequate use of technology (eg CAD)
- Poor communication practices
- Lack of integration along supply chain
- Declining value placed on professional ethics
- Project briefs based on unrealistic expectations
- Service providers chosen on lowest bid basis
- Inadequate provision for analysis of options at critical stages
- Absence of overall Design Manager
- Inadequate numbers of skilled & experienced people

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Root causes - heirarchies

Long term strategic change
vs
Short term mechanistic changes

Proposed interventions

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Example root cause heirarchy Project Briefs

- Project initiated by commercial or political endeavour
- Lead time (float) used at viability stage
- Unrealistic client expectations – time & cost
- Poor briefs based on unrealistic expectations
- Inbalance in time = cost = quality = scope equation
- Poor communications/relationship with client
- Financial & time over-runs
- Disputes over scope

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Package of solutions

- Guidelines & regulatory
- Awareness & edification
- Equitable remuneration
- Equitable delivery
- Professional development & training
- Project delivery
- Technology
- Culture improvement

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Engineers Australia (Q'land) Task Group - objectives/intentions

- Draft report (& proposals) – early 2005
- Final report – mid 2005
- Specific discussions – other stakeholders (eg developers, financiers)
- Widespread publicity & discussion
- Establish arrangements for whole-of-industry implementation

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Thanks for listening

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