

THESIS FOR THE DEGREE OF LICENTIATE OF ENGINEERING

Creating an environmental sustainability profession

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Abstract

The purpose of this thesis is to problematize the professionalization processes of environmental sustainability roles by studying how professionals in the Swedish AEC industry actively participate in the continuous creation of an environmental sustainability profession. This is done by investigating how the role of environmental sustainability professionals, as carriers and executors of an environmental sustainability agenda, has developed since the early 1990s, and how they are maintaining a momentum for environmental sustainability practice.

The research builds on the view of professions as a 'shared doing in practice'. The practice is captured through a micro-level institutional perspective, which allows for studying professionalization processes as the institutional work of environmental sustainability professionals as they seek to establish themselves and environmental sustainability practice in the industry.

The research for this thesis is based on a qualitative research design. In-depth interviews with 30 environmental sustainability professionals were conducted, which enabled a more detailed study on what they do in practice and how they have perceived the development of their role.

Three papers are included. The findings show how environmental sustainability professionals have engaged in institutional entrepreneurship and in the creation of an environmental sustainability profession. They do so by adopting different strategies and by creating hybrid institutional logics that they learn to navigate within, depending on the situation and with whom they are interacting. This thesis contributes to both theory and practice. For theory it provides rich empirical examples of professionalization processes of environmental sustainability. For practice, it analyses and problematizes the role, which supports the future development of an environmental sustainability profession.

Key words: Environmental sustainability, professionalization processes, practice, environmental managers, environmental sustainability professionals, hybrid institutional logics, AEC industry.

List of appended papers

This thesis is a summary of work contained in the following papers:

Paper I Reviewing the role of sustainability professionals in construction
Månsson, S. (2019)

Published in *Emerald Reach Proceedings Series*, 2, 393–399.

A peer-reviewed conference paper written by Stina Månsson was presented orally at the 10th Nordic Conference on Construction Economics and Organisation in Tallinn, 7–8 May 2019. Supervisors Pernilla Gluch and Petra Bosch-Sijtsema helped with reviewing the paper.

Paper II Taking lead for sustainability: Environmental managers as institutional entrepreneurs
Gluch, P. and Månsson, S. (2021)

Submitted to journal

An earlier version of the paper was peer-reviewed and presented orally at the 26th International Sustainable Development Research Society Conference in Budapest, 15–17 July 2020 (online). The paper was co-written by Pernilla Gluch and Stina Månsson. Månsson conducted the interviews and most rounds of analysis.

Paper III How sustainability professionals navigate the sea of sustainability
Månsson, S, and Gluch, P. (2020)

Conference paper at the 36th Annual ARCOM Conference in Glasgow, 7–8 September 2020 (online).

A peer-reviewed version of the paper was presented orally at the 36th Annual ARCOM Conference in Glasgow, 7–8 September 2020 (online), where it received the Emerald Award for Sustainability. The paper was co-written by Stina Månsson and Pernilla Gluch. Månsson conducted the interviews and most of the analysis. Since the conference, only minor grammatical changes have been made to the manuscript.

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1 Introduction

In line with the increased demand for environmental sustainability that has pressured organisations to properly manage their environmental impacts, the need for expertise in environmental sustainability has increased as well. In the architecture, engineering and construction (AEC) industry, that need has given rise to new specialists and expert professionals such as environmental coordinators, auditors, managers, and consultants (Gluch, 2009; Jaradat et al., 2013; Kabiri and Hughes, 2018; Lambrechts et al., 2019). Since the early 1990s, these professionals have framed the environmental sustainability challenge in the industry as drivers and executors of an environmental sustainability agenda (Gluch, 2009; Gluch and Bosch-Sijtsema, 2016; Gluch and Räsänen, 2012).

Construction project management, however, does not always cohere with sustainability, which is typically concerned with long-term challenges for which there are no clear solutions (Sabini et al., 2019). That dynamic creates an ambiguity in environmental sustainability professionals' role, as they are expected to balance a long-term environmental strategy along with the precise objectives and time-bound activities of construction project practice (Gluch and Räsänen, 2012). In addition to contradictory practices, environmental sustainability professionals' work is often fragmented into occupational safety and health, quality management, and social sustainability (Gluch, 2009), which further complicates their role. Previous research has shown that such professionals are more often maintaining construction project practice than changing it (Gluch and Bosch-Sijtsema, 2016).

Because traditional views on professionalism do not consider new types of professionals, researchers have called for new ways of studying professionalization processes (Brès et al., 2019). To answer that call, the thesis departs from those traditional views by conceiving professionalism as a doing in practice (Anteby et al., 2016; Brès et al., 2019; Pratt et al., 2006), which focuses on practices as patterns of situated actions (Gherardi, 2009). Adopting a practice perspective on professionalism, in turn, enables the study of professionalization processes 'from within' as they 'happen'. In the thesis, practice is captured through a micro-institutional perspective, which has enabled the study of how environmental sustainability professionals are creating and maintaining environmental sustainability practice on an individual level as they seek to establish themselves as a profession (Lawrence and Suddaby, 2006; Scott, 2008).

The success of implementing an environmental sustainability agenda therefore depends on how professions in environmental sustainability are received and established within the AEC industry as well as how traditional roles adapt to that change. Despite this, surprisingly little is known of professionalization processes of environmental sustainability. In response to an urgent need for environmental sustainability and the lack of research on professionalization

processes of environmental sustainability, the purpose of the thesis is to problematize the professionalization processes of environmental sustainability roles by studying:

how professionals in the Swedish AEC industry actively participate in the continuous creation of an environmental sustainability profession

That is done by interlinking two perspectives: (i) a retrospective perspective on how environmental sustainability professionals' role, as drivers and executors of an environmental sustainability agenda, has developed since the early 1990s; and (ii) a contemporary perspective on the role today and how such professionals are maintaining environmental sustainability work. More specifically, the thesis aims to answer the following two questions:

RQ1: How has the environmental sustainability role developed over time?

RQ2: How do environmental sustainability professionals maintain a momentum for an environmental sustainability management practice?

The thesis is structured as follows. First, a background to the AEC industry is presented that focuses on its characteristics, major environmental challenges, and new professional roles. Next, a background on the professionalization literature is presented to explain why a micro-level institutional perspective can help in the study of how environmental sustainability professionals actively participate in the continuous creation of a profession. After that, the theoretical frame of reference is elaborated, followed by a summary of the theoretical concepts that inform the study and a description of how the study was conducted. Last, the main findings from the included papers are presented, followed by a discussion and a conclusion with suggestions for future research.

2 Background

This section consists of two chapters that present literature relevant to understanding professionalization processes of environmental sustainability in the AEC industry. First, Chapter 2.1 describes the AEC industry in terms of its characteristics and project-based nature, the major environmental challenges that it faces and new professional roles within it. Second, Chapter 2.2. overviews literature on professionalization and explains why adopting a micro-level institutional perspective can provide new insights into how environmental sustainability professionals in the construction industry actively participate the continuous creation of an environmental sustainability profession.

2.1 The AEC industry and environmental challenges

2.1.1 Characteristics of the AEC industry

The AEC industry is characterized by its project-based nature, meaning that most of its operations are conducted in individual projects, each with multiple actors and professionals who work together to coordinate and perform activities sequentially in order to deliver a final product (Dubois and Gadde, 2002; Papadonikolaki et al., 2019). The projects are characterized by a focus on cost, the importance of time, and a need to carry out activities in a certain order. The strong focus on time and on cost also emphasize the efficiency of projects, which favours an immediate and decentralized decision-making to deal with the unpredictable environment and local adjustments (Dubois and Gadde, 2002).

