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“Builders and surveyors are now monitored but there are still gaps”: A study into a home building construction industry through the VSM 3* ‘Looking Glass’

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Highlights

Building construction general inspection data interpreted as a complex stakeholder engagement task requiring strategic application of systems thinking and practice. Practitioner insights into the arts-and-crafts (and toolkits) required to regulate a 21st century construction industry environment with Theory Y and evidence-based policy.

Introduction

Purpose: Applying systems thinking to guide the development and publication of contentious inspection/audit findings within the Western Australian (WA) building construction industry.

Background: New Building Commission (BC) legislation was established in 2011 with functions covering licensing and applications; compliance; and industry development across building, painting, building surveying and plumbing services in the state.

In 2014, the BC moved from independent accommodation in the heart of the city’s business district to operate as one of a number of divisions within the Department of Commerce within a recognised depressed socio-economic suburban area. During 2014, an inaugural general inspection ‘audit’ was conducted on the light-weight roof construction of 123 houses – a quantum that provided a 95 per cent confidence interval of representing WA’s annual volumes in this type of house construction. Results showed a poor average rate of satisfactory compliance of only 33 per cent across 12 roofing system inspection points for each house (where these were available and relevant in the house design). ‘Satisfactory’ was considered as meeting relevant deemed-to-satisfy Australian building codes and standards (e.g., the Building Code of Australia).

The final report was published in April 2016 after extensive stakeholder engagement and feedback during 2015 (Building Commission 2016). Little public media attention followed the release of the report. There are considerable economic benefits to local media from construction industry advertising for new home buyers.

Prior to the report’s 2016 release, the WA Office of the Auditor General (OAG) assessed the regulation of the state’s residential building industry and noted slow progress and gaps (as quoted in the title). The OAG focused on the regulation of the state’s 15,000 registered builders and building surveyors and how compliance with building legislation and codes is monitored and enforced. The OAG’s report (June 2016) did not assess the effectiveness of reforms in building industry regulation introduced in 2011. However, it did review the status of their implementation (OAG 2016).

This paper outlines and seeks to explain various participant/observer insights developed during this 24-month general inspection project. The research focus was placed on organisational dynamics and culture during a period of transition. Organisational culture (as inhibiting forces for desirable change) and various system boundary issues (gaps) were identified between trades, functions, work divisions and other departments (e.g., building construction compared to town/city planning).

As noted by the OAG, the WA construction industry is a major contributor to the state’s economy with more than \$14 billion in work during 2014-15 – the residential component was about \$8.3 billion. Safety and amenity of all buildings (industrial, commercial and residential) also has a direct impact on the entire local community over a longer-time frame.

Design/methodology/approach: Autoethnographic reflections on action research applied to help guide the synthesis of multiple stakeholder ‘voices’ and perspectives into an effective stakeholder engagement strategy and coherent narrative (the general inspection report). Broadly, a background study of participant observation during the author's engagement as an ‘outsider’ employee located within a bureaucratic regulator. Observations and comments from other staff participants inspecting local building construction sites were also considered.

The research project commenced in October, 2014 and entailed:

- (a) re-engineering various early draft documents and adding analytical interpretation of site inspection data collected by the site inspector from February 2016;
- (b) guiding report design and stakeholder communication strategy to facilitate effective stakeholder engagement; and
- (c) assisting with the final report publication through several iterations and multiple layers of management.

The process applied the Soft Systems Methodology (SSM) (Checkland 1981) and the Viable Systems Model (VSM) (Beer 1979) to guide the inspection report production process. Autoethnographic reflections best describes the background recording of, and researcher-self reflections on, the process of navigating an emerging narrative in a project/mission/journey/quest to deliver (‘by hook, or by crook’) a reasonably readable report styled in plain English for the public domain and based on real field data and technical standards. The process of constructing this organisational ‘Odyssey’ helped maintain momentum and focus over a long two-year exercise. The story of ancient Troy and wooden horses may be relevant.

