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To the letter vs the spirit: A case analysis of contrasting environmental management responses

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Article Title Page

To the *Letter* versus the *Spirit*: A Case Analysis of Contrasting Environmental Management Responses

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Structured Abstract:

Purpose: This paper examines why firms governed by the same environmental management standards within an industry exhibit contrasting responses, with some adhering to the *letter* and others achieving the *spirit* behind the standards.

Design: Using Arena et al. (2010) as an analytical schema to examine the institutional dynamics behind such contrasting responses, the paper analyses archival and interview data relating to firm strategy, control technology and human expertise in two contrasting Australian forestry firms.

Findings: The embedding and decoupling of environmental standards with a firm's environmental management practices is influenced, first, by the extent to which founder directors and senior management *integrate* environmental responsibility with the underlying business motives and, second, by the use of organisational beliefs and values systems to *institutionalise* the integrated strategic rationality throughout the firm. Finally, informed by the institutionalised strategic rationality, the participation and expertise of actors across the organisational hierarchy determines the level to which the design and execution of the eco-control technologies move beyond merely monitoring compliance, and act to facilitate continuous improvement, knowledge integration and organisational learning at the operational level.

Originality: This paper responds to institutional theorists' call for a holistic explanation that considers the interactions among several intra-organisational factors to explain the dynamics behind why some firms decouple while others do not, even though the firms exist in the same social and regulatory context.



Keywords: environmental strategy, environmental responsibility, environmental accounting, eco-controls, environmental management systems, environmental certification standards.

Article Classification: Research paper.

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Running Heads:

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1. Introduction

Environmental impact is a critical governance issue for business organisations (Parker, 2005; Pondeville et al., 2013). Numerous high profile environmental disasters have heightened global outcry and environmental activism, resulting in increased scrutiny over organisational accountability for their environmental footprint (Henriques and Sadorsky, 1999; Norris and O'Dwyer, 2004; Rodrigue et al., 2013). In response, environmental management standards such as the ISO 14001 (which are in addition to the regulatory restrictions imposed on a given industry) were developed as an initiative of 'both governmental and other non-governmental actors to create patterns of voluntary environmental practices that can facilitate systematic environmental management' (Aragón-Correa and Rubio-López, 2007, p. 366). The underlying

objective of environmental standards is that the certification status that is accorded to firms offer a sense of pride and motivation for the firms to strive for proactive quality management through embedded policies and practice guidelines, which are globally comparable (Aragón-Correa and Rubio-López, 2007; Contrafatto, 2014).

However, empirical evidence (Murillo-Luna et al., 2011; Tenbrunsel et al., 2000; Yin and Schmeidler, 2009) exhibits mixed responses in relation to the role of the environmental management standards. Some studies (Esther, 2011; Masanet-Llodra, 2006; Melnyk et al., 2003; Perez et al., 2007) find a positive association between environmental management standards and firms' proactive response to environmental management. For instance, Bellesi et al. (2005) claim that the ISO 14001 environmental management standard offers a means for firms to positively distinguish themselves from competitors. In contrast, Boiral and Henri (2012) find no systematic relation between the ISO 14001 standard and firms' proactive quality improvement. Further, Darnall and Sides (2008) find little relation between certification standards and the quality of environmental management. Boiral (2007) argues that gaining environmental certification may merely help legitimise firms' current environmental practices, with little monitoring of their continued effectiveness. Similarly, Lannelongue and González - Benito (2012) contend that certification is open to be used opportunistically by firms to manage public image rather than genuinely discharge their environmental responsibility.

In summary, the extant literature suggests that though firms are subject to homogeneous conditions (i.e., same social and regulatory context), the design and execution of environmental management systems (EMS) among the firms is still heterogeneous, which result in contrasting outcomes. Why do firms respond differently when the extant homogeneous conditions demand uniformity in their social behaviour?

Neo-institutional theory (Meyer and Rowan, 1977; DiMaggio and Powell, 1983) offers some answers for this question. It suggests that since firms operate within a society, they are subject to certain social structures of assumptions, including acceptable values and norms that exist within the society. DiMaggio and Powell (1983) further argue that such 'institutionalised' expectations pressure the firms to move toward adopting structures and policies that are similar to other firms in the society, a tendency called 'isomorphism'. The logic is that isomorphism enables firms to gain legitimacy or social approval and increases their chances of long-run survival (Scott, 1995). However, Boxenbaum and Jonsson (2008) argue that the firms' efforts to move towards isomorphism are not free of adaptation problems. First, some social norms cannot be efficiently implemented in a firm without foregoing a few internal routines. For instance, Boiral (2007) finds that while the expectation in the implementation of the ISO 14001 standards is wider employee acceptance of environmental responsibility, many firms actually experienced high pressure on record maintenance, which ultimately reduced the time available for routine product inspections. Second, a firm may be exposed to two conflicting institutional norms. Perez et al. (2007) find that the need to show a better environmental record meant that a firm had to decrease its output quantity or quality, at least in the short run. To resolve such problems, Meyer and Rowan (1977) theorise that firms tend to 'decouple' formal structures and policies from actual behaviours or practices. Scott (1995) clarifies that decoupling offers an efficient solution for firms facing problems in achieving isomorphism: it facilitates firms to pursue institutional requirements 'ceremonially', which is to adopt new structures without fully implementing the related practices. Boxenbaum and Jonsson (2008) list several organisational factors (such as internal support or leadership, public image, resource stringency and external stakeholder pressure) that determine why some firms decouple their structures from practices. In short, neo-institutional theory suggests that firms that are guided by one or more organisational factors to achieve isomorphism but yet constrained in achieving the same tend

to rather adopt ‘ceremonial’ practices, which explain the presence of contrasting responses among different firms in any given society.

In relation to environmental management, though neo-institutional theory has already been applied to explain the presence of contrasting organisational responses to EMS, the extant literature (e.g., Chan, 2008; Hillary, 2004; Murillo-Luna et al., 2011) merely identifies one or more overt organisational factors (e.g., financial constraints, lack of leadership or technical skills). According to Greenwood et al. (2014), neo-institutional theory must move forward to examining the inter-connectedness among the overt factors within organisations in order to understand the dynamics of organisational heterogeneity. This is consistent with Boxenbaum and Jonsson (2008, p.91) who also suggest that ‘attention should be devoted to investigating interactions among the already identified variables that seem to predict or mediate institutional decoupling’. In short, by examining interconnections among different organisational variables, this paper aims to explore the underlying dynamics of EMS heterogeneity among firms that are governed by the same context. In turn, the paper also contributes to institutional theory by clarifying the interconnections among the organisational determinants of decoupling.

To carry out its aim, this paper undertakes a comparative case analysis of two large firms (in pseudonyms, *Hardwood* and *Softwood*) within the Australian forestry industry, subject to the same social and regulatory context. The forestry industry is seen as an appropriate setting for this study because efficient management of forestry firms have direct environmental impact, such as conservation of natural resources and reduction of soil erosion (Allday, 2011). Further, forestry industry is a major sector of the Australian economy, with over \$2 billion exports and over \$20 billion domestic sales and services, providing employment to over 70,500 Australians in 2013 (ABARES, 2014). Therefore, finding ways to foster EMS practices that are aligned with the *spirit* of the environmental management standards can lead to sustainable outcomes. Finally, this study also responds to calls for research on ‘environmental accountability in industry sectors beyond mining, chemicals and manufacturing’ (Parker, 2005, p.857).