The delivery of buildings and infrastructure is a complex process which requires the involvement of different professionals with specific skills and expertise who participate in different stages of the project delivery (e.g. in the design, planning, and construction phase). In the past, construction professionals have collaborated in relatively stable role structures with a shared understanding of who does what (Bos-de Vos et al., 2019). However, as the industry has become increasingly complex with the introduction of new roles and new types of expertise, construction professionals have needed to identify new ways of working together and coordinating their activities (Matinheikki et al., 2019). In construction projects, however, the same team seldom works together from one project to the next (Dubois and Gadde, 2002). Instead, institutionalized construction practices enable professionals to collaborate in projects without needing to have worked together before (Liefink et al., 2019). A consequence of the industry being highly institutionalized, is that it becomes slow and less receptive to change (Dubois and Gadde, 2002; Liefink et al., 2019). The ‘slowness’ of the industry in turn complicates professionals’ environmental sustainability work, specifically as research has shown that a construction management logic often ‘clashes’ with an environmental management logic (cf. Gluch and Räisänen, 2012).

2.1.2 Environmental challenges

The most significant environmental challenges facing the AEC industry are its vast consumption of raw materials, its high volumes of generated waste and, more broadly, climate change. The construction industry consumes an estimated 40% of all the global raw materials worldwide, including 50% of the world's steel (de Wit et al., 2020; World Economic Forum, 2016). Another pressing environmental challenge is climate change. Nearly 11% of the global energy- and process-related CO₂ emissions derive from construction (Global Alliance for Buildings and Construction et al., 2019). By extension, the industry also faces the challenge of needing to adapt the built environment in order to mitigate the consequences of climate change, including flooding, hurricanes and other natural hazards (World Economic Forum, 2016).

The drivers of environmental impacts have historically been, and continue to be, economic development, technology development, urbanization, increasing population, and changing demographics (UN Environment, 2019), each of which has the potential to either contribute to or mitigate environmental impacts. The environmental sustainability challenge is therefore foremost a transformational one (UN Environment, 2019). The mentioned drivers are inherently linked to the AEC industry. Current management of the industry makes it a large contributor to environmental impacts and climate change e.g. through the vast consumption of raw materials and the related waste, pollution, and carbon dioxide emissions (Leiringer, 2020). However, if managed differently the AEC industry has a significant potential to contribute positively to many of the sustainability goals (Adamec et al., 2021). Specifically, as the industry provides the prerequisites for sustainable cities and communities (Adamec et al., 2021; UN, 2021).

2.1.3 Environmental sustainability roles in the industry

Few studies have involved examining environmental sustainability professions in construction project management (see Paper I for a literature review). Instead, the majority of research in the field has focused on improving environmental sustainability by implementing environmental management or assessment systems (e.g. Hwang and Ng, 2013; Hwang and Tan, 2012; Robichaud and Anantatmula, 2011; Senaratne and Hewamanage, 2015). In studies where the role is more researched, the findings show how environmental sustainability professionals often struggle to find a place within the project organisation (Akotia and Opoku, 2018; Gluch and Räsänen, 2012), and they are often navigating between formal and informal roles because of conflicting and/or contradicting practices (Gluch, 2009; Murtagh et al., 2018; Troje and Gluch, 2020). In a longitudinal study involving multiple cases, Gluch (2009) explored the emergence of environmental professionals in the Swedish construction industry. In addition to environmental management, their work often included occupational health and safety, quality

management, and corporate social sustainability (Gluch, 2009). The findings showed that the roles and identities of environmental professionals were formed in relation to project practices, and the professionals developed both formal and informal roles due to different worldviews and time perspectives between the employer's organisation and the temporary construction project's organisation. As a consequence, project-related practices both framed and constrained environmental professionals because of varying worldviews, and contradictory practices between long-term environmental strategies and immediate activities in construction projects (Gluch, 2009). Along similar lines, Murtagh et al. (2018) found that environmental sustainability professionals working with building certification systems perceived that their ability to improve environmental sustainability performance was limited to following regulations, which counteracted their motivation to improve environmental sustainability in the industry. In a more recent study, Troje and Gluch (2020) investigated new sustainability-focused roles arising from social procurement in construction projects and found that sustainability professionals navigate between conflicting formal and informal roles and responsibilities, which in turn complicated their ability to legitimize their roles (Troje and Gluch, 2020). Furthermore, environmental sustainability professionals are often involved in several construction projects at the same time (Gluch and Räsänen, 2012), which further limits the time available to spend in individual projects. More, Akotia and Opoku (2018) found that such professionals were among the least involved in the delivery of sustainable regeneration projects despite its focus on sustainability.

2.2 Professions and professionalization

2.2.1 Professions as a knowledge domain

In the 1930s, literature in sociology of professions asked questions such as “what characterizes a profession?” and “what separates a profession from other occupations?”. That functionalist perspective typically concerned classical professions, including law and medicine, and emphasised how professionalism as a type of authority brings order to society. From that perspective, professionals were foremost seen as independent service providers to society (Abbott, 1988; Evetts, 2003; Švarc, 2015) who possess a normative knowledge domain that laypeople are expected to trust (Evetts, 2003; Styhre, 2011).

In the 1960s, a contrasting perspective on professions was introduced to the sociology of professions. Instead of viewing professionals as independent service providers to society, scholars began to study professionalization as a means of gaining power and political influence (Abbott, 1988; Evetts, 2003). In that light, the so-called professional project became understood as a form of professionalization by which members of an occupational group upgrade their status to a profession by formalising a monopoly of competence in the market (Larson, 1977). According to Larson (1977), such projects are characterized by the formation

of occupational closure and self-regulation by way of professional associations, formal education programmes, professional and vocational training and shared work ethics that distinguish members from non-members (see also Styhre, 2011). From that view, professionalization is understood as the extent to which an occupation is defined by a set of work-related tasks exclusive to the particular group and how the group manages to defend that area of expertise from others (Leicht and Fennell, 2001).

2.2.2 Professions as professional practice

However, as society and the professional landscape have changed, the status of professions as forming an exclusive elite with jurisdictional claims and occupational control over a specific set of skills and knowledge domain has become increasingly questioned (Cross and Swart, 2020; Susskind and Susskind, 2015; Švarc, 2015). Consequently, researchers have issued calls for more contemporary perspectives on processes of professionalization (Brès et al., 2019; Larson, 2018). In that process, studying daily professional practices has been put forward as a critical step in understanding professionalization processes (Anteby et al., 2016; Brès et al., 2019). One way of capturing such daily professional practices is by adopting ‘a practice lens’ on professions.

From a practice lens, a *profession* is understood as a “collected and distributed form of doing”, or “knowing-in-practice”, that is the locus of learning, working, and innovating (Gherardi, 2009, pp. 353-354). Those practices in turn are materialised in situated actions in time and space, including mobilising resources, using instruments and employing a contingent, goal-oriented rationality (Gherardi, 2009). *Professional practices* are therefore understood as “practical and temporary agreements” on how activities are carried on by its practitioners Gherardi (2009, p. 353). For the purpose of the thesis, *environmental sustainability professionals* are therefore regarded as professionals who are considered—by themselves or by others—as practitioners within environmental sustainability and who are practicing environmental sustainability in their work. In the context of the Swedish construction industry, *environmental sustainability professional* refers to professionals who work with, and are responsible for, environmental sustainability as part of their job e.g. environmental and/or sustainability experts, managers, auditors, coordinators, consultants, and strategists.

For practitioners to recognize ‘shared ways of doing things’, professional practices are necessarily institutionalized. Professional practices become institutionalized by the institutional work (Lawrence and Suddaby, 2006) carried out by its practitioners (Gherardi, 2009). To better understand professionalization processes of environmental sustainability, and to capture professional practice: a micro-level institutional perspective is therefore applied.