Findings: The study identified overlapping technical and cultural domains with many key participants moving between bureaucratic regulation and industry perspectives. Several key issues were identified within the local construction industry – e.g., supply chains; training; poor supervision and cultures of industry bullying. In addition, the local operating environment (the second most remote capital city in the world) tended to reduce the variety and diversity of governing ideas and values within both the local construction industry and the regulation function.

The general inspection was framed as a VSM System 3* ‘audit/feedback’ inspection process for various participants within the BC. The final roofing report’s publication is evidence of success. One project design objective was to train key BC staff along the way so that future general inspections could follow the same model and process (i.e., as a template). For interest, in mid-2016, a second urgent inspection audit was required into asbestos found in a new local children’s hospital site. The general inspection report template is being successfully applied within a short 10-week timeframe cycle.

During the project focus was placed on identifying and understanding the ‘gaps’ between cultures and functions within the bureaucratic ‘morris dance’ well described by Sullivan (2008, p.130). Observing the impact of real evidence (field inspection data) on internal policy functions provided insight into foresight capacity and possible strategy improvement. The regulator’s theory of operation (as reflected in the 2011 legislation) was strongly biased towards a free-market and self-regulation model – i.e., *Theory Y* in the human motivation and management model (McGregor 1960). However, strong internal ‘old school’ cynicism existed among many older staff in respect to the efficacy of this new approach. The poor results identified during the general inspection into roofing systems tended to reinforce this view among key ‘hands-on’ operations-level staff. However, policy-level management and staff seemed largely isolated from this feedback evidence. Strong denial and manipulation of the narrative (‘spin’) seemed to imply levels of active cognitive dissonance in some cases.

In spite of the extended 24-month timeframe and significant human resources required to complete this inaugural general inspection report the process was considered successful by virtue of the report’s eventual publication. However, as reinforced by the author during the process, the report was considered simply as the end-point artefact and historical record of an involved complex process of strategic stakeholder engagement. The core value of this exercise was in the ‘doing’ of it and working with others to form a common perspective. Following the report’s release, four industry-based stakeholder working groups were established to implement the key recommendations. One of the working groups is recommending changes to Australian standards for the next release in 2019. The others are still a work-in-progress.

By way of example, a key strategic 2-3 day dialogue ‘moment’ occurred in the final stages of the report’s production. This discussion entailed a one-to-one (1:1) detailed discussions between the author and a senior BC executive staff using the VSM as a means of communication. Based on the high levels of confidence built up during the report development phase, and the strong engineering-based skill set within the key executive areas of the BC, it was possible to effectively communicate key VSM-related information to modify the presentation ‘image’ of the report into its final published form. This included referring to publically available and user-orientated internet based diagrams and *You Tube* materials as communication aids.

Essentially, the final transformation of the report entailed a slight modification in the original draft report ‘Foreword’ from the Building Commissioner (with his public identify and photo included) modified to being an ‘internal report’ from operations audit to the Building Commissioner in the final report format. In feedback from the OAG a question had been raised: “to whom?” was the general inspection report being presented. This identity ‘anxiety’ (and various tensions between levels of BC executive management) was resolved overnight after the above discussion when the report was reframed as a VSM S3* general inspection ‘audit’ report from the operations director (responsible for the BC’s compliance functions) to the Building Commissioner (to whom she directly reported). The Building Commissioner then made this key ‘internal’ report available to the public and industry. This shift in style placed the Building Commissioner at VSM S3 (Control) – rather than as originally conceived and presented at VSM S5 for the BC (policy/identity/photo) during the report’s drafting and stakeholder feedback phase during 2015. This shift reinforces the view that the inspection/audit information was a VSM S3* event rather than a VSM S5 ‘Building Commission’ report.