Data for this study are derived from semi-structured interviews of multiple governance stakeholders and from the archival information elicited from internal control documents (such as environmental policies, and procedure manuals) and externally-generated documentation (such as environmental certification audit reports and newspaper articles) of the two case firms. To capture interconnections among organisational factors in a structured way, which will form the foundation for building institutional theory-based explanations, we adopt Arena et al.’s (2010) analytical schema for collecting data about three inter-related organisational elements: experts, rationalities, and technologies. This schema helps examine the interconnections that exists among (i) espoused environmental strategic rationalities, (ii) stakeholder experts (e.g., environmental managers, auditors, project champions), and (iii) management control technologies that shape the firm’s environmental planning and decision-making. Consequently, we provide evidence on how people, structure and processes work to embed EMS implementation, which helps to explain why and how some firms decouple their organisational structures and practices in order to respond merely to the *letter* towards environmental standards while other firms continue to integrate their structures and practices so as to achieve the *spirit* behind the standards.

The remainder of the paper is as follows: Section 2 delineates the conceptual foundations of the institutional factors on isomorphism and decoupling and thereafter relate the same to the environmental management literature. Section 3 describes the research method, such as the site selection criteria, data collection, sources of evidence, and background information of the two case firms. Section 4 states the findings while Section 5 discusses the findings and examines

the links among strategic rationalisation, environmental experts and eco-controls in the two case study firms. Section 6 concludes.

2. Theoretical Background

While each firm can be seen to entail its own unique structure, culture and processes, there are also pressures for a firm to adopt homogeneous structures, particularly within a given context (e.g., Hambrick and Mason, 1984; Wiersema and Bird, 1993). The neo-institutional theory (DiMaggio and Powell, 1983; Meyer and Rowan, 1977) which gained popularity in the late 1970s as a conceptual lens for studying organisations as part of a complex social system proposes three major forces that lead to homogeneity in firm practices - coercive, mimetic and normative pressures. Coercive pressures on a firm arise with formal and informal forces exerted by the society upon which the firm is dependent. Manufacturers adopting new pollution control technologies to conform to the environmental regulations is an example of homogeneity under coercive pressure (DiMaggio and Powell, 1983). Mimetic pressures refer to the motivation to imitate, which derives from uncertainty in the society. Ambiguous goals or lack of clarity in the design of systems can instigate firms to model themselves on the apparent winners (March and Olsen, 1976). Finally, normative pressures arise with firms' need to subscribe to quality standards that are derived from the norms established by external professional bodies with which the firms' employees may be affiliated (Mezias, 1990). The homogeneity in firms' formal strategies, structures and procedures arise as a result of the need for firms to conform to institutional pressures not only for technical efficiency reasons, but also for increasing legitimacy through resource or survival capabilities (Covaleski and Dirsmith, 1988; Meyer and Rowan, 1977).

However, while the apparent design of firm strategy and organisational procedures (modelled on a benchmark) of two firms may seem homogeneous, the underlying motivation between the two firms can vary, which lead to heterogeneity in their execution efforts (Hillary, 2004; Lounsbury, 2008). That is, a firm may adopt the same policy as its competitor, but may still not enact or implement practices according to the intended purposes of the policy, thus leading to 'decoupling' of practice from the intended policy. Though decoupling is ingrained in the neo-institutional theory as a solution to overcome the difficulties in homogenisation, the extant research on the factors that drive decoupling has come under scrutiny (Fiss and Zajac, 2006; Bromley and Powell, 2012). Since the theory (see Boxenbaum and Jonsson, 2008) identifies various overt factors (e.g., internal leadership, public image, resource stringency and external stakeholder pressure) at a macro level, without proceeding to examine how these factors interact dynamically within firms, Greenwood et al. (2014) contend that:

“We have become overly concerned with explaining institutions and institutional processes, notably at the level of the organisation field,¹ rather than using them to explain and understand organisations. Especially missing is an attempt to gain a coherent, holistic account of how organisations are structured and managed.”

To address this limitation, Lounsbury (2008) and Pondeville et al. (2013) suggest that one must first be able to recognise the inter-connected demands of multiple stakeholders, which shape dynamic organisational practices. Suddaby and Greenwood (2005) assert that multiple demands arise with several assumptions, beliefs, and values, wherein some are specific to a

¹ The 'organisation field' refers to communities of organisations including industry associations, supplier groups, regulators, and rating agencies (Di Maggio and Powell, 1983; Wooten and Hoffman, 2008).

given stakeholder group and some are common to many groups. Suddaby and Greenwood also argue that such assumptions, beliefs, and values are socially constructed and hence they shape individual decision-making and organisational behaviours according to the characteristics of a given context. The social construction within a firm occurs due to both external environmental factors (Selznick, 1957) as well as by intra-organisational groups (Cyert and March, 1963).

Within the environmental management and accounting context, neo-institutional theory is deployed in examining the features of isomorphic structures that occur with community-based pressures (e.g., Marquis et al., 2007; Ball and Craig, 2010) and how such isomorphic structures and decoupling enable diffusion of the principles of specific social movements (e.g., Lounsbury, 2001; Strang and Soule, 1998). In a similar vein, Marquis et al. (2011) review the research on isomorphic processes in organisations that are exposed to one or more specific concerns within geographically bounded, transnational and virtual communities.² In summary, consistent with Greenwood et al. (2014), the use of neo-institutional theory within the environmental literature focuses on the ‘organisational-field’ level (as against the organisational level) observations and mainly capture the effects of specific group/community representations or activist programs (rather than the effects of interactions among multiple internal and external stakeholders of an organisation).

Our paper contributes to this theoretical space: the use of neo-institutionalism at the organisational level within the environmental management context. Specifically, we focus on examining the dynamics underlying contrasting environmental responses between two similar firms, existing in the same society and falling under the same regulatory regime. To capture the underlying reasons behind the two contrasting responses, we adopt Arena et al. (2010), who offer an analytical schema based on three interrelated organisational components namely, rationalities, experts, and technologies.

Arena et al.’s (2010) approach of rationalising an organisational problem or policy from a discursive field using both moral and economic justifications seems to fit our specific context of EMS, which is associated with both socio-cultural values and regulatory compliance. Since Arena et al. (2010) schema draws on a broad set of organisational variables, the power of the schema to inform neo-institutional theory is high. In this regard, Contrafatto’s (2014, p. 418) argument that ‘cultural-cognitive elements (values, meanings and symbols) can be subjected to a process of institutionalisation in the same way as the normative-regulative pillars (routines and rules)’ lends additional support. Moreover, since Arena et al. (2010, pp. 662-63) also apply the notion of decoupling to examine the heterogeneity in their context of enterprise risk management practices among different firms, we find that their schema is relevant to our study in examining firms’ diverse responses to the environmental standards. Specifically, it can provide insights into the interactions among various organisational factors that are likely to contribute to the decoupling (Meyer and Rowan, 1977) or embedding (Perez et al., 2007) of environmental standards into the operational practices of firms, which are subject to the same social context and regulatory regime.

To fit our EMS context, we adapt Arena et al. (2010) to examine the interactions among (i) environmental strategic rationalities, (ii) stakeholder experts (e.g., environmental managers, auditors, project champions), and (iii) management control technologies. *Environmental*

² Though not anchored in neo-institutionalism, O’Sullivan and O’Dwyer (2009) is another key environmental management study that examines how community-based non-governmental organisations (NGOs) use counter-accounting approaches to dictate the scope of legitimacy of their financial institutions and guide the revision of the latter’s resource-funding policies, called ‘equator principles’.

strategic rationalities help clarify why a particular environmental strategy is chosen, or has evolved, within a particular organisation and within a given period of time.³ Identification of *environmental experts* and *champions* follows the actors (Latour, 1987) and organisational roles involved in conceptualising and controlling environmental management activities (Arena et al., 2010). Environmental experts are the internal and external sense-makers (Basu and Palazzo, 2008) who hold specialised knowledge and understanding of the environmental risks and opportunities associated with operational activities. Champions act as key enablers of environmental projects, through their use of influence behaviour (such as inspirational appeals, consultation and rational persuasion) to gain organisational commitment (Gattiker and Carter, 2010).