3 Theoretical frame of reference

To study the creation of a sustainability profession and investigate how environmental sustainability professionals are participating in the process, a micro-level institutional perspective is applied. A micro-level institutional perspective, including the concepts of institutional work (Lawrence and Suddaby, 2006), institutional logics (Thornton and Ocasio, 2008), and institutional entrepreneurship (Battilana et al., 2009), brings back the notion of practice and individuals into the institutional analysis of organisations (Greenwood et al., 2008). A concept central in this perspective is known as the “paradox of embedded agency” (Battilana and D’Aunno, 2009, p. 36). Embedded agency refers to how individuals are influenced by, but also able to influence, the institutions that otherwise ‘regulate’ the organizational field in which they operate (Battilana and D’Aunno, 2009). In that sense, *institutions* in the thesis are defined as widespread understandings of social reality or norms, as ‘enduring elements’ that strongly influence organisational and individual behaviour (Lawrence and Suddaby, 2006).

3.1 Institutional logics

Institutional logics can be conceived as the underlying actions of widespread understandings of reality—that is, institutions—that affect ‘thought patterns’, norms, values, and, in turn, how regulations are formed (Thornton and Ocasio, 2008). Institutional logics therefore influence how individuals and professionals view themselves, their values, assumptions, goals, and interests, as well as what is perceived to be the rational way of carrying on with activities. The lens of institutional logics enables to study the interrelationships between the everyday work of individuals and wider patterns of institutional change (Smets et al., 2012). As such, institutional logics are helpful for understanding ‘practice-driven institutional change’ (Smets et al., 2012) and, by extension, how environmental sustainability professionals participate in the continuous creation of a profession.

It is assumed that actors are able to influence institutional logics, even though the means and end of their ambition and agency are embedded in the institutional setting. Individuals’ (or professionals’) ambition and agency are therefore both enabled and constrained by institutional logics (Thornton and Ocasio, 2008). Organisational fields often encompass multiple competing institutional logics (Currie and Spyridonidis, 2016; Greenwood et al., 2011). This institutional complexity is particularly challenging in sectors where individuals in professions informed by different institutional logics need to collaborate and coordinate (Jarzabkowski et al., 2009).

At the organisational level, scholars have found that multiple logics can coexist (Besharov and Smith, 2014), and research on professional roles has indicated that institutional complexity may give rise to “hybrid professionals” who facilitate between conflicting logics (Blomgren

and Waks, 2015, p. 79). Professionals can also be influenced by multiple institutional logics (Andersson and Liff, 2018; Jones and Livne-Tarandach, 2008), and blend institutional logics to gain agency (Currie and Spyridonidis, 2016). For example, as Andersson and Liff (2018) have shown, professionals with different institutional logics can co-opt strategic elements from competing logics that matches with the most important parts of their own. However, ‘borrowing’ from another logic eventually leads to changes in the own professional institutional logic as well (Andersson and Liff, 2018).

Professionals have been shown to not only appeal to different institutional logics but also create new hybrid institutional logics. For example, in a longitudinal study of 55 firms in the United Kingdom, Dahlmann and Grosvold (2017) found that environmental managers embedded an environmental management logic with an existing market logic and thereby created a new hybrid logic. Aside from managing the competing institutional logics and creating a new logic, the environmental managers also redefined the institutional context upon which their roles depended such that they were no longer the ‘sole carrier’ of environmental practices in the firm but instead supported by a broader organisational engagement. The hybrid institutional logic also influenced environmental managers’ agency to introduce ecologically responsible business practices into their organisations (Dahlmann and Grosvold, 2017).

3.2 Institutional work

Institutional work is defined as “the purposive action of individuals and organisations aimed at creating, maintaining, and disrupting institutions” (Lawrence and Suddaby, 2006, p. 215). Institutional work recognizes actors’ ability to pursue purposive actions in their day-to-day work aimed at changing institutions. It offers an agentic and practice-oriented perspective to organisational and institutional change (Lawrence et al., 2011). The concept of institutional work allows for understanding the purposive actions of environmental sustainability professionals as they attempt to shape the processes by which institutions change or are maintained (Lawrence and Suddaby, 2006; Mena and Suddaby, 2016). In the thesis, the notion of institutional work can help us understand professionalization processes of environmental sustainability by analysing how environmental sustainability professionals participate in the continuous creation of an environmental sustainability profession.

In the last decade, increased interest has been paid to how actors are creating, maintaining, and disrupting institutions in pursuing their own professional projects (Adamson et al., 2015; Muzio et al., 2013; Suddaby et al., 2015; Suddaby and Viale, 2011). For example, Suddaby et al. (2015) observed how social media professionals in large accounting firms, “in pursuing their own professional project, generated changes in the professional domain of accountancy” (p. 52). Meanwhile, among scholars who have studied professionalization processes, Breit et

al. (2018) found that frontline managers in social services in Norway engaged in institutional work by identifying and aligning tensions between so-called ‘professional’ and ‘administrative’ pressures, thus creating a hybrid profession. At the same time, institutional work has also been used in maintaining professional boundaries. In their study, Currie et al. (2012) observed how elite professionals such as specialist doctors engaged in institutional work to maintain their professional power, and fend off new medical roles that intruded on their professional domain.

Although research on institutional work in the construction industry has been relatively scarce (Bresnen, 2017; Chan, 2018), some studies have involved examining institutional work to describe organisational change (e.g. Biygautane et al., 2020; Lieftink et al., 2019). In a longitudinal case study conducted between 2006 and 2017, Lieftink et al. (2019) investigated how architects engaged in institutional work in creating a project delivery method with new underlying practices. By building upon the concept of relational institutional work, which focuses on the creation of new interactions between actors, they identified how the architects were mobilising actors across the sector to change construction project management institutions (Lieftink et al., 2019).

Still other scholars have analysed the role and agency of different professional groups through the lens of institutional work. For example, Daudigeos (2013) explored how professionals with little formal authority were gaining agency to promote new professional practices inside their organisations. Based on an inductive case study on occupational health and safety managers in a French multinational construction company, the authors found how the professionals created a proxy legitimacy via external and internal networks that they consequently used to promote safety practices, and to persuade other members of the organisation, and manoeuvre social constraints (Daudigeos, 2013).

In related work, Gluch and Bosch-Sijtsema (2016) investigated the role and agency of environmental experts in Sweden’s construction industry. Based on the narratives of 50 such experts, they showed how the environmental experts adopted various forms of agency (cf. Battilana and D’Aunno, 2009) depending on the available resources, and the local context at the construction site. Among their findings, the authors described how the experts often needed to adopt a practical evaluative form of agency (and the respective form of institutional work) that suited project practice. However, that dynamic created tension between various forms of institutional work, and the experts were often compelled to maintaining construction management institutions instead of creating and/or disrupting institutions.

3.3 Institutional entrepreneurs and entrepreneurship

Institutional entrepreneurship refers to the “activities of actors who have an interest in particular institutional arrangements and who leverage resources to create new institutions or to transform existing ones” (Maguire et al., 2004, p. 657). By extension, *institutional entrepreneurs* are defined as actors or “change agents who initiate divergent change”—that is, changes that break with the institutional arrangement in a field (Battilana et al., 2009, p. 67). Thus, institutional entrepreneurs are also understood to actively work towards implementing those changes by, for example, mobilising resources and/or ambassadors that support the new vision (Battilana et al., 2009; Klein Woolthuis et al., 2013). Literature suggests that there are enabling conditions—for instance, individuals’ social position (Battilana, 2006), and field-level events such as accidents, scandals and crises (Battilana et al., 2009; Hardy and Maguire, 2008; Hoffman and Devereaux Jennings, 2011)—that enables individuals to ‘break free’ from the institution and initiate divergent change. However, the context and timing of critical events are also important for whether institutional entrepreneurs manage to introduce alternative practices or not (Hoffman and Devereaux Jennings, 2011). In this thesis, the actor-oriented concept of institutional entrepreneurs is helpful for understanding dynamic relationships between field-level events and the actions of environmental sustainability professionals as they strive to change the status quo.

