



## CONA Case Study:

# Mapping project relationships for effective risk identification and management

### Client:

A large Housing Developer

### Business Need:

The Housing Developer was experiencing substantial time delay and cost overrun on a particular project. This was partly the result of an ill-defined Scope of Work which did not adequately cover and detail the works to be priced and carried out.

### How We Helped:

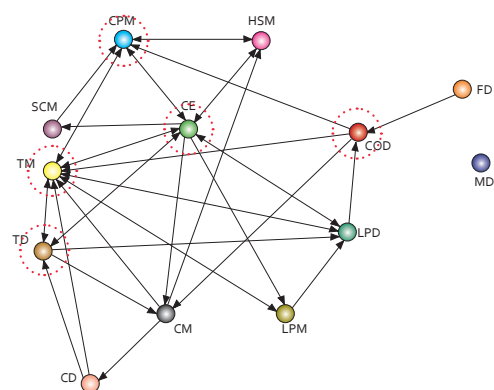
In order to assist the Developer in understanding how the identified risk exposure came about, we looked at risk events and their original destination. We employed ONA to visualise and map attracted risks associated with Scope of Work through the organisation's management structure. Data collection for the network analysis was through a questionnaire completed by senior departmental managers within the firm, as well as important external parties. Each actor was asked to indicate the following:

- (1) From whom do they receive information regarding Scope of Work (information network)
- (2) To whom do they give instructions regarding Scope of Work (instruction network)
- (3) Who is party to their decision making regarding Scope of Work (decision making network)

(4) To whom do they transfer risk associated with Scope of Work (risk transfer network)

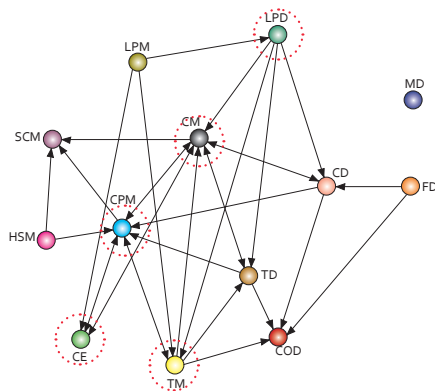
The information network (Figure 1) showed that the Commercial Director (COD) and the Technical Director (TD) are weakly connected. However, these actors were ultimately responsible for defining the scope of work, thus resulting in an ill-defined Scope of Work.

Figure 1: Information Network

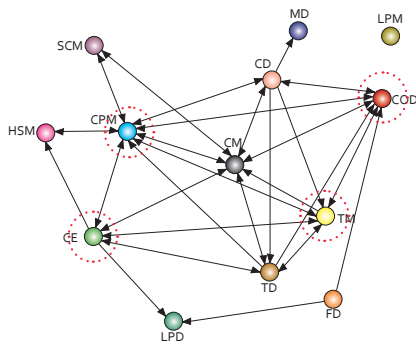


The instruction network (Figure 2) also showed that the Land and Planning Director (LPD) gives instructions but receives, and decides with, little information. This resulted in ill perceived instructions by the LPD based on limited information.

**Figure 2: Instruction Network**



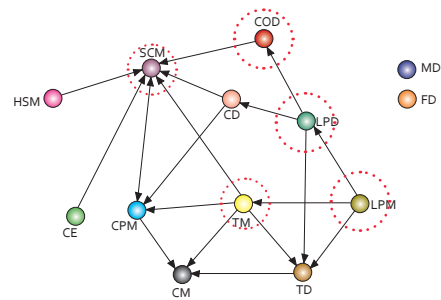
**Figure 3: Decision Making Network**



The decision network for Scope of Work (Figure 3) revealed a network where nobody takes the lead and is not powerfully led by anyone. All key project staff were party to the decision, indicating towards group decision making. This was confirmed in subsequent interviews where the view was expressed that actors did not feel a clear personal responsibility in defining the Scope of Work.

\* Findings of this case study were originally published in Pryke, S. D. & Ouwerek, E. (2003) Post completion risk transfer audits: an analytical risk management tool using social network analysis. Proceedings of 2003 Construction and Building Research Conference of the RICS Research Foundation (COBRA 2003)

**Figure 4: Risk Transfer Network**



In the risk transfer network (Figure 4) the subcontractor has the central position, and this is where the risk stops. This network confirms that contractors display risk averseness and favour transfer of risk to the subcontractor. The four figures also show that the Managing Director (MD) is excluded from information, instruction, and partly, decision making throughout the Scope of Work networks. This confirms the expressed views by many interviewees that there was a lack of consultation by top management in the setting of target dates.

**Business Benefits:**

The ONA study was highly beneficial as it provided easily assimilated information on the paths that the risks took and their final destination. The ONA maps enabled the firm to visualise what really did happen with the activities and the people involved on this construction project. The maps generated were readily accessible and supported the firm in remedying the identified problems by upgrading its communication procedures, and incorporating effective risk identification and management systems into its decision making process.

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