Finally, as adapted from Arena et al. (2010, p.663), the definition of *eco-control technologies* for this study refers to ‘the complex set of practices, procedures and instruments put in place by organisations to carry out [environmental] strategies and plans’. The analysis will focus on the institutionalised beliefs (i.e., values, ideas, rules and regulations) promulgated by the formal, rationalised eco-control systems (Abernethy and Chua, 1996). In this respect, this study assesses the role of eco-controls as *embedding mechanisms* (Perez et al., 2007), and the extent to which eco-controls are used ‘to distribute shared meanings or mediate between diverse interests and interpretations’ of environmental management practices (Cuganesan et al., 2012, p.246). Included among the institutionalised beliefs and systems that allow for shared meanings are the environmental management standards. For instance, standards such as ISO 14001 Environmental Management Systems (ISO, 2004) provide standardised language and common guidelines for practice, and as such may be able to facilitate shared meanings across organisational units, as well as set guidelines for minimum quality practices.

3. Research Setting and Design

3.1 Case analysis design

Our research question seeks to examine why and how two firms that are subject to the same environmental management standards differ in their responses to environmental responsibility. The answers to this question must be sourced from multiple inter-connected perspectives. Such perspectives are likely to arise from primary in-depth observations from the field. A case study method is the preferred approach in such circumstances since it can offer a rich understanding of environmental management in practice based on their contextual setting - both in terms of the formal techniques, procedures and systems in place, and the way in which they are used by managers (Ryan et al., 2002). Guided by the recent research (Boiral, 2007; Masanet-Llodra, 2006; Perez et al., 2007; Rodrigue et al., 2013), a comparative case study approach is undertaken for this study, with data from two firms operating in the Australian forestry industry.

3.2 Selection of the case study firms

The choice of the two case study firms for this study were based on the following three reasons. First, this study examines concerns that can exist in an environmentally-sensitive

³ The authors acknowledge that a parallel concept, *institutional logics* (comprising bundles of symbolic and material elements tied to different institutional orders), exists in the neo-institutional literature to clarify how firms obtain order and meaning to justify their existence. Multiple institutional orders create possibilities for internal conflicts and the outcome of those conflicts instigate social changes (Friedland and Alford, 1991; Thornton and Ocasio, 1999).

industry. The forestry industry faces higher environmental regulation by the government, as well as greater likelihood of significant scrutiny and pressure from external stakeholders to review and adopt effective environmental practices (Rodrigue et al., 2013; Sharma and Vredenburg, 1998). Second, the forestry industry is a key contributor to global sustainable development (Li and Toppinen, 2011) because they have a unique renewable resource base that allows individual firms to adopt advanced environmental management practices (Sharma and Henriques, 2005). Third, the selection of two firms from the same industry facilitate comparison through replication of results, either literally (when similar responses emerge) or theoretically (when contrary results emerge for predictable reasons) (Eisenhardt, 1989; Sharma and Vredenburg, 1998). In judging and selecting appropriate case firms, the existence of Australian forest management certification is seen as critical.⁴ In Australia, forest certification is assessed against the relevant standard by an independent party or auditor.⁵ Further, forest managers and owners can seek certification under either the Australian Forest Certification Scheme (AFS),⁶ which is governed by the Programme for the Endorsement of Forest Certification (PEFC),⁷ or the Forest Stewardship Council (FSC).⁸ Both AFS and FSC are internationally recognised, not-for-profit forest certification bodies, which provide recognition for regional and national standards and the labelling of forest products as sustainably managed.

3.3 Background information of case study firms

Hardwood is a wholly-owned subsidiary of an Australian publicly-listed company, which provides plantation establishment and management services on behalf of both private and retail investors. *Hardwood* was established in 1990 and incorporated as a private firm in 1995. It was first listed publicly in 2004 and thereafter underwent substantial ownership and management change during the period of 2006 to 2009. *Hardwood* employs more than 150 employees in its central and regional offices, and manages over 170,000 hectares of pulp-grade hardwood and high-value timber plantations in different Australian states. At the time of inquiry, *Hardwood* held over \$650 million in assets, including primary plantation assets, port infrastructure joint ventures and a shareholding in another listed forestry company.

Softwood was established as a privately owned timber plantation company in 1998, prior to which it operated as a government-controlled entity. *Softwood* is jointly owned by Australian and US superannuation and infrastructure investment funds, and managed by an international forest management consortium based in North America. At the time of enquiry, *Softwood* had over \$800 million in assets and 240,000 hectares of land under management - including 50,000 hectares of native vegetation for conservation. *Softwood* supplies logs for paper manufacturing, panel board and treated round-wood producers in Australia and overseas. While *Softwood* headquarters is based in Melbourne, the operations were divided among three geographical regions. *Softwood* employs around 135 full-time staff in its central and regional

⁴ Forest management certification is a market-based, voluntary forest management tool designed to recognise and promote environmentally-responsible forestry and the sustainable management of forest resources. Prior studies select their case firms based on voluntary environmental management system standards such as EMAS and ISO 14001 (with expectations for variances to still exist in the more specific environmental management practices across the sample firms) (Boiral, 2007; Masanet-Llodra, 2006; Perez et al., 2007).

⁵ The AFS uses the Australian Forestry Standard [AS 4708] as the relevant standard for certifying forest management. The FSC currently uses interim, regionally-adapted forest management standards in Australia, and has committed to the development of a national FSC standard for Australia.

⁶ www.forestrystandard.org.au

⁷ www.pefc.org

⁸ www.fsc.org

offices, with the company's harvesting, haulage and plantation contractors indirectly offering employment to a further 450 people.

At the time of investigation, *Hardwood* and *Softwood* each held approximately a 5% market share. They also held environmental management credentials such as the FSC, AFS, and ISO 14001 certification. Both firms had operations within the state of Victoria, Australia and therefore faced similar state-level jurisdictional requirements. Neither firm produced periodic environmental or sustainability reporting. However *Softwood* had produced a number of brochures highlighting its environmental and social initiatives, such as restoration projects, conservation land holdings, native fauna monitoring, and fire management activities.

External certification audit reports for a period of three years prior to the interview period were examined. The audit reports revealed both firms had incurred minor non-compliance violations, which did not preclude their certification status but did require corrective action to be undertaken prior to the next annual audit. Likewise, the audit reports for both firms revealed that grievances had been lodged during the stakeholder consultation process. These grievances related to formal stakeholder communication processes, the impact of forestry activity on public roads and neighbouring land, and the conservation status of non-commercial landholdings. Both firms stated that while they experience a 'vocal minority' of stakeholders who fundamentally opposed forestry activities, their overall engagement with local stakeholder groups was generally positive. From an external consumer or stakeholder perspective, the two firms are broadly comparable in terms of both their scale and operational activities, as well as their apparent commitment to environmental management.

3.4 *Data collection and sources of evidence*

Multiple sources of evidence were collected from each case firm. The sources of data for the study include (1) in-depth interviews with managers and environmental specialists from the two forestry firms; (2) corporate web-pages and company documents such as environmental policy documents, operational procedure manuals and brochures relating to stewardship projects; and (3) externally-generated documentation, such as environmental certification audit reports and newspaper articles. Letters outlining the study purpose and requesting participation were initially sent to environmental managers, and a snowball sampling technique (Atkinson and Flint, 2004) was thereon used to identify interviewees' networks across different levels of the organisation hierarchy. A summary of the interview participants is provided in Table 1.

-----TABLE 1 HERE-----

As noted in Table 1, the average number of years interview participants had been employed at *Hardwood* was lower than interviewees at *Softwood*. This difference may in part be explained by the ownership history between the two companies. While *Softwood* has largely operated under the same ownership and management structure since 1998, *Hardwood* was acquired by a conglomerate corporation with existing forestry assets in 2006, and subsequently underwent a period of significant restructure.⁹ This period of change was reflected in the fact that several of the interview participants at *Hardwood* had been transferred between regional offices during their employment. However, most of the interview participants at *Hardwood*

⁹ With complex ownership changes (from small private to public listed firm, followed by major shareholding variations in *Hardwood*, and from a government-controlled to a large private-fund based ownership in *Softwood*), this study is unable to distil private versus public ownership as a potential determinant of decoupling. Choosing firms that have always remained either public or private, future studies may seek to explore how ownership and size factors explain decoupling.

indicated that they had prior experience in the Forestry Industry. As result, they were also able to reflect on their experiences at *Hardwood* relative to other firms within the industry.