It is noted the initial 2014 general inspection process commenced with the Building Commissioner “wandering down” to chat with the manager of the inspection audit team (two management levels below him). This process appeared to correlate well with the VSM’s S3-to-S3* channel – i.e., as distinct from the formal organisational hierarchy sequence of ‘Commissioner-Director-Manager’. It was also observed that due to the strong representation of ‘engineering’ within the system-in-focus it was found that the traditional VSM diagram (e.g., as represented on Wikipedia) was easier to use as a communication device – i.e., the image being understood as a diagram of implied relationships/circuits rather than a traditional organisational hierarchy.

Originality/value: There has been little study of public administration and regulation in WA’s home building construction industry from the perspective of systems thinking and especially the VSM.

The value of this research lies in: (a) better understanding the actual local dynamics of interaction between various functions and cultures operating within a public sector context; and (b) appraising the value of the VSM to help guide systems thinking and practice in respect to designing effective communication strategy and stakeholder engagement activities centred on evidence based policy.

A further key research value, for the author, was the discovery of an abundant source of naturally collected building inspection field data to support future action research programmes related to the built environment and public sector regulation of industry.

Summary: In conclusion, the inspection report itself (as an artefact) was considered a living ‘viable’ document that emerged (i.e., was ‘engineered’) under the reflexive response to general forces within the project’s operating environmental. In a sense it was ‘born’ of the labour of many people all contributing from their respective perspectives and disciplines. Its design structure was malleable and responsive to the environment – including the external stakeholder feedback cycle. It thus reflects in both its draft and final versions many conversations and feedback loops which required word and presentation adjustment to accommodate feedback. The report covers three-levels of narrative for effective whole-of-system engagement – i.e., a technical report in template format for the building inspector class peer-group; an analytic interpretation section for policy analysis; and executive presentation level for engagement of political and public domains.

By way of an example of this strategic document design principle, Figure 1 contains screen images from adjoining pages of the report which are strategically placed (in the natural flow of reading sequence) following the analytical analysis and just prior to the detailed technical report summary (see Building Commission 2016, pp.40-41). The imbedded table and associated image applies a VSM S4 scenario orientated communication strategy to enhance stakeholder engagement and reinforce risk appreciation under possible futures.