Research on institutional entrepreneurs has shown that discursive strategies are important in divergent change. For example, in two manufacturing firms, Rothenberg (2007) showed how environmental managers were able to improve environmental sustainability beyond the regulatory requirements by using discursive means to frame environmental performance as a form of operational efficiency and thereby gain legitimacy. Likewise, Etzion and Ferraro (2010), who studied the Global Reporting Initiative, showed how the organisation engaged in institutional entrepreneurship by using analogies to existing practices between sustainability reporting and financial reporting as a means to gain legitimacy.

3.4 Summary of theoretical concepts informing the thesis

For the purpose of the thesis, an institutional perspective on professions and levels of analysis is illustrated in Figure 1. In the thesis, a *profession* can be regarded as an institution, and *professionalization* as the institutionalization of an occupation or professional practices. *Professionalization processes* in turn are how the professionalization or institutionalization of an occupation or professional practices ‘happens’. In the thesis, the phenomenon of interest is professionalization processes of environmental sustainability roles, which can also be conceived as institutionalization processes of environmental sustainability practice, and for example, how professionals are participating in the continuous creation of an environmental

sustainability profession, or how they are maintaining a momentum for environmental sustainability management practice

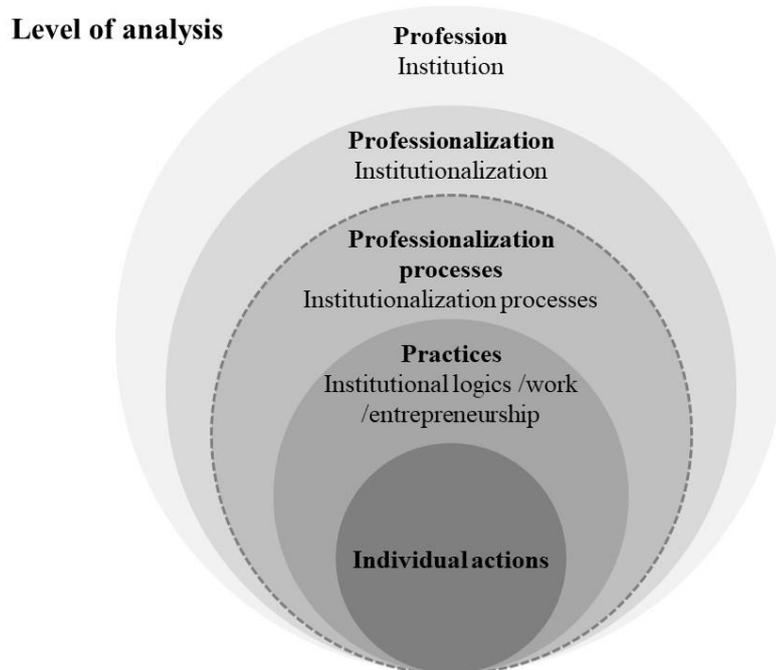


Figure 1: Level of analysis. A micro-level institutional perspective enables the study of professionalization processes from a practice perspective by observing individual actions and analysing practices.

In the research for the thesis, professionalization processes were understood by analysing practices. In that sense, a *process* is considered to be a sequence of events with a specific outcome and a *practice* to be what happens within the process (Lawrence and Suddaby, 2006). Practices, in turn, are also ‘patterns of situated actions’ that are reproduced over time (Gherardi, 2009). As such, observing individual actions in the ‘empirical world’ can help us analyse and understand practice and processes of professionalization. In this thesis, it is the individual actions of environmental sustainability professionals that are of interest.

In this study, the practice is captured through the concepts of institutional logics (Thornton and Ocasio, 2008) institutional work (Lawrence and Suddaby, 2006) and institutional entrepreneurship (Battilana et al., 2009). The practice-oriented concept of institutional logics (Thornton and Ocasio, 2008) helps to visualize the role of environmental sustainability professionals as a ‘shared doing in practice’ (cf. Gherardi, 2009), while the practice oriented concept of institutional work helps to capture how they are creating, disrupting, and maintaining this ‘shared doing in practice’. Furthermore, the actor-oriented lens of institutional entrepreneurs (Battilana et al., 2009) can help us study environmental sustainability professionals as potential ‘change agents’ (Muzio et al., 2013; Scott, 2008), and specifically how early environmental sustainability professionals or ‘environmental pioneers’ since the 1990s have taken lead for environmental sustainability in the industry. All of these concepts

are helpful for studying individual actions and practice and relate it to wider field-level changes (Bresnen, 2013; Lawrence et al., 2011).

4 Methodology

Because the aim of the thesis was to study how professionals in the Swedish AEC industry actively participate in the continuous creation of an environmental sustainability profession, a qualitative research approach was applied. It has enabled a more detailed study on what environmental sustainability professionals do in practice and how they have perceived the development of their role. A qualitative research approach provides rich, thick, and explanatory data that are suitable for describing and understanding social phenomena (Edwards et al., 2014), and offers the opportunity to answer questions centred on social experience (Lawrence and Suddaby, 2006; Streubert and Carpenter, 2010).

4.1 Qualitative research approach

The study built on the assumption that a real world exists, but parts of it consist of subjective interpretations which influence how it is experienced and perceived (Edwards et al., 2014). In turn, it follows that our knowledge of the world is subjective and context- and concept-dependent.

The research was generated through an iterative process of moving between conceptions and data. Thus, the research followed an abductive logic of discovery (Edwards et al., 2014). The findings in the thesis were therefore ‘discovered’ by iterating between the theoretical (i.e. conceptions) and the empirical (i.e. data). The purpose of iterating between conceptions and data was to re-describe observations in the empirical world in a more general way to describe reality as accurately as possible. This meant that the research process started with a conception of the phenomenon, based on an initial literature review (see also Paper I). From there, interviews were conducted with environmental sustainability professionals from the Swedish AEC industry. The study, therefore, evolved from being explorative to being more investigative as more knowledge about the phenomenon was obtained. Table 1 summarizes the data collection in the study and the related papers.

Table 1: Summary of data collection following an abductive logic of discovery. An explorative phase began with an initial literature review followed by interviews with eight environmental managers. Observations from the interviews led to a second research question and an investigative phase with an additional 22 interviews.

	Explorative phase of study		Investigative phase of study
Period	Literature study May–October 2018	First set of interviews March–October 2019	Second set of interviews October 2019–February 2020
Perspective taken	A curiosity-based perspective	Retrospective perspective	Contemporary perspective
Research question	How has the environmental sustainability role developed over time?		How do environmental sustainability professionals maintain a momentum for an environmental sustainability management practice?
Data collection method	Systematic review Search string: (sustainability OR environmental) AND professional* AND organisation* AND roles AND ("construction industry" OR "AEC industry") Published in journals from January 2000 to October 2018	Semi-structured interviews Participants: 8 Environmental managers/pioneers Length of interviews: 60–150 mins Interview topics: 1) Personal career journeys 2) Perceptions of the development of their professional role in relation to the development of sustainability 3) Beliefs about how their professional role will develop in the future	Semi-structured interviews Participants: 22 Environmental sustainability professionals Length of interviews: 60–90 mins Interview topics: 1) Perceptions of their roles in different situations 2) Actions and responses in those situations
Outcome	Paper I	Papers II and III	Paper III

4.2 Literature reviews and document studies

4.2.1 Initial literature review

An initial literature review was conducted in the beginning of the study in May 2018 to October 2018. The aim of the review was to explore the literature on sustainability professionals in the AEC industry. It followed the process of a systematic review, and the purpose was to find the current ‘state-of-the-art’ on sustainability professionals in construction management research (Bryman and Bell, 2007).