The interviews were conducted over multiple site visits over six months. An interview guide was adopted to ensure consistency across interview participants, and interviews were conducted in a conversational style and recorded for ease of analysis. The process of coding and categorising data was conducted with the aid of the data analysis software, nVivo 9.0. The interview guide initially helped with categorising, grouping and comparing information based on emergent concepts and themes, and these were re-grouped to highlight concepts pertaining to the conceptual framework (i.e., strategic rationalities, environmental experts and champions, and eco-control technologies).

4. Case Study Findings

4.1 Business Environment Overview

The forestry industry in Australia derives most of its revenue from managing native forests, plantations and timber tracts. The industry is governed by several regulations, most of which relate to sustainable management of forests. Further, each state government outlines a ‘Code of Practice’ that sets out operating standards for planning, establishing, maintaining forests, and harvesting timber, along with the conservation of natural and cultural values of forests. In general, a firm’s strategic orientation towards environmental management is reflected in how the following three common operational processes are managed:

- i) *Environmental impact monitoring*, which concerns the management of short-term, direct environmental impacts of commercial operations (i.e., planting and harvesting). This includes managing soil disturbance and erosion, noxious weed control, use of agricultural chemicals and fertilisers, and preserving native vegetation and wildlife habitat;
- ii) *Biodiversity monitoring*, which relates to indirect and long-term impacts of operations on local ecosystems –including flora and fauna surveys, and waterways and catchment monitoring; and,
- iii) *Stewardship project governance*, which are voluntary initiatives such as rainforest and wetland rehabilitation projects and native species conservation programs, which extend beyond the day-to-day environmental impact of commercial forestry operations. These involve collaborating with stakeholders such as local communities, government bodies and NGOs to preserve and maintain environmental aspects of forestry landholdings.

In the next section, case findings for each firm are provided in four distinct parts. The first part describes beliefs, values and meanings associated with environmental management that play an important role in shaping the pre-existing norms and practices within the firms, as well as the key governance stakeholders who interpret and apply environmental management standards. This is followed by a delineation of the differences observed within the common operational process at *Hardwood* and *Softwood* respectively, that is, environmental impact monitoring, biodiversity monitoring and stewardship project governance.

4.2 Hardwood Case Findings

4.2.1 Beliefs, Meanings and Governance Stakeholders

Hardwood's website and brochures prepared for external stakeholders, indicates that it tends to position itself as 'Australia's leader in certified hardwood forestry plantations'. However, there is limited information on the values, purpose and direction of the firm. A one-page 'Sustainable Forest Management' policy is available on the corporate website as required by external certification standards, though the rationale for environmental management activities is not defined or communicated to operational staff:

"At an organisation-wide level there are no goals, no mission statement that relates to it, or anything like that." (Hardwood Harvest Planning Manager).

The thrust to attain environmental management certification at *Hardwood* occurred whilst it still operated as a privately owned firm, first with ISO 14001 in 2000 followed by FSC in 2004. Evidence suggests that the founding owner's perceived need for external legitimacy and enhanced corporate image were the key drivers in *Hardwood*'s pursuit of certification. As noted by the Health, Safety and Environment (HSE) co-ordinator:

"The guy that owned the company back then, I think was the main driver - wanted to be seen as an environmentally-conscious company...I think it was more about image." (Hardwood HSE Co-ordinator).

However, during subsequent ownership changes the rationale for environmental management activities has shifted towards a more compliance oriented stance, with greater focus on commercial outcomes. The need to maintain FSC certification is seen as being 'customer driven', since such symbols are deemed necessary to retain market share in the face of increasing competition from both domestic and international market players:

"FSC is seen as very important by our customers, or at least they tell us it is. They don't necessarily pay us anything more for certified wood. So, as a company, there's a strong, I guess, goal to maintain our FSC certification" (Hardwood Harvest Planning Manager).

The compliance rationale, coupled with a commercially oriented resource stringency, at *Hardwood* is exemplified by the lack of resource commitment and budgeting for environmental management activities. Beyond the direct costs of maintaining certification such as auditing costs, licensing fees, and memberships, the allocation of funding for environmental expenditure is typically limited:

"Unfortunately, and I'll be frank, we don't have a budget. It's crazy, there is no official environmental budget. It's quite ridiculous. So I've got to manage environmental programs out of my operational budget" (Hardwood Regional Manager).

As noted by the HSE Co-ordinator at *Hardwood*, the success of environmental management initiatives has, accordingly, hinged on regional managers' ability to leverage them into the operational staff's existing workloads:

"It's trying to sort of absorb it in indirect costs rather than direct costs. In people's time ... It's just been absorbed into everyday running costs. It's not factored as a separate item, except for my direct certification costs" (Hardwood HSE Co-ordinator).

The environmental experts at *Hardwood* are identified from the regional level (with no dedicated positions at senior executive levels) to oversee environmental management activities. Key environmental staff report to regional managers who, in turn, report to the General Manager for Forestry - whose responsibilities encompass all aspects of forestry operations. Further, individuals assigned with environmental management responsibilities, typically, occupy either part-time positions (i.e., HSE Co-ordinator) or ‘officer’ roles in addition to their primary duties. Evidence suggests that environmental officers were often not fully informed of the nature or extent of their responsibilities:

“I don’t know if I’ve ever actually seen a brief for what the environmental officer actually does...The environmental officer [title] is something that I’ve sort of inherited since taking up this role. And yeah, something I do as an aside, very much an aside to my principal role.” (Hardwood Environmental Officer).

Hardwood operates a committee to manage the ‘day-to-day running’ of the company’s EMS. The committee consists of a representative from each region, along with the HSE and biodiversity co-ordinators, and is responsible for the development of environmental policies and operational procedures. While operational staff are provided opportunity to provide input into the developmental process during formal meetings, this input is typically limited to a ceremonial ‘tick-and-flick’ through the document. In addition to internal governance stakeholders, evidence suggests that formal external audit processes assessing compliance with regulatory and certification standards play a critical role in surfacing EMS issues in relation to conformance:

“So the audit will identify some areas of concern or some non-conformances that are discussed between the auditor and the manager. We develop a set of actions that they need to implement to address the issues, and then that’s all logged in their action-register and tracked through that process.” (Hardwood HSE Co-ordinator).

A field-level manager also provided a similar view:

“You know, we’d get a corrective action in an audit and [then] change that bit of the system.” (Hardwood Harvest Planning Manager).

4.2.2 *Environmental Impact Monitoring Systems*

The direct environmental impact of *Hardwood’s* forestry operations is overseen by four regional managers, covering forestry landholdings in 13 districts in five Australian states. In order to manage the environmental aspects of its operations, *Hardwood* maintains an on-line EMS, made accessible to staff via a company intranet. This central database is used to communicate organisation-wide environmental management policies, facilitate data management and record keeping, as well as to outline operational procedures in line with the ISO 14001 standards.

Hardwood’s management of the direct environmental impact of their commercial operations is undertaken at the regional site offices. Specifically, formalised Forest Management Plans are developed at the individual property level and are used to map out detailed environmental traits of each estate in order to identify: non-commercial land including remnant vegetation, areas of rare flora and fauna, and exclusion zones such as wetlands and waterways. Within the scope of the local Forest Management Plans, ‘Standard Operating Procedures’ (SOPs) are conveyed to contractors during induction training and prior to the

commencement of a new work request. The operating procedure manuals provide detailed specifications and ‘minimum environmental standards’ to be maintained for a specific task. Regulatory guidelines determine what staff at *Hardwood* need to do:

“Basically, the level that we’re expected to do our work on an environmental sense is legislated – which is exactly the way you would expect it to be ... In terms of what we are trying to achieve on the ground, our environmental on ground stuff is basically dictated by legislation - which is fine.” (Hardwood Environmental Officer).

