

# Progress towards institutionalising field-wide water efficiency change

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## Author biography

Matthew is a lecturer in the Discipline of Accounting at the University of Sydney and completed his PhD in 2012. His research interests include sustainability management, the role of accounting and accountants. His PhD explored how water management and accounting practices changed in the Sydney region in response to drought in the early 2000s.

## Abstract

### Purpose

Water resources are subject to global constraints. This paper explores how a heterogeneous range of water efficiency responses were driven across a field of seven water consuming organisations in Australia at a time of acute drought conditions into the late 2000s.

### Design methodology/approach

Semi-structured interviews were conducted with a range of individuals from 2008 to 2010.

### Findings

A limited range of poorly coordinated drivers motivated pervasive water efficiency responses in two of the seven organisations. Would-be leaders sought to invoke a water efficiency field, and champion nascent logics and theorisation in order to gain some competitive advantage. There was little sense among others of any normative, mimetic or coercive pressure to adopt homogeneous practices. While the field lacked effective champions for change, the institutionalisation of novel water efficiency practices across the field continued into 2010.

### Research limitations

Further research could investigate how water efficiency responses continued to develop or wane into the 2010's, and how such practices integrate with the management of other sustainability issues (including carbon).

### Practical implications

Global water resources are subject to increasing supply constraints. This paper responds by exploring how the institutionalisation of water efficiency change can be driven across a field of organisations.

### Originality/value

Relatively little is understood about 'institutionalisation' as an unfinished process. This paper responds by contributing an understanding of how institutional logics developed, and how theorisation for water efficiency progressed in the context of water scarcity in Australia.

**Keywords** water efficiency, sustainability, institutional logics, theorisation

Paper type **Case study**

## INTRODUCTION

Approximately 2.5% of global water supplies are fresh, and much of that is inaccessible within glaciers and ice caps (Shiklomanov, 1993). Related water scarcity challenges amplify as populations continue to rise. Australia, the world's driest inhabited continent,<sup>1</sup> endured acute drought conditions through the 1990s and into the mid-2000s (BoM, 2007). At the same time, evidence of climate change suggested that lower than average rainfall levels were likely to persist (IPCC, 2007). Faced with declining dam levels, water authorities in Sydney emphasised the management of water demand over the provision of new sources of supply (Egan, 2009). These Australian circumstances furnish an opportunity to investigate how industry can respond and adapt practices focused on consuming water more efficiently. Research of this nature contributes to broader understanding of how industrial objectives and goals can better align with issues of community concern (in this case, water scarcity).

Along with its practical value, this study responds to calls for research that explain how sustainability management practices can be driven across industry<sup>2</sup> (Adams and Larrinaga-Gonzalez, 2007; Bouma and van der Veen, 2002; Klassen, 2001; Larrinaga-Gonzalez and Bebbington, 2001). While we have some empirical understanding of water related disclosure practices by industry (Egan and Frost, 2010; Hazelton, 2013; Morrison and Schulte, 2009), our understanding of how a focus on water efficiency might be driven, remains limited. This study is also able to contribute to broader 'new institutional sociology' (NIS) debates about how management change can 'institutionalise' across 'organisational fields' (DiMaggio, 1988; Ezzamel and Robson, 2009; Suddaby, 2010). DiMaggio (1988 p 12) argues that "relatively little" is understood about institutionalisation as an unfinished process. NIS also posits that effective 'theorisation' for the importance of new logics is needed to encourage any laggards to replicate examples of leading practice (Strang and Meyer, 1993). Collectively, these arguments motivate the following questions for this study:

- i) What were the factors driving organisations operating in Sydney to integrate a greater focus on water efficiency into the late 2000s?
- ii) How did those factors contribute to any sense of a cohesive 'water efficiency' organisational field?
- iii) What were the new logics for water efficiency developing within that field?
- iv) If pervasive water efficiency had not institutionalised across the field by 2010, what can be observed about the extent to which a theorisation of the importance of water efficiency was continuing to develop?

Three contributions are made. First, we argue that a limited number of would-be leaders in the field were driven by reputation concerns to develop exemplar practices. Those organisations sought to draw on those developments to shame the apparently poor water efficiency practices of their competitors. In this manner, a water efficiency organisational field was beginning to be invoked into the late 2000s. Second, we argue that novel logics for water efficiency were being developed and promoted across the field, again by those would-be leaders. To 2010, five of the case organisations remained largely unconcerned by those developing logics, and continued to largely focus on old institutionalised practices of just ‘pouring it down the drain’. By 2010 there was still little sense of any normative, mimetic or coercive pressure to seek homogeneity with leading examples in the field.