A search for literature was performed in two databases—Scopus and Web of Science—with the keywords “sustainability”, “environmental”, “professional*”, “organisation*”, “roles”, “construction industry” and “AEC industry”. The search returned 1012 articles published in journals from January 2000 to October 2018. An initial screening was done based on the titles in combination with the publishing journal. Articles that seemed to address professional roles, professionalization, and/or environmental management in journals related to construction

management or sustainability were selected, which reduced the number of articles to 100. A second screening was done based on reading the abstracts. If papers were found especially relevant to the topic of the thesis, their references and citations were reviewed to allow for a more exhaustive search (Bryman and Bell, 2007). In the end, 88 papers were read in full, 22 of which were selected to be included in the focused review because of their relevance to the topics of environmental sustainability professionals, professional roles and environmental practices in the AEC industry. Next, each article reviewed was mapped across five dimensions: type of study (e.g. research paper or review paper), focus of study (i.e. aim of study), theoretical framework, methodology (i.e. research design and methods) and main contribution. The systematic review resulted in a conference paper (Paper I) and supported the formulation of the thesis's research questions. A more extensive description of the initial literature review appears in Paper I.

4.2.2 Further literature studies

After the systematic review, I have continued reviewing the literature on environmental sustainability professionals. Because the keywords selected in the initial review generated excessive 'noise' (i.e. returned literature irrelevant to the thesis) the search string was refined to better capture sustainability professionals' roles and professionalization processes, but also to develop the theoretical frame of reference and capture the literature on the intersection between professionalization and institutionalization. A focused literature review on the development of an environmental sustainability practice was also conducted for Paper II. Thus, my understanding of the construction industry and environmental sustainability work evolved over time, as well as the theoretical framework. In that way, the initial literature review served as a way to 'create a research space' and develop research questions, whereas later literature reviews have served as a way to develop the theoretical frame of reference, and to discuss the significance of the findings.

4.2.3 Document studies

For the purpose of understanding the context in which environmental sustainability professionals work, secondary data was collected from the beginning of the research in 2018. Collecting the data involved reading daily news media addressing the environment and/or sustainability, industry-specific news media, sustainability-specific news media and posts in LinkedIn groups monitored by environmental sustainability professionals. Issues regarding environmental sustainability work and/or roles were noted and documented in a research diary. Following the discussions of environmental sustainability professionals also aided in identifying interviewees for the study.

4.3 Data collection using interviews

Interviews have been the main data collection method and are suitable for collecting peoples' lived experiences and individuals' actions (Lawrence and Suddaby, 2006; Streubert and Carpenter, 2010). Because the thesis examines environmental sustainability professionals' lived experiences to understand how they have participated in the continuous creation of a profession, interviews seemed to be the most appropriate approach. The interviews were conducted in two sets, the first set aimed to capture a retrospective perspective on how the role has developed, whereas the second set aimed to capture a contemporary perspective on the role today.

4.3.1 First set of interviews

In the first set of interviews, conducted between March and October 2019, eight environmental experts were specifically asked to be interviewed for the study because of their status as 'environmental pioneers' in the Swedish AEC industry and because of their long experience of working with environmental management in the sector. The environmental experts were known from previous research projects and identified as being at the forefront of environmental sustainability in industry-specific news media, at conferences and in innovation projects. They were approached by email and asked to participate in the study. As environmental pioneers with a long experience in the sector, they were able to share a retrospective perspective on how they perceive the development of their professional role. Furthermore, as being among the first to bring environmental practice into the Swedish AEC industry, the interviewees also had the potential of being institutional entrepreneurs. The selection of interviewees can therefore be said to follow the tradition of purposive sampling in qualitative research (Boyatzis, 1998), in which interviewees are selected based on their ability to provide insights into the phenomenon of interest.

To capture how the environmental experts perceived their professionalization journey, the interviews were done in a semi structured manner (Kvale, 2007) meaning that the interviewees were asked open-ended questions about their professional role and the development of an environmental sustainability profession. In particular, the interviews covered their personal career journeys, their perceptions of how their professional role has developed in relation to the development of sustainability, and their beliefs about how their professional role will develop in the future. The semi structured approach allowed for personal follow-up questions, and for a 'natural' flow in which questions could be asked in the order that came naturally (Kvale, 2007). In that way, the interview situation was more of a conversation. In particular, the talk encircled specific milestones in which the interviewee had perceived a change to their professional role and how environmental sustainability work was carried out in practice. Such milestones were probed for in the interview to conceptualize their professionalization process.

The interviews were made either face-to-face (6 interviews) or via Skype (2 interviews) and lasted between 1-2.5 hours. The expert interviews provided rich data on how they have perceived their career from a retrospective perspective.

4.3.2 Second set of interviews

To better understand environmental sustainability professionals' roles, and how they maintain environmental sustainability management practice, a second set of interviews was initiated. In the second set, 22 environmental sustainability professionals were interviewed. Whereas the expert interviews foremost had a retrospective perspective (with focus on professional milestones over time) the second set of interviews took a contemporary perspective focusing on sustainability work and the everyday practices of environmental sustainability professionals. The interviews proceeded from October 2019 to February 2020, and each lasted approximately 1.0–1.5 hours.

The environmental sustainability professionals were selected based on their experience of working with environmental sustainability within the Swedish AEC industry. The purpose was to capture as many perspectives as possible for a rich data set on how the environmental sustainability role is perceived today, and how environmental sustainability professionals are maintaining a momentum for environmental sustainability management practice. The participants were identified through purposive sampling from sustainability-related news media and websites and from a list of company representatives who attended a conference on sustainable construction in spring 2018. Seven of the participants were found based on referrals by previous interviewees. The interviews were made face-to-face (20 interviews) and via Skype (2 interviews).

Asides from discussing their professional role and how they have perceived it over the years, the interviewees were asked to elaborate upon how they perceive their role in different situations and give examples of how they acted and responded in those situations. In that way, the resulting data gave rich information on different aspects of sustainability professionals everyday work. In being semi-structured, it was possible to go back and ask for examples during the interviews (Kvale, 2007). Interviewees were also asked follow-up questions in the case of ambiguity or incoherence in their stories (Kvale, 2007).

4.4 Data analysis

The data analysis followed an abductive logic of discovery, where theory is 'added to the data' (Edwards et al., 2014). In practice, it meant that the data was analyzed in tandem with reading existing theory. The concepts from existing theory then served as a lens through which the interview data was interpreted. Working comprehensively with the interview data was therefore an iterative process of going back-and-forth between the raw interview data and the

findings. In that way, it enabled to walk past the stage of comparing differences and enter the process of *unifying* differences into themes or a ‘bigger story’. In other words, it is assumed that even if the interviewed environmental sustainability professionals had their own individual stories to tell, it is the combining of those stories into a ‘bigger meta story’ that holds the potential of explaining the underlying mechanisms of their professionalization processes (Edwards et al., 2014).