However, inconsistencies within environmental standards and continual amendments resulting from compliance audits have impeded the efficacy of *Hardwood’s* EMS. As noted by the *Hardwood* HSE Co-ordinator:

“It was just a simple environmental management system... Then we get a forest management certification, and we’ve got to change all this – OK. Then we get another one. You know, it keeps evolving, and it becomes *ad hoc* and it has lost its systematic process.” (Hardwood HSE Co-ordinator).

Thus, the design limitations of *Hardwood’s* EMS and, in particular, the lack of clarity surrounding the operational staff’s environmental management responsibilities appears to give rise to confusion and uncertainty on what is best practice or even acceptable practice:

“I’ve struggled with the [EMS] a little bit. But I’ve learnt that it’s just been built on, and built on, and built on, and people have moved on. It does tend to get confusing the more I am getting into it, the processes of it and who sort of runs what.” (Hardwood District Forester B).

“I find the current system a little bit piecemeal, and trying to get a strategic picture out of it is very hard, because it is all over the shop, in my mind anyway.” (Hardwood Environmental Officer).

In addition, formal evaluation of *Hardwood’s* environmental performance beyond reporting environmental incidents and periodic auditing by regulatory and certification bodies is limited. The following responses to the question, ‘How is environmental performance evaluated?’ attest to this:

“I don’t actually know. There are no real benchmarks - no measurement of our environmental performance.” (Hardwood Harvest Planning Manager)

“Evaluated? Yeah, it’s done by the auditors, basically. There’s not a big push from up top unless things are going the wrong way.” (Hardwood Regional Manager)

4.2.3 Biodiversity Monitoring Systems

At *Hardwood* there is a general level of uncertainty regarding longer term plans on how to monitor and manage biodiversity impacts, and who is responsible for initiating and monitoring the programs (including what the data produced in this process is actually used for):

“I suppose it’s more the environmental officer [who] deals with a lot of that stuff...” (Hardwood District Forester B).

“I’ve had really brief chats with [the biodiversity officer] about that...it has been down on my list of priorities in terms of what I’ve been doing.” (Environmental Officer).

“I think you are asking ‘do you present your results in an open forum?’ We don’t do that. Maybe we should [laughs]. I’m just trying to think how we use that information.” (Hardwood Regional Manager).

Evidence suggests that interviewees were often unsure of the underlying rationale for such activities. In general, the need to comply with certification and other industry regulation is referred to as the ‘possible’ rationale for bio-diversity initiatives. Thus, our inquiry into the management of biodiversity monitoring programs suggests that many environmental management activities at *Hardwood* are largely symbolic in nature, primarily undertaken to satisfy the requirements of an external standard (cf. Boiral, 2007). This is also evident in their failure to produce either internal or external reporting of the monitoring outcomes, or connect data collection processes with formalised performance management techniques.

“We measure it for the certification, to show that we are doing things to keep our accreditation.” (Hardwood Regional Manager)

4.2.4 *Stewardship Projects*

Ongoing stewardship projects at *Hardwood* include programs to eradicate noxious weeds, and fencing off remnant vegetation of high value to exclude livestock grazing. At the time of interview, *Hardwood* was not involved in any significant rehabilitation or conservation projects, though in the past had undertaken wetland revegetation and bird monitoring joint-programs with various state government departments. While these projects were perceived as successful and as contributing to certification against the FSC standard, there is lack of ongoing support for new projects. In most cases, stewardship projects are restricted to non-commercial land and rely on collaborating with external environmental groups, ‘depending on who’s got funding’ (*Hardwood Regional Manager*).

The identification of new projects tends to be driven by motivated individuals at the regional level. For example, the experiences of ‘Jack’, a former employee who championed this area, are frequently drawn on by other interviewees:

“[Jack] did some great environmental works in the region, and he just did that off his own back really. He wasn’t told to do it, and he went and secured all the funding. You know, he did it because he had a passion for doing it, not because there was any incentive or because he would get a bonus.” (Hardwood HSE Co-ordinator)

Evidence suggests that this lack of recognition and financial support from senior management have implications for employee morale since the otherwise committed employees are less likely to search for and champion new opportunities, resulting in potential environmental projects remaining unrealised.

4.3 *Softwood Case Findings*

4.3.1 *Beliefs, Meanings and Governance Stakeholders*

Softwood is the first forestry company in Australia to receive FSC certification in 2004, and later became the first company to achieve dual certification with the introduction of the

AFS standard in 2007. *Softwood* emphasises Forest Stewardship which is reflected in their company's mission statement:¹⁰

Mission: 'To deliver optimal value to our investors in a way that embraces and demonstrates Forest Stewardship by continuous development of skills and practices so that we are widely respected as responsible business and environmental managers.'

The mission statement is visible in many of the documents distributed to staff through the company intranet and training programs, and reiterated through the use of a visual analogy depicting the three foundations of organisational performance:

"Stewardship is where, if you like, you've got three legs on the stool – one of them is commercial, one of them is environmental, one of them is community relations or the social aspects. And you need to pay attention to those three areas in an equal way so that those three legs are equal, and therefore stable."
(Softwood EMS Manager)

Softwood adopts a 'people-planet-profit' nexus that can be traced to the organisational culture promoted by the international forest management consortium who took over the plantations and privatised the entity in 1998:

"They [the managers of Softwood] have a very strong ethic around stewardship and good forest management. ... When they walked in the door, they said, 'This is how we're going to run this'. 'Good stewardship is good business' is their sort of motto." (Softwood GM, Stewardship & Risk)

Further, forest management certification is seen as an outcome of good forestry management rather than as the core justification for EMS implementation:

"I don't like to think of us managing our forest so that we can have AFS or FSC certification. The way I see it is that we manage our forest well, and we bring these people in to have a look at it and say 'yeah, that's well enough to meet our standard, so we'll give you a tick for that'." (Softwood GM, Stewardship & Risk)

Softwood has a General Manager (GM) for Stewardship and Risk to oversee all aspects of the company's environmental management activities, and the GM is supported by the EMS Manager to facilitate communication and implementation of consistent policies and procedures across each of the regions. At the operational level, Stewardship Foresters are engaged in each region and responsible for environmental monitoring activities, operational auditing, and overseeing the company's stewardship projects. Further, the identification of environmental expertise within the company extends beyond specialist staff positions, with recognition given to the cumulative knowledge and expertise of the broader workforce:

¹⁰ *Source:* internal document distributed via *Softwood's* intranet, titled: 'Forest Stewardship – A Foundation for Best Management Practices'. 'Forest Stewardship is establishing, harvesting and protecting our clients' forest investments while maintaining or enhancing the environmental and community values associated with the land.'

“Most things are done by consensus and by involving enough people to ensure that all views are taken on board.” (Softwood Regional Planning Manager)

Formal audit processes gather a broader meaning at *Softwood*, with independent auditors voluntarily engaged to assess compliance with regulatory and certification standards also encouraged by senior management to take on performance assessments to identify potential opportunities for further improvements in operations and performance:

“We do third-party external audits of our operations. And so those auditors would give us advice, firstly, on whether they think we are meeting the Code, and secondly on meeting our own internal standards, or in fact whether we could improve the standard.” (Softwood GM for Stewardship and Risk)

In this respect, auditors’ role in shaping the environmental strategic rationality and the sense-making of forestry certification at *Softwood* revolve around value-enhancement and process sustainability.