Third, theorisation for water efficiency was becoming increasingly convincing into 2010 because it was aligning with the sorts of arguments that had driven pervasive responses within the would-be leaders. As such, it is apparent that an institutionalisation of novel water efficiency responses was continuing to progress. There remained no guarantee however, that change would ever be homogeneous and pervasive across the field. The developing focus on water efficiency may yet wane into the 2010s, as having been no more than a fad or a fashion (Abrahamson, 1991). We therefore call for further research on this issue. The remainder of this paper is structured as follows. The following section develops a theoretical framework. Three further sections explain methodology, findings and discussion, and conclusions.

### **THEORETICAL FRAMEWORK**

Institutional theory enables insight into how management practices change across fields of organisations. A “somewhat overblown distinction” (Suddaby, 2010 p 15) is drawn between two branches; new institutional sociology (NIS) and old institutional economics (OIE). NIS argues that forces for change impact across fields of organisations and drive the development of new institutional logics about appropriate organisational behaviour. A small number of organisations respond first by developing exemplar practices. Others across the field ultimately seek to catch up by developing relatively homogeneous management responses. OIE counters that organisations are not simply prisoners of institutional environments. Agents will develop and interpret logics in individualised ways (Burns and Scapens, 2000; DiMaggio, 1988; Oliver, 1992). Our focus in this study is investigating how water efficiency can be

driven across a field of organisations, and so our framework concentrates on the language of NIS.

### *New Institutional Sociology*

Organisations are constrained by a variety of institutional logics or “taken-for-granted scripts, rules and classifications” (DiMaggio and Powell, 1991 p 15) that describe the way that things must be done (Scott, 1992; Tolbert and Zucker, 1996). Institutional logics develop from politics, law and standardised practice; the “modern organisation is a creature of public authority, ... modern persons, professions, sciences, legitimate interests ... construct and constrain organisations” (Jepperson and Meyer, 1991 p 206). Many organisations impacted by those logics will be uncertain of how best to respond. Keen to devote maximum attention to core technical goals (profit maximisation, cost control etc), management will seek replication of leading responses; or at least, the appearance of homogeneity with those responses (DiMaggio and Powell, 1983; Meyer and Rowan, 1977). The ultimate outcome is a reduction of “the extent of diversity within the field” (DiMaggio and Powell, 1983 p 149). “Organisations that conform to the strategies used by other organisations are recognised by regulators and the general public as being more legitimate than those that deviate from normal behaviour” (Deephouse, 1996 p 1033).

Institutional change may be mimetic (copying processes adopted by others); normative (being encouraged to adopt particular processes through for example, the influence of professional groups); or coercive (stemming from political influence) (DiMaggio and Powell, 1983). In the context of sustainability initiatives, mimetic change is expected to be common (Jennings and Zandbergen, 1995). The idea of an organisational field suggests the inclusion of organisations which “in aggregate, constitute a recognized area of institutional life” (DiMaggio and Powell, 1983 p 148) including the “totality of relevant actors” with which the organisation has connectedness and structural equivalence. A cohesive field may therefore include organisations within a common supply chain or subject to common regulation. A “common sense definition” of the field would simply include “a set of diverse organisations engaged in a similar function” (Scott, 2001 p 137). Some fields may have clear rules, practices and beliefs. Others will perhaps be nascent and have poorly formed or general guiding principles (Greenwood *et al.*, 2002). A cohesive water efficiency organisational field might therefore be evident among competitors, and might include related water authorities, regulators and professional groups.

### *How New Institutional Logics Develop*

Once new logics institutionalise across a field, they are usually “relatively resistant to change” (Scott, 2001 p 49). Similarly, Zucker (1987 p 447) emphasises that “institutionalism increases stability.” Some therefore assume that NIS is not an appropriate framework to investigate organisational change (Greenwood and Hinings, 1996). Such thinking has in fact contributed to a deficiency in many studies whereby “relatively little [is described] about ‘institutionalisation’ as an unfinished process, about where institutions come from, why some organisational innovations diffuse while others do not, and why innovations vary in their rate and ultimate extent of diffusion” (DiMaggio, 1988 p 12). Many institutional studies are mired in “ritualistic accounts of legitimacy and appearance” (Ezzamel and Robson, 2009 p 5). Not enough attention has been given to the “processes by which organisations interpret their institutional environment” (Suddaby, 2010 p 16). This study contributes to this gap by exploring how early efforts to institutionalise a focus on water efficiency unfolded across a field of organisations located in Sydney, Australia into the mid-2000s.