In practice, this meant that different parts or *themes* of a ‘bigger story’ emerged based on interpretations of the data through the lens of the theoretical frame of reference. Typically, the initial themes emerged as abstractions based on patterns that was sensed during the process of transcribing the interviews. For example, in Paper II, the initial abstraction was based on a sense of how environmental sustainability professionals’ role had developed over time in relation to patterns of collective actions. In Paper III, the initial abstraction was based on a feeling of ‘how it is like doing environmental sustainability work’ and a sense of patterns of actions in their day-to-day work. Those abstractions or so-called ‘draft conceptualizations’ served as a ‘coat hanger’ to ‘hang’ and ‘re-hang’ the analysis on. In that way, the draft conceptualizations aided in working systematically with the analysis to *confirm* as well as to *challenge* interpretations of the data. In other words, as we worked through the interview data, new impulses emerged that added to, or changed the themes—but also our interpretations of the data. In that way, the draft conceptualizations evolved as new notions emerged until all interpretations were covered in the themes (cf. Silverman, 2001).

In Paper II, the main focus was on identifying how the interviewees’ professional role had developed since the 1990s. The analysis therefore circulated around a bigger ‘life story’ based on narratives of the interviewees’ lived experiences and their perceptions of the development of their role, see Paper II for more details. To capture changes in their role, the analysis was inspired by a critical incidents technique (Flanagan, 1954), where incidents leading to changes to their professional roles were mapped along timelines and thereafter coded in tandem with existing theory.

In Paper III, a seafaring metaphor was used to conceptualize the everyday work. By using the seafaring metaphor, the perceptions of their everyday work were re-described as an abstraction of five situations that their everyday work is a combination of. How they navigate in their work to maintain agency for environmental sustainability was explained by iteratively analysing the data in tandem with theory on institutional logics.

4.5 Reflection on research quality

In qualitative research, *trustworthiness* has been put forward as a way of ensuring good research quality (Bryman and Bell, 2011; Treharne and Riggs, 2015). Trustworthiness involves

four criteria of quality—credibility, transferability, dependability and confirmability—developed by Lincoln and Guba in 1985 and since widely applied in qualitative inquiry (e.g. Bryman and Bell, 2011; Flick, 2006; Silverman, 2001). For this thesis, consideration has been made to ensure trustworthiness as well as ethical principals when working with the interviews and the data.

4.5.1 Trustworthiness of the study

Ensuring the research's trustworthiness involved several aspects throughout the research process. For example, to ensure the *credibility* of the findings, the research needed to follow a rigorous research process, and the findings needed to be validated in accordance with the underlying view on social reality (Bryman and Bell, 2011). Consideration was also given to the sensitivity of the research method, in which semi-structured interviews are considered to be appropriate for capturing individuals' lived experiences (Streubert and Carpenter, 2010). Semi-structured interviews are also suggested as an appropriate method for understanding practice from a micro-level institutional perspective (Lawrence and Suddaby, 2006), specifically from a retrospective perspective using narratives. Furthermore, the interview data were coded and analysed systematically with the help of a qualitative analysis software (NVivo), and a research diary was kept throughout the research process. In the diary, notes were taken from interviews, documents, literature, and ideas and impulses regarding the studied phenomenon, but also changes to my interview technique. The notes have been helpful to keep track of my research process, but also for checking the validity of the findings. For example, by occasionally returning to the notes, I could check if there were any discrepancies between the notes and the findings or if they were still recognisable (cf. Silverman, 2001). In the papers, 'raw-data' or quotes have been included to show how the interpretations of the data was made, which in turn, has been peer-reviewed by other scholars.

In terms of the *transferability* of the findings into other contexts, the aim of the research was to generalize over theoretical implications, and not over populations (Edwards et al., 2014). To generalize over theoretical implications, purposive sampling has been suggested as an appropriate sampling method (Silverman, 2001). Likewise, I have applied purposive sampling and continued to interview new participants as long as new aspects regarding the studied phenomenon emerged. To ensure transferability, however, it is important to allow other scholars and practitioners to engage with the context of the findings and the underlying rationale, in order for them to judge whether the findings can be transferred to their milieu (Treharne and Riggs, 2015). To that end, I used metaphors as a way to produce thick descriptions of the context and the research findings.

To ensure the *dependability* (i.e. reliability) of a study, it has been suggested that the research process, the data, and the analysis should be carefully documented (Bryman and Bell, 2011).

For that reason, all interviews in the study were audio-recorded and transcribed verbatim. In turn, it has allowed for several rounds of coding on different occasions and by different authors. Moreover, information regarding the time and place of interviews, duration of interviews, interview guides, and the coding of data was carefully documented.

4.5.2 Interpreting interview data

Because words have different meanings for different people, interviews are “a social and linguistic complex situation” (Alvesson, 2003, p. 14), and there is always a risk of misunderstandings and, in the long run, incorrect interpretations of the interviewees’ experiences, feelings, and thoughts. To avoid misunderstandings, the interviewees in the study were asked to elaborate on and clarify the meanings of stories, metaphors, and idioms. However, since it is believed that our knowledge of the world is context- and concept-dependent, it is important to highlight that the findings were necessarily filtered through me as a researcher and, in turn, through my experiences and beliefs about the world. In my case, because I have a master’s degree in industrial ecology, an advantage was a shared language and scientific understanding of environmental issues, which helped with the understanding of the context in which the interviewed professionals work. What I do not share, however, is practical experience in working with environmental sustainability. Thus, to minimize potential biases, the research was conducted in collaboration with others, including members of the research group, and anonymous reviewers. The findings were also presented and discussed at conferences with members of the research community.

4.5.3 Ethical considerations

Certain ethical aspects should be considered when working with interviews (Kvale, 2007), especially if they involve sensitive or personal information (e.g. peoples’ lived experiences or personal life stories). In the research conducted for this thesis, all interviewees participated voluntarily and, before deciding to participate, received information about the purpose of the study, the purpose of the interview, and examples of interview questions. Before the start of the interviews, all participants also received a copy of the project description and were briefly re-introduced to the purpose of the study and the interview, and the process of how the data would be handled. They were additionally asked for their permission to record the interviews and to transcribe and use the interview data in the papers and the thesis. Last, they were informed that the interview transcripts would be decoded and accessed exclusively by my supervisors and me.

During the interviews, all notes were decoded to ensure the interviewee’s anonymity, and the notebook and interview guide were placed within clear view of the interviewee. At times, interviewees would ask to not have something written down, or he or she would say that “this

is off the record”. Any information given under such conditions have not been used as examples in the research.

Before ending the interviews, all participants received the opportunity to add comments and to ask questions. Occasionally, interviewees continued talking after the recording had ended, often by making last-minute comments, in which case they were asked for their permission before the content was recorded.

Consideration was also made to GDPR and the storing of interview data, which was done systematically to ensure data privacy and anonymity. For example, interview recordings and transcripts were separated from other types of personal information, as were the notes written during interviews. Personal information deemed to be unnecessary for the purpose of the study was deleted or never collected in the first place. The data were also stored in a secure way and decoded to ensure anonymity.

Last, only generic quotes have been used in the papers and in the thesis to ensure the participants’ anonymity. Quotes liable to identify a particular interviewee (e.g. detailed work-related information, project-specific information, and personal expressions) has not been quoted in any of the texts.

5 Summary of papers

The first paper, **Paper I**, gives a state of the art of the literature from when the thesis project started in May 2018. It is a literature review that systematically explores what is known about environmental sustainability professionals in the AEC industry. The second paper, **Paper II**, tells the story of the institutionalization of an environmental sustainability profession over time as driven by pioneering environmental managers. Last, the third paper, **Paper III**, conceptualizes environmental sustainability professionals' everyday work as a combination of five situations that they learn to navigate to maintain agency for environmental sustainability work. The main findings from each paper are presented below.