4.3.2 *Environmental Impact Monitoring Systems*

The management of *Softwood’s* operational activities is divided into three distinct geographic regions of south-eastern Australia, with staff operating from six district offices. Similar to *Hardwood*, an on-line EMS is also available at *Softwood* via a company intranet to support EMS activities. However, the central database is structured around *Softwood’s* overall Forest Stewardship Policy, which lists ten principles for managing the environmental aspects under the company’s control. The EMS is integrated into *Softwood’s* overall business management and incorporates ‘organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, reviewing and maintaining the stewardship objectives as laid down in the company Forest Stewardship Policy’ (*Softwood* Internal Corporate Document).

Similar to *Hardwood*, *Softwood* also relies on operational controls, in the form of site-specific management plans, to manage the environmental aspects of operational activities. However, following a site-specific environmental risk assessment, company-wide operating procedures, termed ‘Best Management Practices’ (BMPs), are used to communicate desired performance standards to contractors, as well providing detailed specifications for how a given task should be performed. These standards form the basis for evaluating *Softwood’s* performance against the organisation’s commercial, environmental and community relations goals, which are established for each operational activity.

The process of environmental performance benchmarking at *Softwood* includes the identification of short- and long-term objectives which typically exceed minimum regulatory requirements, reflecting long-term environmental responsibility (Hunt and Auster, 1990; Roome, 1992):

“We operate within a comprehensive legal framework for management of environmental aspects of our forest management activities, and we go beyond the legal benchmark to maintain our reputation as good corporate citizens and to maintain our social licence to operate.” (Softwood EMS Manager)

At *Softwood*, the transparent nature of operational controls provides users with both a localised perspective of environmental responsibilities, and an understanding of how their local tasks fit into the organisation as a whole (Adler and Borys, 1996). In this respect, transparency

is achieved by ensuring that operational staff are involved in the development of new policies and procedures (Wouters and Wilderom, 2008):

“We would put the document together, but we would do it with the assistance of all of our people in the field because, firstly, they’re the experts, and secondly there’s no point coming up with what we think is best practice if all those guys are saying ‘well that sounds fine in the office, but when I get out in the field it’s not practical’. So we use their advice to put [procedures] together.” (Softwood GM, Stewardship & Risk)

Further BMPs are viewed as ‘dynamic documents’, with staff continuously revising them as part of a formalised ‘core continuous improvement process’. This process involves responding to incidents, and anticipation and scoping of potential issues via formalised knowledge-sharing mechanisms and group meetings, both at regional and company levels. Although this continuous improvement process is internally driven, *Softwood* also engages in regular dialogue with other stakeholders such as community organisations, councils and NGOs.

4.3.3 Biodiversity Monitoring

At *Softwood*, a key assumption held is to manage the ‘biodiversity values’ associated with the forests as ‘custodians’, on behalf of both their investors and the broader community, to safeguard the ‘cultural heritage’ and indigenous significance associated with the land.

“The company manages 50,000 hectares of native forest for conservation purposes - so the biodiversity within that native forests estate is quite large. It’s an extremely important asset, both for the company and for the community, so we feel that monitoring that is quite important.” (Softwood Stewardship Forester)

Biodiversity programmes at *Softwood* span three regional areas, and aim to maintain the biodiversity value associated with their forestry landholdings. The programmes include a series of fauna surveys, which include a significant vegetation mapping project to identify the dominant species and age structure across *Softwood*’s entire estate, as well as monitoring both baseline water quality and macro-invertebrate populations in waterways within their properties. The stewardship foresters in each region play a key role in the design and oversight of the programmes including identifying the stakeholders responsible for the collation and analysis of data from the monitoring activities.

4.3.4 Stewardship Projects

Softwood’s past and present involvement in numerous stewardship projects is highlighted during the interviews. Examples of these projects included participating in research and conservation programs for threatened native species, such as Koalas, the rehabilitation of a tract of cool-temperate rainforest, and the establishment of native wildlife corridors on company land. The identification of stewardship programs at *Softwood* is driven by project champions originating from middle management and operational staff. Senior management at *Softwood* were also willing to commit funding and resources for such projects, in particular, where mutual benefits for both the company and the wider community can be identified:

“We’re not a philanthropic organisation. We’re not a bottomless pit. But we are conscious of the fact that we manage a lot of waterways and other features that are of value to the community.” (Softwood GM, Stewardship & Risk)

The performance and impact-conscious culture of *Softwood* is reflected in the stewardship programmes. There is also an awareness of the costs associated with such projects, and, in fact, new stewardship projects are generally assessed using cost-benefit type analysis methods. Nevertheless, *Softwood* views ‘costs’ in a wider perspective. As noted by *Softwood*’s EMS Manager, the costs of restoration projects, for instance, are largely non-financial, and can be limited to the sacrifice of small, unprofitable areas of forestry holdings, as well as providing knowledge, skills and management expertise of its forestry employees. At the same time, the perceived ‘benefits’ of *Softwood*’s involvement in such projects include the potential for enhancing its reputation in the local community, enabling ‘ease of operation’ with community support, less resistance to their business operations, and general improvements in employee morale and satisfaction.

As noted by one senior manager:

“Those sorts of projects provide you with a bit of additional social licence to do business, because you’ve actually got neighbours and so on who are looking at you and thinking you are, in fact, a genuine steward of the land, and that you take your responsibility seriously. So we do it for those reasons. We do it for the reason [that] our staff like to do them ... I guess it’s a nice addition for our staff to know that these things are going on in their business. It gives them some pride in their business.” (Softwood GM, Stewardship & Risk)

5. Discussion

In this section, the case observations are analysed with the aid of Arena et al.’s (2010) analytical schema, to examine the interconnections among organisational factors surrounding EMS that lead to divergent firm responses and build an institutional theory-based explanation for such heterogeneity. While similarities in the EMS exist between the two firms (i.e., both adhere to regulatory standards as specified by forestry Code of Practice, maintain certification to internationally-recognised forest management standards, utilise on-line management systems and adopt basic eco-controls, namely forest management plans and operational procedures), *Softwood* appears to take a more voluntary, proactive approach to environmental management standards when compared to *Hardwood* which adopts a commercially-focused, compliance orientation coupled with resource stringency. In terms of theory, the contrasting interpretations of certification standards can be thought of as ranging from embeddedness (Perez et al., 2007) to decoupling (Meyer and Rowan, 1977), corresponding to the varying degrees of assimilation of environmental concerns into firms’ practices. The following subsections discuss how the interactions among the three dimensions of environmental strategic rationalities, environmental experts and champions, and eco-control technologies has led to the firms’ divergent responses to the environmental standards within the forestry context. The key findings are summarised in Table 2.

-----TABLE 2 HERE-----

5.1 Environmental Strategic Rationalities

A core recurring theme raised by managers in their interviews was the highly-regulated nature of the forestry industry in Australia and the growing scrutiny over the integrity of the forestry supply chain. Further, firms are also confronted with increasing pressures from global markets to adhere to diverse environmental management standards (e.g., ISO 14001 and FSC).

However, while both firms recognise the importance to conform to established certification standards for EMS, the responses of the two firms contrast with each other.

Similar to Arena et al. (2010), we observe that EMS practices are ‘indelibly marked’ by the strategic rationality evoked on inception. This is most apparent in the case of *Softwood*, where the overriding influence of the international forest management consortium and founding directors entrenched the ‘Forest Stewardship’ ideology within the lexicon of the firm. Forest Stewardship evolved and integrated with business strategy and, in turn, led to the equal consideration of the commercial, environmental and community relations impacts, as the basis of subsequent decision making surrounding operational activities. The necessity to be ‘widely respected as responsible business and environmental managers’ was inscribed in the company’s mission statement, and reinforced in official documents and presentations. The result is that, for *Softwood*, forest management certification is perceived to be an outcome, not a driver, of good Forest Stewardship.

In addition, the central guiding principle of Forest Stewardship, rooted in the management leadership style at *Softwood*, viewed environmental responsibility as an investment, which in turn allowed the firm to view environmental management from a benefit perspective (i.e., long run returns or economic viability). This resulted in greater appetite for voluntary commitment of resources to environmental sustainability. This is reflected in *Softwood*’s proactive investment in environmental management initiatives beyond the direct impact of operations (e.g., bio-diversity enhancement and forestry stewardship projects) with a view to gain financial as well as non-financial outcomes (e.g., environmental upgrades and community benefits).