Institutional change is likely to be “episodic, highlighted by a brief period of crisis or critical intervention and followed by longer periods of stability” (Powell, 1991 p 197). A small number of organisations in the field are expected to respond to new institutional logics first by developing exemplar practices. New institutional logics are expected to then diffuse more broadly across the field through ‘theorisation’ (Strang and Meyer, 1993). Theorisation is a process whereby “localized deviations from prevailing conventions become abstracted and thus made available in a simplified form for wider adoption” (Greenwood *et al.*, 2002 p 60). Where institutional logics explain *how* an organisation should respond, theorisation explains *why* others should follow leading examples and develop similar responses. Theorisation develops “when organised actors with sufficient resources (‘institutional entrepreneurs’) see in them an opportunity to realise interests that they value highly” (DiMaggio, 1988 p 14).

Theorisation occurs as authorities, trade associations, practitioners and community groups begin to review leading responses and develop arguments about why and how laggards in the field should follow (Meyer and Rowan, 1977; Strang and Meyer, 1993). Suddaby (2010 p 15) questions this notion of institutional entrepreneurs, suggesting that it presents a paradox of embeddedness; how can these “hypermuscular supermen” be both embedded within institutions and yet changing them? Professionals groups are likely to be critical to the process

of theorisation as they are able to employ the “dual consciousness” (DiMaggio, 1991 p 268) required to both act in the interests of corporate masters and engage effectively with developing logics (Suddaby, 2010). While managers “act on the basis of routines”, entrepreneurs are “innovators who leave behind routines” (Beckert, 1999 p 786). Trade associations and professional bodies are therefore expected to be a critical source of theorisation (Deepphouse, 1996; Greenwood *et al.*, 2002). Individuals within leading organisations can also contribute by using “the established institutions as the means to legitimise and promote their own behaviour” (Tuttle and Dillard, 2007 p 392).

Greenwood *et al.*, (2002) develops a model of institutional change. As reproduced in figure 1, initial jolts or disturbances cause new players to enter the field (stage II). At stage III, ‘pre-institutionalisation’, organisations in the field are innovating independently. At this stage, the few organisations that have adopted new practices are likely to be “facing similar circumstances, and to vary considerably in terms of the form of implementation” (Tolbert and Zucker, 1996 p 182). Theorisation then becomes apparent in stage IV. Diffusion will occur in stage V if the “new ideas are compellingly presented as more appropriate than existing practices” (Tolbert and Zucker, 1996 p 184). Finally in stage VI (re-institutionalisation), newly theorised processes are adopted broadly across the field. Of course, the alternative is that institutionalisation might fail at any of these stages and so a developing focus on water efficiency might ultimately wane as having been no more than a passing fad or fashion (Abrahamson, 1991).

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Insert Figure 1 about here  
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## METHODOLOGY

The Sydney basin (hereafter called the ‘basin’) is chosen as an ideal location within which to explore the development of improved water efficiency practices across a field of organisations. The basin has a small water catchment (approximately 16,000 square kilometres) and yet includes one of Australia’s largest industrial and urban concentrations. The basin is hydrologically isolated and so faces acute challenges during periods of scarcity. Within the basin, we then targeted organisations that were both large water consumers and financially large. The *NSW Water Savings Order 2005* fulfilled our need for a list of ‘large water consumers’ as it included an appendix listing all organisations operating in the basin that used more than 50

megalitres of water in the preceding year. To provide a list of ‘financially large’, that list was cross-referenced against the 2006 Business Review Weekly listing of organisations whose total annual revenue exceeded AUD1billion (BRW, 2006). 38 organisations met both criteria. Common organisational characteristics of this nature (size, location, regulatory frameworks etc) may contribute to a sense of a cohesive organisational field.