5.1 Paper I

Reviewing the role of sustainability professionals in construction

The aim of **Paper I** was to explore what was known in the literature on sustainability professionals in the AEC industry. The review showed that research on sustainability professionals is emerging but still scarce. Instead, most studies have focused on the implementation of environmental sustainability through the means of environmental assessment tools or via sustainable project management, albeit without addressing the role of environmental sustainability professionals. Although the findings of several studies have characterized such professionals as important actors—as so-called 'green consultants', 'LEED consultants' or 'environmental auditors'—in managing construction projects, their roles therein have not been further elaborated. By contrast, the few published works that have addressed their roles in greater depth have also investigated the roles, identity, and agency of environmental experts. A conclusion drawn from **Paper I** was that more research is needed to better understand the role of environmental sustainability professionals in the AEC industry. For instance, by investigating professionalization processes, professional roles, and practices as mechanisms of institutionalization towards enhanced sustainability in the industry, and to increase the understanding of how sustainability professionals can influence the implementation of an environmental sustainability agenda in terms of changing institutions, norms, and practises.

5.2 Paper II

Taking lead for sustainability: Environmental managers as institutional entrepreneurs

The aim of **Paper II** was to identify critical events that have affected the everyday work of environmental sustainability professionals when adapting to a continuous change of environmental sustainability. The overall objective was to explore how the role of

environmental sustainability professionals has developed in relation to the development of sustainability. By adopting the lens of institutional entrepreneurship and by analysing the narratives of eight pioneering environmental managers' career stories, the paper identifies six episodes in which the role has changed considerably. Overall, the episodes show how an environmental sustainability profession has evolved from being 'something on the side' that was put on existing roles in construction projects 'for the sake of it' to being of strategic importance for companies to remain legitimate. The role has also become more complex as sustainability has grown in scope. A conclusion in the paper is that environmental managers have both been able to engage in institutional entrepreneurship and been disabled by the institutions in which they are part of. This is characterized by how their agency is closely interrelated to a sustainability discourse in society. The implication of that is twofold. On the one hand, it serves as a way of initiating institutional change towards enhanced sustainability; on the other, it causes frustration when agency to act is challenged or temporarily 'lost' because of a discerning discourse in society. This implies that their ability to act for change has revolved around a 'one issue at a time' focus. Their agency has, however, revived over time as they have adopted different strategies in their institutional work to change the industry—for instance, by using the power of examples, by creating shared practices via intra- and inter-organisational engagement and by finding internal as well as external ambassadors to help them.

Paper II contributes to literature on environmental sustainability roles by showing how environmental sustainability professionals are both creators of and constrained by a sustainability discourse. It also contributes by showing how pioneering environmental managers have acted as institutional entrepreneurs in bringing environmental practice into construction project management practice. Last, it provides a rich empirical example of how professionalization processes, as the institutional work conducted by environmental managers, have led to an institutional change in the AEC industry. To practice, the paper contributes with highlighting the complexity of being driver and executor of an agenda in flux, and how this requires a flexible and holistic perspective on the environmental sustainability challenge.

5.3 Paper III

How sustainability professionals navigate the sea of sustainability

The aim of **Paper III** is to investigate how sustainability professionals in the Swedish AEC industry maintain agency for environmental management in a context defined by inter-professional collaboration and multiple institutional logics. The findings show how their everyday work is a combination of five situations, which can be thought of as a sea that these professionals must navigate to maintain their agency for environmental sustainability work. Derived from the empirical data, the situations are presented as five typical workdays:

Workday 1: Diving into the deep ocean. Doing ‘specialist-generalist work’, environmental sustainability professionals are dealing with the vastness of sustainability and the challenge of being the ‘only person to know everything in the whole area of sustainability’.

Workday 2: Undercurrents dragging you down. Doing ‘thankless work’, environmental sustainability professionals are dragged down by an ambiguity surrounding sustainability and the resistance to change business as usual.

Workday 3: Consulting the charts. Doing ‘supportive work’, environmental sustainability professionals are supporting and helping the organisation with sustainability expertise.

Workday 4: Charting new waters. Doing ‘visionary work’, environmental sustainability professionals are ‘stepping in’ on other professional domains and challenging the ‘old ways’ of solving problems.

Workday 5: Keeping environmental issues shipshape. Doing ‘ceaseless work’, environmental sustainability professionals are ensuring that environmental considerations are not ‘lost’ in the organisations, and they are watching for opportunities to engage in visionary work.

Although, the situations are presented as a workday each, the situations change swiftly and overlap, which put pressure on environmental sustainability professionals to deliver time and cost-efficient construction projects, while ensuring that environmental sustainability considerations are not lost. It requires them to be 'specialists-generalists' who constantly work for change in an environment that in the one moment calls for support in environmental issues, and in the next moment neglects and undermines their work. To manage by, environmental sustainability professionals create and navigate a hybrid institutional logic where they shift between practicing operative work and strategic work, and between an environmental management logic and a construction project management logic. **Paper III** contributes to the research on environmental sustainability roles by suggesting how an environmental sustainability profession in the AEC industry conforms to hybrid institutional logics. For practice, the paper highlights the everyday work of environmental sustainability professionals and the complexity in managing the vastness and ambiguity of sustainability.

6 Discussion

6.1 The development of an environmental sustainability role

The first question that the thesis was designed to answer is *how the role of environmental sustainability professionals has developed over time*. Previous research often emphasises the role of environmental sustainability professionals as important for construction project management and for sustainability, although the role is often vaguely defined (**Paper I**). The findings in the thesis show how the everyday work of environmental sustainability professionals and their ability to act for change have been closely interrelated with ‘one issue at a time’ (**Paper II**). Over time, the role has become more legitimate. The role has also grown in scope and become more complex and multifaceted, and it is shown how environmental sustainability professionals adhere to a hybrid institutional logic (**Paper III**).

Scholars have found that professionals often mediate between multiple institutional logics or create hybrid institutional logics to manage institutional complexity and different worldviews among professionals (Currie and Spyridonidis, 2016; Dahlmann and Grosvold, 2017). For example, Dahlmann and Grosvold (2017) found that environmental managers blended a market-based logic with an environmental management logic. The findings in the thesis are similar, although it is suggested that environmental sustainability professionals develop hybrid institutional logics based on a construction project management logic and an environmental management logic.

The role of environmental sustainability professionals as a ‘shared doing in practice’ (cf. Gherardi, 2009) is illustrated in Figure 2. The arrows in the figure illustrate how environmental sustainability professionals moves within an environmental management logic and a construction project management logic, as well as between an operational short-term logic and a strategic long-term logic, all depending on the situation. The situations are illustrated as five honeycombs in Figure 2 and can be conceived as five typical workdays for environmental sustainability professionals. It requires them to deal with various types of problems, both immediate and long-term, while trying to advocate for environmental sustainability. It also requires them to adapt to different worldviews while supporting or challenging other professionals with their environmental sustainability expertise.