At *Hardwood*, the presence of the influential founding director, who first established environmental management and certification programs, ceased when the firm was publicly listed and subsequently acquired by a conglomerate corporation. Further, the lack of formalised systems to promote shared responsibility for environmental objectives meant that the original rationale for environmental management initiatives was lost during the ensuing management restructure and operational staff turnover. As result, the environmental and business strategies evolved independently, with their own individual objectives of regulatory conformance and economic profitability.

Furthermore, we observe that environmental management at *Hardwood* appears to be driven by two competing rationalities: the need to comply with environmental standards outlined in the regulatory requirements, and maintaining ‘market-driven’ forest management certification. Environmental management is therefore viewed only from a cost rather than a long-term benefit perspective, with greater focus on commercial outcomes. That is, the implementation of environmental management is viewed as an unavoidable fixed cost and hence environmental management initiatives are largely constrained to ensuring operational activities comply with standards outlined in the forestry Code of Practice. In addition, there was a pervasive belief among field operational managers that forest management certifications are ‘customer-driven’, and therefore necessary to retain market share in the face of increasing competition. It is evident that many environmental management activities and processes at *Hardwood* are administrative in nature, and data are collected and records kept as evidence for certification, with scant availability of resources for environmental management initiatives such as bio-diversity monitoring or stewardship projects that were voluntary and long-term in nature.

5.2 *Environmental Experts and Champions*

Similar to the Arena et al. (2010), we find that the scope of environmental responsibility as perceived by the managers are also shaped by the views and involvement of internal and external stakeholders who take on the role of environmental experts and champions.

The importance of senior management's empathy towards environmental sustainability in uplifting EMS quality is illustrated in the case of *Softwood*, where experts on environmental matters are not only identified at the senior executive level, but also throughout the firm. *Softwood's* General Manager for Stewardship and Risk works closely with a team of stewardship foresters, the external relations manager and the regional area managers. The identification of environmental experts and champions across multiple levels of the organisational hierarchy reflects the broad level of acceptance and ownership of environmental responsibility at *Softwood*.

Prior studies similarly report that the more comprehensive and socially-complex nature of a more proactive environmental strategy necessitates significant employee involvement and work unit co-ordination – from the board room to the on-the ground field work areas (Hunt and Auster, 1990; Russo and Fouts, 1997). This stance is also illustrated by the participative processes (Adler and Borys, 1996; Wouters and Wilderom, 2008) observed within *Softwood*, with foresters, field managers and senior environmental managers involved in developing new environmental policies and procedures. Further, by facilitating knowledge integration at the operational level (Ditillo, 2004), participative development processes foster employee commitment and contribute to organisational learning about effective ways of managing operations (Wouters and Wilderom, 2008).

“One of the reasons for having an EMS is to trap company knowledge, IP, experience, so that as staff change over knowledge is not lost, and risks are reduced due to [having] a system which enables knowledge to be passed on to new staff.” (Softwood GM, Stewardship & Risk)

Participative development processes at *Softwood* further contribute to the transparent nature of operational controls, which provide users with both a localised perspective of EMS, and a clearer understanding of how their local tasks fitted into the organisation as a whole (Adler and Borys, 1996). This transparency allows for discussion and debate of management plans between operational level staff and contractors, and allows front-line users to identify emerging environmental threats and prevent environmental incidents before they occur.

In the case of *Hardwood*, where maintaining certification and compliance are important factors, the roles and voices of experts that facilitate gaining legitimacy such as environmental auditors become critical. Employees' learning of what works and does not work revolve around external auditors' findings and reports, and incidences of non-compliance became the triggers to judge if the firm was meeting its environmental responsibility. Further, the communication regarding the rationale for the choice of corrective actions in the field between managerial levels was hierarchical and administrative in tone, which in turn restricted developing a more wholesome understanding of firm strategy. The uncertainty and lack of clarity surrounding environmental management activities may further be attributed to the failure of senior management to communicate the purpose and rationale of such activities. This lack of leadership from senior management, coupled with the constraining nature of boundary rules and feedback systems, has narrowed environmental responsibility and in turn have impeded *Hardwood* from embedding environmental concerns into operational activities.

In contrast, at *Softwood* there is a stronger sense of shared environmental responsibility with use of both formalised and informal communications processes, including the shared

values and beliefs of employees (Falkenberg and Herremans, 1995; Norris and O'Dwyer, 2004). Employees' social identification with the company's environmentally-responsive goals (Adler and Chen, 2011) is supported by organic communication processes, characterised by free flows of information across the company (Chenhall and Morris, 1995). The informal and social control processes are complemented by a formal beliefs system, promoting a shared environmental vision throughout the firm (Arjaliès and Mundy, 2013; Rodrigue et al., 2013).

5.3 *Eco-control Technologies*

We observe notable differences in the discursive framing and application of eco-control technologies among the two case firms, which illustrate how the dynamics between rationalities and experts contribute to either embedding or decoupling of environmental management standards into operational practices.

Both firms adopt similar eco-control technologies, including the utilisation of on-line management systems as well as forest management plans and operational procedures, to plan, control and monitor the environmental impact of operational activities. When describing formal policies and procedures, *Softwood* terms operational controls 'Best Management Practices', which are viewed as 'dynamic documents', and subject to continuous improvement through participative development process and consultation with relevant external stakeholders. Enabled by its pervasive Forest Stewardship rationale, *Softwood* takes a broader approach to the conceptualisation of performance, and have embedded economic, environmental and social performance standards into each of its operational procedures. The procedures are communicated to staff via a central database, which is systematically mapped against *Softwood's* overall Forest Stewardship Policy. Performance against the standards is then assessed via a comprehensive audit program, with separate audits conducted by internal stewardship foresters, two forest management certification bodies, as well as an independent third-party auditor. This is consistent with an advanced level of embeddedness, as described by Perez et al. (2007), which encompasses cross functional coordination and commitment of employees, and a more advanced use of eco-control technologies, driven by the overall influence of powerful and committed actors who care strongly about implementation (Fiss and Zajac, 2004).

In *Hardwood*, the discourse surrounding formal policies and procedures is more consistent with the apparent conformance rationality, with greater focus on regulatory requirements. 'Standard Operating Procedures' are used to prescribe the 'minimum environmental standards' to be maintained for a specific task, with performance levels typically limited to operating standards outlined in the forestry Code of Practice. In this respect, operational controls are designed to ensure compliance with regulatory requirements, with forest management certification schemes seen as an add-on, and maintained due to a commercial imperative to retain market share.

We find that *Hardwood* has struggled to grapple with the challenge of integrating the competing environmental management standards into a single, coherent management system. The conformance rationalisations at *Hardwood* tend to reduce managers' focus to the minimum standards and criteria set by regulatory and certification standards. As result, the use of eco-control information is primarily restricted to responding to incidents or audit non-compliance, which in turn contributes to *ad-hoc* amendment and development processes, as opposed to the systematic and inclusive processes observed at *Softwood*. This has in turn impeded the ability of *Hardwood's* operational staff to understand their roles within the firm, and how their responsibilities contribute to overall environmental objectives. To overcome the difficulties

posed by the two competing rationalities, and in particular the extent to which certification standards exceed the forestry Code of Practice, certification requirements have largely been decoupled from operational practices. The result is that operational procedures continue to uphold regulatory requirements, but certification programs have become ceremonial in nature, with largely administrative routines adopted to demonstrate compliance against standards.

6. Conclusion

Dwindling forestry stock around the world makes effective and efficient environmental management a critical function. Environmental standards are a way to facilitate organisations to engage in proactive involvement in environmental management (Aragón-Correa and Rubio-López, 2007,). However, the empirical reality is that firms exhibit diverse responses to the standards with some following it to the *letter* with others to the *spirit*, even though the firms exist within a homogeneous context.