Of those 38 organisations, seven were from the food and beverage sector. That sector was considered an ideal field to target as it uses water for a variety of purposes. Industry groups reflect “recognised areas of institutional life” (DiMaggio and Powell, 1983 p 148) and by focusing within one, the researcher can “eliminate the confounding influences of different regulators and publics” (Deephouse, 1996 p 1026). The environment manager in those organisations was contacted<sup>3</sup> and allowed access for interviewing with a range of staff, site observations, and collection of relevant documents including water savings action plans and water related investment proposals. Given the ‘how’ element in our research questions, a qualitative research approach focused on semi-structured interviews was adopted so as “to present a detailed view of the topic” (Creswell, 1998 p 17). Our semi-structured interview issues are reproduced in table 1.

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Insert Table 1 about here  
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26 individuals were interviewed during 2008, and 12 further interviews were conducted through 2009 and 2010. A representative from Sydney Water Corporation (SWC)<sup>4</sup>, the Australian Food and Grocery Council (AFGC)<sup>5</sup>, and the NSW Department of Water and Energy were also interviewed. A summary of all 41 interviews (26 plus 12 plus 3) including dates, length and a generic position description, is provided in table 2. Interviews were transcribed and coded to key themes using NVivo.<sup>6</sup> Of the comments coded to the themes relevant to this study, many are not included here, either because similar comments were better expressed by others, or were deemed secondary. As acknowledged by Ahrens and Chapman (2006), subjectivity of coding and analysis are challenges for qualitative research and so are limitations of this study. Reliability was enhanced by triangulating key findings against comments from other interviewees and other documentation. Our guiding objective was to represent the how the drivers of novel water efficiency responses impacted across this field, as faithfully and succinctly as possible.

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Insert Table 2 about here

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In the interest of anonymity, the names of interviewees and the case organisations are withheld. Instead, generic position descriptions are utilised to describe the interviewees, and the following pseudonyms are developed for the seven case organisations; Alpha, Beta, Gamma, Delta, Epsilon, Zeta and Eta. The findings are presented in the next section.

## FINDINGS AND DISCUSSION

### *The water efficiency practices developing across the field*

A detailed exploration of the water efficiency practices developing across this field into the late 2000s has been undertaken by Egan (2012). A brief overview of those findings is provided here to set a context for the objectives of this paper. Interviewees explained that as recently as the late 1990s, the institutionalised behaviour had largely been, as the environment manager in Eta explained it, “just pouring it down the drain.” More recently, a range of water management practices focused on both water efficiency and effluent management, were now being developed across the field. All seven case organisations were now increasingly monitoring water usage and effluent discharge. Most were using that data to investigate inefficiencies and leaks, and address any deficiencies through repairs, minor equipment upgrades, and some re-engineering of production processes. Some were developing water policies and related staff training programs. Some were also investing in water specific infrastructure, including water treatment and recycling plants, and rain harvesting infrastructure. One case organisation, Beta, was developing a range of distinct practices targeted to provide water benefits directly to community groups (Egan, 2012).

### *Research question i) - the drivers*

We argue that the focus on water efficiency in **Alpha** had become ‘pervasive’ by 2010. We define water efficiency as ‘pervasive’ where staff throughout the organisation were now required to focus on achieving established water efficiency targets, and where water usage data was frequently collected, well dissected by location and function, reviewed at production level in search for inefficiencies and leaks, and reported to the executive to monitor compliance with those goals. Interviewees in Alpha explained that a key factor driving its pervasive response, had been a sense that their significant use of water was being closely scrutinised by water authorities. The environment manager explained “I guess the driver has been the recognition from a long time ago, that we were a big water user, and that wherever



we are located we use a lot of water compared to other people or other industries in that area.” The general manager of operations explained, “in the past, it was just a cost of business and they [authorities] provided water for you. Now, they may say ‘no, it’s just not available’.” The management accountant argued, “continuity of water supply is far more important to us than the actual cost ... while it may be cheap it’s also rather scarce ... and we’re acting before we have to react.” A sense of scrutiny from water authorities thereby had a surprising capacity to drive a pervasive response. The environment manager also commented on water cost and argued, it was “still too cheap, I guess, at the moment to be a driver on its own ... but highlighting that it is a cost and that it is increasing, does get some traction.”<sup>7</sup> The low cost of water was unable to contribute more than limited ‘traction’ for those seeking to champion pervasive water efficiency responses within Alpha.

