EXPLORING THE EFFICACY OF ADAPTIVE SAFETY FOR SOCIAL SUSTAINABILITY IN CONSTRUCTION SUPPLY CHAIN MANAGEMENT

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The integration of resilience engineering principles and adaptive safety to various high risk and ultra-safe industries is gaining pace. In contrast to these industries, the Construction Sector relies on temporary, dynamic and multi-stakeholder networks within a supply chain setting. This research being undertaken as part of PhD study aims to explore the efficacy of applying adaptive safety theory to construction supply chain management and the alignment of this theory to social sustainability principles.

There is recent industry evidence that some UK construction companies are turning away from zero accident vision, and the traditional foundation of compliance it embodies, to explore the potential for resilience through adaptive safety. The alternative lens from which to consider organisational practices offered by the adaptive age of safety1 is argued to transcend traditional safety management. The orientation towards acceptance of adaptive capabilities refocuses the view of workers as a source of innovation and a solution to empower motivated safety performance2. It is centred on the ‘messy’ reality of work with variable demands, resources and trade-offs3. It questions faith in prescribed systems and facilitates understanding of the acts of workers. A focus on examination of normal work, with its blurred lines between facilitating productivity and compliance makes this new view a strategically attractive prospect for organisations in optimising safety management and reducing bureaucracy.

PROBLEM STATEMENT
Approaches to addressing adaptive safety require mechanisms for anticipating, monitoring, responding and learning about and from challenges in an effective manner. This requires engagement and commitment understood by a just culture and safety leadership across the construction supply chain4. This can be challenging in this highly fragmented, transient sector5.

The alignment of adaptive safety theory to social sustainability principles including equity, justice, wellbeing and social opportunity for construction industry workers provides a basis from which to evaluate adaptive safety theory in the light of moving the sustainability debate forward and placing human needs at its core in the world of work. Assessing efficacy of this change is the focus of this work.

The overall aim is to explore the efficacy of applying adaptive safety theory to the occupational health and safety (OHS) management of construction supply chains and the alignment of this theory to social sustainability principles.

To achieve this there are four objectives, which are to:
1. Evaluate construction supply chain OHS management using the lens of social sustainability and adaptive safety theory in order to examine factors that contribute to successful (and safe) work delivery.
2. Explore current practice and perceptions within the construction industry towards adaptive safety.
3. Evaluate the application of adaptive safety theory, construction supply chain dynamics and successful (and safe) construction project outcomes in selected organisations.
4. Develop a model of adaptive safety for sustainable supply chain strategies to influence worker safety.

The proposed outcome looks to influence better safety management of construction supply chains, and embedded alignment of worker safety practices within the domain of sustainability.

The Nested Circles Model of Sustainability6

- Natural Resource Constraints. Ecosystem Services Provision
- Governance, Society, Community. Work. Values driven to maintain social capital and ensure equity, wellbeing and justice inter – and intra- generationally

The model places adaptive safety within a wider view of sustainability to support social value of work, equity, wellbeing and justice in construction supply chain management.

Phase 1: Exploratory Case Study (Theory Construction)- A single organisation was studied through an exploratory case study protocol following Yin7 to evaluate a novel re-orientation of this organisation from a zero accident ethos to worker-centric safety. A social constructivist approach was taken with manager and worker interviews, together with review of policies, strategies and records in order to evaluate the experience and practices of this change. Systematic combining grounded in abductive logic following Dubois and Gadd6 was undertaken allowing switching between empirical data and theory allowing greater understanding of the phenomena under study.

Phase 2: Construction Industry survey - Following conceptual framework development a construction industry survey was prepared utilising an initial stakeholder review and pilot survey. This survey is currently being undertaken in construction industry. The outcome will provide clarity on the industry orientation towards the new view of safety; the view and treatment of construction workers, and the potential for resilience based on existing practices.

Phase 3: Construction Industry case studies/action research - Organisation level case studies representing varying procurement and supply chain characteristics will be carried out to evaluate in-depth the opportunities and barriers to empowering adaptive safety based on institutional logics between organisations and associated project contexts including demands, resources and pressures. Potential opportunities currently under investigation include the possibility of undertaking a knowledge transfer partnership (KTP) to become embedded within a specific organisation to undertake action research

REFERENCES