While the extant literature (Chan, 2008; Hillary, 2004; Murillo-Luna et al., 2011) identifies a few overt factors, Greenwood et al. (2014) contend that there is no holistic articulation of how different factors are interconnected within organisations to offer a rich understanding of the heterogeneity in firms that are governed by a homogeneous context. Boxenbaum and Jonsson (2008) argue that understanding the interconnections among overt factors can provide a better perspective on the determinants of decoupling.

This study addresses this gap in knowledge by examining the organisational dynamics that shape and influence why firms, existing in the same society and falling under the same regulatory regime firms, differ in their approach to environmental management standards. Adopting the approach of Arena et al. (2010), and based on evidence from two Australian forestry firms, we offer insights on how the interactions among environmental rationalities and the role of environmental experts trigger different ways eco-controls are developed and utilised.

Our findings suggest that both embedding and decoupling of environmental standards with a firm's environmental management practices is influenced by both extant senior managers and founder directors whose views are also shaped and endorsed by audit professionals and domain experts. This is consistent with the findings of Fiss and Zajac (2004), who observe that decoupling is less likely in firms where powerful and committed actors are involved in the implementation and could influence organisational response. However, our findings extend beyond the actors' power and commitment to emphasise the roles of rationalities and technologies. The strategic intent legitimised by these key agents are seen to spawn certain institutional rationalities, which in turn determine the nature and extent of environmental strategic planning, management control and information technologies. The dynamics between the rationalities and the agents are seen not only *to affect* the technologies but are also seen to *be affected* by such technologies. In short, we find that technologies also contribute to shaping new emerging rationalities, which in turn, enable the key agents to review the embedding or decoupling decisions between certification standards and environmental management practices.

In *Softwood*, the 'Forest Stewardship' rationality that underpinned the business motives of the founding directors informed the 'socially constructed beliefs and values' (Suddaby and Greenwood, 2005) of the firm, and led to the integration of commercial, environmental and community relations objectives into operational activities. This, in turn, led to environmental responsibility being viewed as an investment, which allowed the employees to view

environmental management from a benefit perspective (i.e., long run returns or economic viability). Further, apart from the role of monitoring compliance, the audit function was enhanced to recommending improvements to the firm's strategic initiatives, which was instrumental in improving the quality of its eco-control technology. The result is that, for *Softwood*, forest management certification was perceived to be an outcome, and not a driver, of good Forest Stewardship.

Conversely, the EMS practices at *Hardwood* seemed to be driven by two competing rationalities: the need to comply with minimum environmental standards outlined in regulatory requirements, and maintaining 'market-driven' forest management certification. This lack of synchronisation was evident in *Hardwood*'s efforts to comply with environmental standards outlined in regulatory requirements, with largely ceremonial and administrative routines adopted to maintain 'market-driven' forest management certification. From this perspective, certification became viewed as an unavoidable necessity, which in turn offers better public image, customer response, business legitimacy and firm survival. The result is that while operational procedures were primarily used to maintain compliance with regulatory requirements, certification programs became decoupled from operational practices, with largely administrative routines adopted to demonstrate compliance against standards (cf. Boiral, 2007; Lannelongue and González -Benito, 2012).

In relation to this study's research question of why firms provide contrasting responses in relation to environmental standards, this study finds solutions in the nature of interactions among organisational actors, strategic rationalities and eco-control technologies. While prior studies (e.g., Fiss and Zajac, 2004; Boiral, 2007; Perez et al., 2007) find that the absence of powerful and committed actors is a determinant of decoupling organisational response to environmental standards, our study extends their findings to provide evidence of *how* the influence of internal leadership contributes to the embedding or decoupling of environmental management standards into operational practices.

In the first instance, the influence of environmental leadership from the founding directors or senior management determines the level to which a firm's environmental vision is integrated or synchronised with the underlying business motives. Second, the level to which an integrated strategic rationality is institutionalised throughout the firm is influenced by the extent to which organisational beliefs and values systems are used to distribute shared meanings or mediate between diverse interests and interpretations of environmental management activities (Abernethy and Chua, 1996; Cuganesan et al., 2012). Finally, informed by the institutionalised strategic rationality, the participation and expertise of actors across the organisational hierarchy determines the level to which the design and execution of the eco-control technologies move beyond mere monitoring compliance to encompass recommending continuous improvements to processes. Such participative processes further act to facilitate knowledge integration and organisational learning at the operational level (Ditillo, 2004; Wouters and Wilderom, 2008) which, in turn, inform and institutionalise the evolving strategic rationality.

In policy terms, to help build embedded systems, different actors (founding directors, domain experts, auditors and other external stakeholders) involved in a firm must help each other to integrate environmental and economic objectives, institutionalise strategic rationality through belief systems, and carry out continual improvements to the design and execution of eco-control technologies.

This study is subject to the usual caveats of qualitative research and a number of specific limitations. First, while every attempt was made to gain information from a wide selection of individuals across the two case organisations, and to corroborate interview data with internal corporate documents, the evidence is based on a limited number of interview participants, and depends on their memory recall and personal biases. Further, the study was conducted in a single, environmentally sensitive industry, subject to a unique set of regulatory and stakeholder pressures. Future research could extend the study into other jurisdictions and industries where environmental management challenges and contextual contingencies may vary.

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Table 1: Summary of Semi-structured Interview Participants

Person Interviewed	Years in Current Position (Company)	Interview Duration (min)	Follow-up Contact
Hardwood			
Regional Manager	3 (7)	50 min	X
Health, Safety & Environment (HSE) Coordinator	5 (7)	45 min	X
Harvest Planning Manager	2.5 (5.5)	65 min	
Environmental Officer (District Forester A)	2 (6)	30 min	
District Forester B	0.5 (3)	30 min	
Softwood			
General Manager, Stewardship and Risk	10 (18)	65 min	X
Manager, Environmental Management Systems	13 (13)	40 min	X
External Relations Manager	1.5 (10)	45 min	
Management Accountant - Manager	5 (10)	30 min	
Plantations Operations Manager	2 (20)	40 min	
Stewardship Forester	7 (37)	40 min	X

Table 1: Summary of key findings

	<i>Hardwood</i>	<i>Softwood</i>
Strategic Rationalities	<p>“Commercial-focused Compliance”</p> <p>Environmental risk management aimed at conformance with regulatory requirements and maintaining ‘market-driven’ forest management certification</p>	<p>“Forest Stewardship”</p> <p>Proactively manage both the risk and reputational aspects of interactions with the environment, to improve commercial, environmental, and social performance outcomes</p>
Environmental Experts and Champions	<p>Experts primarily identified at the operational level that facilitate gaining legitimacy through certification or compliance monitoring</p> <p>Limited acknowledgement or support for championing more voluntary environmental initiatives</p>	<p>Experts identified at multiple levels ranging from the senior executive and to field, operational levels as well as community stakeholders</p> <p>Environmental experts supported by facilitating structures and resource allocation</p>
Eco-control Technologies	<p>Negligible formal or informal systems that promote shared responsibility for environmental objectives</p> <p>Ad-hoc development processes and lack of transparency impedes task and role clarity at the operational level</p> <p>Focus on boundary rules and feedback systems to manage risks and maintain minimum standards</p>	<p>Strong emphasis of formal ‘Forest Stewardship’ beliefs system</p> <p>Participative approach to developing policies and procedures fosters knowledge integration and employee commitment</p> <p>More proactive use of eco-controls to foster debate and discussion surrounding emerging threats and opportunities</p>
Performance Outcomes	<p>Limited conceptualisation of environmental performance beyond compliance objectives</p> <p>Improvements largely administrative in nature, which aid demonstration of compliance in future audits</p>	<p>Increased knowledge about effective ways of managing operations</p> <p>Improved employee morale</p> <p>Enhanced relations with internal and external stakeholder groups</p>