We argue that water efficiency had also become ‘pervasive’ in **Beta** by 2010. Interviewees explained that criticisms from community groups were a key factor driving those pervasive responses. The corporate affairs manager explained there had been “a very public furore with the community, with the government, with the local council” at one of Beta’s major New South Wales production sites with respect to water usage. Similarly, the head office environment manager argued that Beta was “attacked for various different reasons and so of course you’ve got to be more ‘squeaky clean’ than your competitors.” The corporate affairs manager explained that “what we try and do is go out and forge relationships with stakeholders ... you need to talk about the other things that you’re doing, because people will bash you over the head if you don’t.” In this violent metaphor, pervasive water efficiency responses was pursued in order to have good stories to tell (and avoid bashing). Beta’s plant shift manager explained these community pressures somewhat less emotionally; “company wise, obviously we are a large company. We have an obligation to the community to do the right thing ... people would be aware of [our organisation] being in the press and it hasn’t always been favourable. It makes people [inside the organisation] just a little bit more water aware.”

Some sense was also expressed in Beta, that water authorities were closely scrutinising water usage. The plant engineer explained, “we’ve got a lot of people watching us to make sure that we do the right things from a corporate point of view. I think with funding from the DECC [NSW Department of Environment and Climate Change] ... if we weren’t doing those<sup>8</sup>, they’d look at [us] and say, why should we give money to them?”<sup>9</sup> Similarly, the corporate affairs

manager argued that “one of the biggest risks is ... making sure we have enough to meet demand, and again, how you manage that is just to work with the water authorities.” In short, Beta felt that external stakeholders were driving the development of new logics about how water ought to be managed. Fear motivated Beta to demonstrate pervasive water efficiency responses.

Some sense of criticism from community groups was also apparent in **Gamma** about the organisation in general, its product range, and its usage of water. The director responsible for issues of environment lamented that many in the community held Gamma in a “bad basket” and so concluded, “we are a target.” However, the limited energy for water efficiency in Gamma was fundamentally about a need to reduce costs. The management accountant explained, “if you can get your water usage down it’s seen as a competitive advantage, not only for the input costs but also for the efficiency of the process.” Gamma was the only one of the seven case organisations in which cost was a significant explanation for the limited responses evident.

The fundamental concern with respect to water in **Delta, Epsilon, Zeta and Eta** was simply compliance with the requirements of the *NSW Water Savings Order 2005*. Unlike Alpha, Beta and Gamma, interviewees in these organisations did not also have similar concerns about community criticisms and scrutiny from water authorities. Compliance with that Order was not onerous as it required targeted organisations to do little more than prepare a plan for managing water usage. As a consequence, the extent to which novel water efficiency practices were being developed in these cases was limited. Delta’s environment manager dismissively concluded, “to be honest, most current efforts were largely just fire-fighting.” The head office environment manager in Zeta commented, “this is not something we have got our heads around.” Zeta’s plant environment manager concluded that regulation was therefore “probably the bigger driver”. **Eta’s** sustainability manager explained, “we’ve taken a ... compliance approach to date and that’s been largely around just the availability of resources and people to work on it.”

In summary, four key groups of drivers have been identified:

1. cost;
2. regulation;
3. a sense of scrutiny by water authorities and a threat of further regulation; and

#### 4. criticisms from community groups.

Water cost, regulation, and other programs implemented by authorities had a little capacity to contribute to the moulding of any new logics about the importance of water efficiency across the field. Industrial water costs in Sydney remained low throughout the 2000s and compliance with the *NSW Water Savings Order 2005* was not onerous. By way of contrast, a sense of scrutiny from authorities and/or criticisms from community groups about water usage was able to drive Alpha and Beta to integrate pervasive water efficiency responses. Interviewees explained that in taking these pervasive responses, their organisation was seeking to protect reputation, licence to operate, and the ability to access sufficient resources into the longer term. Reputation concerns were able to drive top management to invest significant time and money in pursuing practices whose contribution to the core goal of profit maximisation was marginal.

The limited focus on water efficiency across the field demonstrates that there was currently little sense of any normative, mimetic or coercive pressure (DiMaggio and Powell, 1983; Meyer and Rowan, 1977) to seek homogeneity with the pervasive responses evident in organisations like Alpha and Beta. Pervasive water efficiency responses had not institutionalised across the field by 2010 because they were not effectively ‘driven’ by any authority. Water price and/or regulation could have been drawn on as effective levers to institutionalise pervasive demand management change. In the absence of such effective leverage, limited messages about the importance of pervasive water efficiency were articulated by uncoordinated voices from the community, media, regulators, related government departments, water retailers (particularly SWC) and local councils.

