

Preface

Every day people die from occupational accidents or work-related diseases. According to the statistics of the International Labour Organisation, the number of work-related fatalities is larger than 2.78 million per year. The construction site, the focus of this research, is one of the most dangerous workplaces all over the world. On average, one in every six workplace fatal accidents takes place on a construction site.

Researchers working in the area of occupational health and safety endeavor to identify the scientific questions concerning occupational accidents and provide explanations to them. As a safety researcher, my journey with occupational safety dated back to 2007 when I started my postgraduate study with Prof. Shilian Zhang in the Faculty of Construction Management and Real Estate, Chongqing University. My master's degree thesis focused on the construction safety law and regulations of China. The objectives of the research were to identify the problems, and propose possible future directions of construction safety law and regulations. At that time, very few Chinese scholars paid attention to work safety.

During the second half of my master's study, I had an internship at a consultant company in Shanghai. I found a book called *Hong Kong Construction: Safety Management and the Law* by Prof. Steve Rowlinson from Shanghai Library who later became my PhD supervisor at the University of Hong Kong. Steve's book provided a systematic view of construction safety issues in Hong Kong. By reading the book, I realised the importance of understanding the big picture before focusing on the specific research questions.

I started my PhD study in 2010 at the Department of Real Estate and Construction, Faculty of Architecture, University of Hong Kong, where I got accessed to abundant research resources from the university library. More importantly, I, for the first time, went into construction sites to talk to people working on sites, and observe how work safety was managed, perceived, and responded by people. The field investigation inspired me to ask: why accidents still occur in excellent companies after they have put tremendous efforts into safety management? There could be many theories and perspectives to guide the exploration of this question. I chose the institutional theory and an institutional perspective. At that time, very few studies had explicitly studied occupational safety from an institutional perspective. I spent quite a lot of time in reading

institutional theory literature (see Chapters 2 and 3) and sought institutional explanations of construction companies' safety management strategies and activities.

In retrospect, the process of writing this doctoral thesis was painful. What was even painful was that I could not get a single paper published in two years after graduation. Fortunately, I did not give up. After numerous rejections and revisions, I learned how to write qualitative research articles. The research focus was further sharpened, the positioning of the research was reoriented, and the analysis and discussion got refined during these processes.

To date, I have published three academic papers based on my doctoral research. With the publication of these papers, I saw the value of my research both to the academic world and to safety management practice. Research on safety management from an institutional perspective is now emerging. One of my papers, "The Evolution of Safety Legislation in Hong Kong: Actors, Structures and Institutions" was highly appraised by Prof. Rowlinson as "a seminal paper for Hong Kong". He circulated the paper to colleagues in the industry. I thought it would be valuable to disseminate the pains and gains of construction safety management in Hong Kong to China. This is why I decided to turn my doctoral thesis into a book.

Drawing on the institutional theory, in this book, I investigated how contractors in the Hong Kong construction industry experienced and responded to the complex safety demands in their surrounding institutional environment. Given that the institutional theory in safety research was still nascent, a qualitative research strategy was employed (see Chapter 4), comprising three interlinked components: archival and documentary data analysis, case study, and semi-structured interviews.

At the first step, the documentary and archival data analysis was conducted to establish a holistic view of the institutional environment faced by construction companies (see Chapter 5). Based on the documentary and archival data, a concept of construction safety-defined organisational field was developed, and a historical overview of the control and coordination mechanisms of the field was introduced. It is found that the field has undergone four stages: early days, the embryonic stage, golden time and the transition stage. This chapter presents how industrial safety can be gradually improved with the evolution of the construction safety-defined organisational field.

An exploratory case study at the second step aimed at exploring whether site safety practices could be interpreted from an institutional theory perspective, and if it does, how (see Chapter 6)? The safety practice data were obtained from 62 open-ended interviews and project archives. The institutional perspective was proved insightful in understanding contractors' safety practices. The findings show that the complex

institutional environment, especially the incompatible progress and safety requirements, is a key determinant of mixed site safety practices.

With the insights obtained from the documentary analysis and case study, semi-structured interviews were lastly carried out to investigate: 1) the specific institutional demands imposed on contractors regarding site safety; and 2) how contractors respond to the complex institutional demands (see Chapters 7 and 8). 24 semi-structured interviews were conducted. The data analysis follows the logic of abduction. By travelling back and forth between extant institutional theory literature and empirical evidence, the research findings were gradually formed.

It is found that contractors face four categories of institutional demands comprising: 1) legislation and enforcement; 2) clients' requirements; 3) construction companies' internal requirements; and 4) field-level voluntary safety programmes. The results also indicate that site safety is guided by two intertwining logics: the prescriptive logic and the performance-based logic. These two logics work collectively to improve site safety.

Five patterns of institutional complexity were identified residing in the complex institutional environment. These are: 1) inconsistent regulatory demands; 2) regulatory uncertainty and rigidity; 3) redundant institutional demands from field actors; 4) conflict between safety demands and production efficiency; and 5) disparate values and beliefs about safety and the ways to achieve safety. Contractors' experience of institutional pressures and general safety management strategies depends on construction companies' field positions (i.e. central and peripheral). The level of institutional complexity experienced by contractors is moderated by the project structure and governance. It is found that contractors would adopt a series of strategic responses, such as concealment, buffering, imitation and influence, to cope with those five patterns of institutional complexity.

This research extends the existing safety research to an institutional domain. The organisational field perspective adds a new dimension to explain safety management actions and structures of construction companies. Practical implications are also provided for policymakers, clients and construction companies (see Chapter 9).

However, one size does not fit everything. As this book shows, safety management practices are deeply rooted in the social, economic and cultural contexts. By reading this book, I hope that policy makers, safety researchers and practitioners could be inspired to seek solutions to safety management problems that fit the context of China.

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