Hybrid Institutional Logics

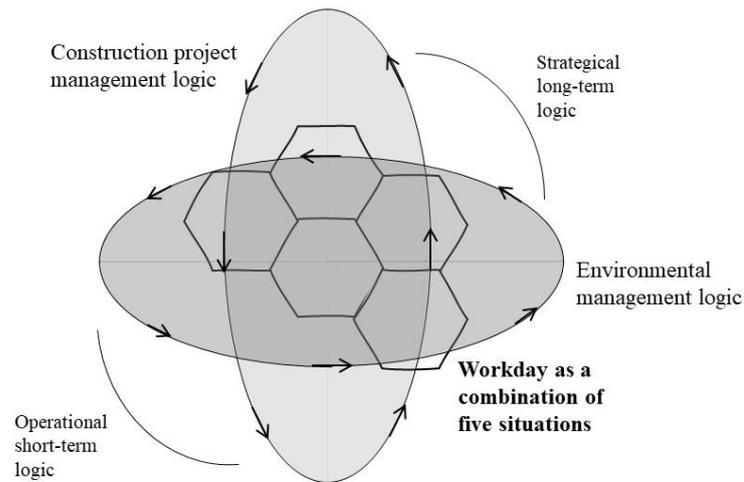


Figure 2 Environmental sustainability professionals navigating within hybrid institutional logics

These findings elaborate previous research on the role of environmental sustainability professionals in the AEC industry (Gluch, 2009; Gluch and Räsänen, 2012; Troje and Gluch, 2020), who have often been shown to navigate between conflicting practices as well as between formal and informal roles. In this research, we have found that the role of environmental sustainability professionals depends on specific situations and with whom they are interacting (**Paper III**). This dynamic means that even though practice in relation to environmental management systems, building certification systems, and waste management has become institutionalized over the years (**Paper II**), the continuation of those practices cannot be taken for granted and it is up to environmental sustainability professionals to maintain the environmental sustainability management practice by being on a constant watch for when and where to intervene (**Paper III**). In that way, this study supports previous research in that environmental sustainability professionals often struggle with being ‘at the right time and place’ (cf. Akotia and Opoku, 2018), and raises questions of how environmental sustainability professionals are supposed to manage the transformative environmental sustainability challenge (UN Environment, 2019) if they have to prioritize ‘holding everything together’ instead of doing the important ‘visionary work’. Likewise, it is not surprising that previous research has found that environmental sustainability professionals often perceive that they are not able to promote environmental performance beyond environmental regulations (e.g. Murtagh et al., 2018).

This thesis also suggests that the vastness and ambiguity surrounding sustainability complicates environmental sustainability professionals’ ability to advocate for environmental sustainability (**Papers II and III**). For example, the findings in **Paper II** indicate that there is a tendency to favour a ‘one issue at a time’ focus on sustainability. This implies that new

expectations are put on the role every time a ‘new’ sustainability-related issue arrives meaning that environmental sustainability professionals lose some momentum in their institutional work towards realising a more sustainable industry (**Paper II**). With a ‘one issue at a time’ focus there is also a risk that a holistic perspective on sustainability is lost in favour for a selection of focus on (new) specialization, and consequently we can see that environmental sustainability professionals become ‘specialist-generalists’. This raises the question of what seems to be a paradox between a holistic perspective on sustainability, and the ability to contribute to targeted change by selecting one or few aspects to put efforts in.

Another possible implication of the vastness and ambiguity surrounding sustainability is that environmental sustainability professionals need to deal with issues outside their immediate scope of expertise. Previous research has also tended to treat environmental sustainability professionals as a rather unclear actor (**Paper I**). Topics perceived as being ‘fussy’ or ‘unclear’ by other construction professionals are often handed over to the environmental sustainability professional who becomes a ‘fussy subject professional’. In turn, the time they can devote to doing visionary work is limited because they need to work on ‘putting things in the right place’ instead of keeping environmental issues shipshape. In a sense, they must navigate a large ship with a small crew while simultaneously taking on the role of captain at the helm of sustainability.

6.1 Strategies for maintaining a momentum for environmental sustainability practice

The second question that the thesis was designed to answer is *how environmental sustainability professionals maintain a momentum for environmental sustainability management practice*. First, we can see how environmental sustainability professionals collaborate across organisations (often competing companies) to create common practice on how to manage ‘new’ environmental issues (**Paper II**). The creation of new interactions between actors, and the use of external and internal networks, have been emphasised as important strategies for institutional work in the AEC industry when promoting alternative practices in construction project management (Daudigeos, 2013; Lieftink et al., 2019). Similarly, the findings in this research suggest that both inter- and intra-mobilization are important for maintaining a momentum for environmental sustainability management practice.

Second, environmental sustainability professionals find ambassadors that support the establishment of environmental practice and help with the identification of ‘window of opportunities’ for environmental interventions (**Paper II**). This is in line with previous research on institutional entrepreneurship, which highlights the importance of ambassadors in supporting new visions. (Battilana et al., 2009) The ambassadors were also important in the ‘ceaseless work’ of keeping environmental issues shipshape (**Paper III**). For example,

environmental sustainability professionals often rely on others to inform of when environmental sustainability considerations are at risk of being forgotten.

Last, research on institutional change has often highlighted the social position of individuals as important enablers of institutional change (Battilana, 2006). The findings in the thesis, by comparison, show that environmental sustainability professionals are actively working on improving their social position within their organisation or in the sector. Moreover, the findings suggest that they are repositioning themselves and choose favourable situations—for example, by moving within and between organisations when their agency to influence for sustainable change is perceived as low (**Paper II**)—or avoid situations where they are dragged down by tasks outside the scope of environmental sustainability or by people perceived to work against environmental management (**Paper III**). A possible implication of this is that environmental sustainability professionals may quit their jobs if they are unable to get a response for environmental issues. As a consequence, companies risk losing environmental sustainability expertise if they do not give environmental sustainability professionals the opportunity to create environmental sustainability management practice and challenge the taken-for-granted norms in managing construction projects.

7 Conclusion

The purpose of the thesis has been to problematize professionalization processes of environmental sustainability roles, by investigating how professionals in the Swedish construction industry actively participate in the continuous creation of an environmental sustainability profession. A conclusion is that environmental sustainability professionals are creating environmental sustainability practice in relation to a continuous flux of ‘new’ sustainability-related issues. The AEC industry has also practiced a one-issue-at-a-time focus on sustainability, which has affected the ability of environmental sustainability professionals to act for change and at times making it slow. The vastness and ambiguity of sustainability makes them specialist–generalists, manoeuvring a broad range of different fields, and there is a risk that ‘fussy topics’ outside of environmental sustainability ends up on their table.

To hang in there, environmental sustainability professionals are therefore also maintaining environmental sustainability management by embedding practice with other professionals, by navigating within a hybrid institutional logic, in which they are supporting others with their sustainability expertise and keeping watch for ‘windows of opportunities’ and situations when environmental sustainability considerations are at risk of being ‘missed’ or ‘forgotten’. Consequently, the success of implementing an environmental sustainability agenda becomes compromised, and a holistic perspective on environmental sustainability may be lost. In that sense, the vastness and ambiguity surrounding sustainability also influence the role of environmental sustainability professionals as drivers and executors of such agendas as they are forced to devote undue time and effort into ‘keeping everything afloat’.

This thesis contributes to an emergent field of research that focus on the role of environmental sustainability professionals in construction project management. It provides rich empirical examples of professionalization processes of environmental sustainability in order to further develop theories of institutional work, institutional logics, and institutional entrepreneurship. Last, it contributes to practice by analysing and problematizing the mentioned role and by highlighting the complexity of professionalizing a profession in flux and of managing the vastness and ambiguity of environmental sustainability.

7.1 Suggestion for future research

Situations in the everyday work of environmental sustainability professionals seem to depend a lot on the people with whom they interact. The situations therefore differ greatly depending on how other individuals are responding to the work and ideas of environmental sustainability professionals. Consequently, individuals in the AEC industry can both support (e.g. as ambassadors) and hinder the ability of environmental sustainability professionals to change business as usual. More in-depth research is therefore needed in order to capture details about

when and how that happens For future research it would be interesting to study what happens at the boundaries between professions—for example, by conducting participant observations and more interviews. It would also be interesting to study how construction project professionals can support environmental sustainability professionals in their work, particularly because most research in the field has focused on how environmental sustainability professionals can support project managers.

A discrepancy also seems to exist between expectations on the role of environmental sustainability professionals and their lived experiences. That discrepancy, in turn, may affect their ability to engage in institutional work towards enhancing sustainability. However, more research is needed to investigate that discrepancy between expectations and practice. For future research, it would therefore be interesting to examine in greater depth how companies frame sustainability-related competences and skills—for example, by analysing job advertisements.

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