We have focused here on exploring the external factors driving water efficiency change across this field of organisations. It should be noted that interviewees also explained that effective internal champions were needed to mobilise these forces and drive the integration of unique responses in each case. These external drivers impacted on, and worked through, the executive, which then made determinations about how the organisation ought to uniquely respond. Where the risk of continuing with a ‘business as usual’ approach was perceived to be significant, the institutionalisation of pervasive responses was mandated. In other cases where the drivers impacting on the organisation were limited and the risks involved in inaction were not considered to be significant, little water efficiency change was mandated (Egan, 2012).

*Research question ii) - invoking a water efficiency organisational field*

Here we explore the sense among interviewees, that they were now operating within a cohesive water efficiency organisational field, and consider the nature of the messages for change being promoted in that field. All seven organisations had a number of common features that ought to have contributed to some sense of operating within a cohesive water efficiency organisational field. All operated in the food and beverage industry in Sydney; all operated within similar supply chains; all were subject to the *New South Wales Water Savings Order 2005*; and all were subject to common food health and safety standards. In many other important respects however, each organisation differed. Various corporate forms, product bases (distinguished between staples and non staples)<sup>10</sup>, and differing relative percentages of total water required within their products<sup>11</sup>, were evident. These differences may have contributed to some sense that they were not all operating within a cohesive organisational field. Table 3 summarises these three areas of difference, and also reiterates whether water efficiency was pervasive, or marginal and fragile in each.

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The environment manager in **Alpha** argued in 2009 that her CEO chose to champion a pervasive response to developing logics for water efficiency because, “I suppose the opportunity for us is that we seem to be ahead of our competitors and ... that can only help us survive in the long-term.” In an interview in 2009, the SWC industry liaison manager also expressed some sense of a developing water efficiency organisational field but argued that practices within it remained largely heterogeneous; “you’ve got the early adopters, you’ve got the people that are jumping on the band wagon too, ‘oh yeah we were kind of forced down this pathway and now we’ve realised that it actually makes good business sense’, then there are others that are just kind of lingering around and going ‘well we’ll hold off for as long as we can’.”

Interviewees in **Beta** seemed keen to argue that a water efficiency organisational field was developing that included themselves and many other large water consuming organisations. In 2008 the plant engineer argued, “there is a lot of negativity around ... so we do try to promote ourselves when these initiatives come up<sup>12</sup> as being a good corporate citizen and pioneering a

lot of things for not just us, but for the industry as well.” In an aggressively competitive comment, a director argued, “to be sustainable you have to understand where you sit in the pecking order; if you are the number two player, be the number two player.” The environment manager also argued somewhat threateningly, “I think the fact is that leading companies will shame or actually render other products I suppose inferior, from an environmental point of view.” Beta’s engineer also spoke of leadership arguing, “we realise in the future this will become more and more a competitive advantage.”

Most of these comments were framed utilising future tense. None of the interviewees in Beta were arguing that this developing water efficiency organisational field was mature by 2010. However, consistent with the arguments of Tuttle and Dillard (2007), agents were making efforts to invoke one in the hope of buffering and protecting core technical processes (Scott and Meyer, 1991) and securing some competitive advantage. The anticipated consequence was that others in the field would increasingly sense normative pressure and integrate homogeneously ‘responsible’ practices (DiMaggio and Powell, 1983). Palenburg *et al.*, (2006 p 21) also saw a “herding effect” with respect to the development of sustainability management practices.<sup>13</sup> The question that therefore follows is: to what extent were others in the field now sensing the herding that Beta and others were attempting to drive?

The head office management accountant in **Gamma** expressed a sense in 2008 of herding across a ‘curve’ of water consuming organisations. “You can kind of see by what’s happening; not only the water issue within Australia, and that’s trying to be ahead of the curve, but also you can sort of see ... that changes are coming.” Gamma’s management accountant added that management wanted the organisation to be “developing its own identity.” The rejection of a ‘me too’ (mimetic) approach in both Beta and Gamma runs counter to the arguments of Jennings and Zandbergen (1995). Both Beta and Gamma were keen to mould a water efficiency organisational field to their advantage, and to be seen as leaders within it.