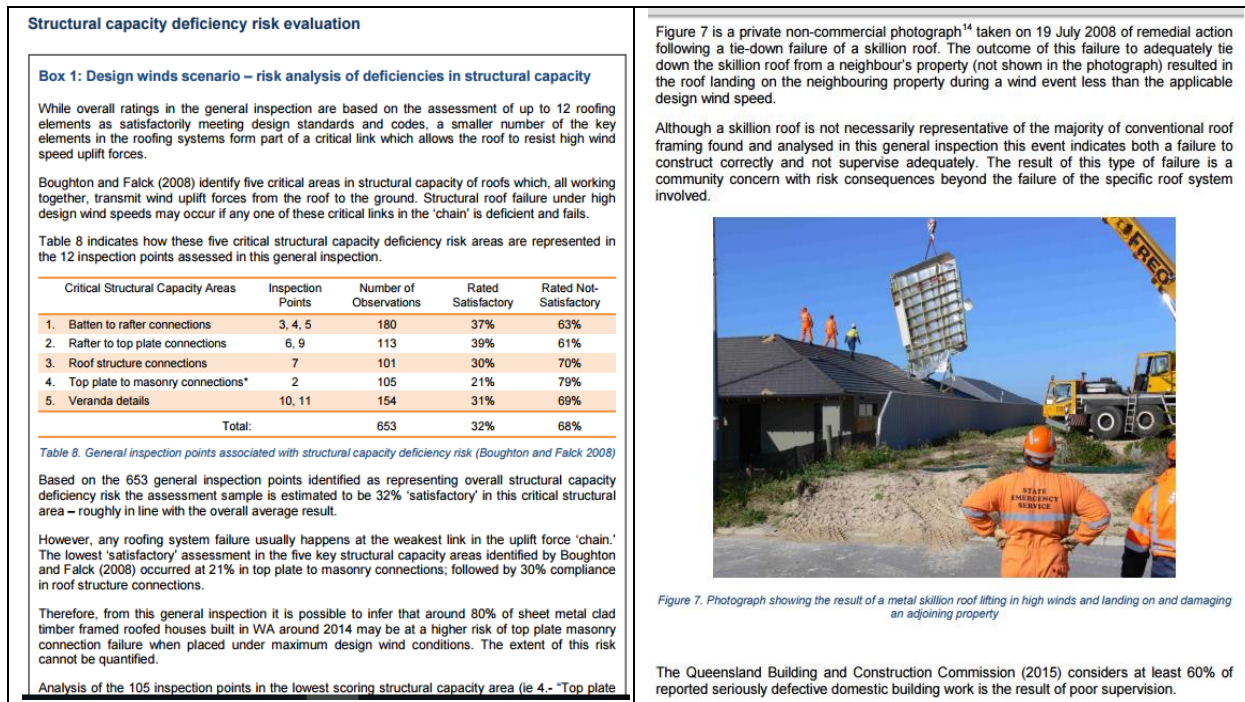


Figure 1. VSM S4 strategy at work in document design

From a policy perspective, the project was an exercise in bringing together evidence-and-policy in a real-world action research case study. All the various cultural and human factors over 3-4 recursion levels were engaged and studied as the document sailed its way through the rocks and hard places. Its final form and destination was never certain. Its actual referenceable existence in the public domain was a target/goal and success is a testament to the hard work and superior strategy applied by many actors.

Many boundaries and organisational cultural 'taboos' were challenged. The document was so forged that it is indeed an etched 'Looking Glass' into the operations of a large building construction industry and its government regulator. This 'system-in-focus' begins with the VSM 3*audit feedback loop. The story goes on by virtue of this artefact as a proven effective case study into how to regulate a modern building construction industry in the 21st century context through general inspections (audits).

The Auditors' words now echo into the future – both the internal BC audit team, by virtue of their inspections of building sites to discover and compare real empirical data against the relevant codes and standards to which the building construction industry is licenced to practice (and feeding this to policy units); and at a broader level, the OAG (2016) whose oversight and summary to the parliament (and hence the people of WA) concluded that: "Builders and surveyors are now monitored but there are still gaps".

How much emphasis should be placed on the word "now" is left to the reader to judge. However one clear message to all the players in this domain was delivered by the successful conclusion of this project: the capacity to audit and report effectively is demonstrated (*ipso facto*) and further review will most likely be repeated at some time in the future (estimated 3 years) to evaluate the systemic improvement to industry (and regulator) performance: "Welcome to the Audit Society!"

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References

Beer, S. (1979). *The Heart of Enterprise*, Chichester, Wiley.

Building Commission. (2016). *FINAL REPORT: General Inspection Report One: A general inspection into metal roof construction in Western Australia*. Department of Commerce, Perth, Western Australia. See https://www.commerce.wa.gov.au/sites/default/files/atoms/files/general_inspection_report_2016.pdf and media statement at <https://www.commerce.wa.gov.au/announcements/improving-quality-control-roof-construction> and overview at https://www.commerce.wa.gov.au/sites/default/files/atoms/files/roof_report_-_your_questions_answered_21.4.16_final_with_links_0.pdf [Accessed: August 2016]

Checkland, P. (1981). *Systems Thinking, Systems Practice*, Chichester, Wiley.

McGregor, D. (1960). *The Human Side of Enterprise*, New York, McGrawHill.

Office of the Auditor General. (2016). *Regulation of Builders and Building Surveyor, Report 12*, Perth, Western Australia. See <https://audit.wa.gov.au/reports-and-publications/reports/regulation-builders-building-surveyors> and https://audit.wa.gov.au/wp-content/uploads/2016/06/report2016_12-BuildersSurveyors.pdf [Accessed: August 2016]

Sullivan, P. (2008). "Bureaucratic process as a morris dance: an ethnographic approach to the culture of bureaucracy in Australian aboriginal affairs administration", *Critical Perspectives on International Business*, Vol. 4 No. 2/3, 2008 pp. 127-141.