Interviewees in the other organisations also expressed some sense that a water efficiency organisational field was being mustered. However, most felt that a significant response was not yet necessary. The environment manager in **Epsilon** suggested some sense of a drive to be isomorphic; “we don’t want to be seen as being too far from what our competitors are doing.” **Eta’s** environment manager argued in 2008, “I can see from their [the board’s] perspective, there must be people scaremongering about a whole range of things out there, most of which

never come to fruition.” Perhaps those ‘scare-mongers’ included individuals from Beta and Gamma. He continued, “they [the board] have problems picking the wheat from the chaff: what are the real risks that are really going to impact us in the future?” The ‘wheat’ on which Eta’s board was currently focused was pressing concerns, including rising commodity prices. Presumably the ‘chaff’ including a sense of developing logics about the importance of water efficiency. Little understanding of, or concern for this developing water efficiency field was expressed by interviewees in **Delta** or **Zeta**.

At this early phase of institutionalisation, a field was beginning to be invoked by those with well developed water efficiency practices in order to secure some competitive and reputational advantages (Aragon-Correa, 1998; Sharma and Vredenburg, 1998). ‘Would-be’ leaders expected that shaming strategies would ultimately force competitors to develop relatively isomorphic water efficiency responses. While the seven case organisations produced a range of products (as shown in table 3), all can broadly be seen as competing for the same household food and beverage budget, and therefore all can be conceived as captured within the water efficiency organisational field that Alpha, Beta and Gamma were seeking to evoke. Into the late 2000s however, the executive in Delta, Epsilon, Zeta, and Eta remained largely focused on other pressing technical concerns and did not yet sense any significant mimetic, normative or coercive pressure to pursue isomorphic responses (DiMaggio and Powell, 1983).

*Research question iii) - the evolving logics in that field*

The four identified groups of drivers can be seen to have derived from the “products of professional groups, the state, public opinion” (Scott, 1992 p 117). These drivers were therefore beginning to contribute to the development of cohesive logics about an appropriate range of water efficiency responses for this field. While water costs and regulation of water usage were weak forces for change, the sense of community criticism and scrutiny by authorities that impacted within some of the case organisations, had a surprising capacity to instil fear and drive the development of new logics about the importance of water efficiency. That scrutiny and criticism was the trigger that drove those organisations to participate in, and in fact seek to lead, discussions about the form and nature of appropriate logics for this field. However, as several case organisations did not share this sense of scrutiny or criticism, these new logics were not constraining consistently across the field (DiMaggio and Powell, 1991)

A range of new water efficiency logics were apparent in Beta. Community criticisms drove the executive to allow some flexibility with respect to normal payback requirements for water specific infrastructure. The engineer explained in 2008, “I think that decision [to construct the rain harvesting infrastructure], even as much as three to five years ago, it would have been probably more of just a purely dollars point of view. Does it stack up? No.” Community criticisms were also instrumental in nurturing logics that Alpha and Beta should develop a water policy, integrate basic water efficiency procedures with production processes, and disclose details of those developments to external stakeholders. The corporate affairs manager argued in 2008, “if you look at say the issues in the media for the last few years, people are demanding, more and more information about what companies are doing in the environment.” By 2010 the environment manager of Alpha felt that there was “definitely an increasing level of interest and awareness, particular the need to account for water.”

The requirements of regulation meant that basic water reporting was becoming a taken for granted logic across the field. There was little sense however, that the other new water efficiency logics apparent in Alpha and Beta were significantly impacting at executive level in Gamma, Delta, Epsilon, Zeta or Eta. Our findings show that where the drivers of change are diffuse and uncoordinated, would-be leaders can take the opportunity to manage the development of field logics (as opposed to having those logics imposed by others). This study also demonstrates that where institutional logics are nascent and the organisational field is still at this early ‘mustering’ stage, laggard organisations will feel little sense that they should seek isomorphism. There was little suggestion into 2010 that ‘laggards’ in the field were feeling the need to respond to the forces of competition by “adopting behaviours similar to those of the ‘successful’ entities” (Tuttle and Dillard, 2007 p 390). We contribute to the arguments of Deephouse (1999 p 152) by showing that at this time, leaders have an opportunity to stretch and experiment with “strategies outside of the range of acceptability” in an effort to gain competitive advantage.

Figure 2 presents a diagrammatic representation of this water efficiency organisational field in the late 2000s, and the institutional logics developing within it. Alpha and Beta are shown at the centre of that field because they were contributing to the development of those logics. The other five case organisations are shown at its fringes. Scott (2001) concurs that different organisations may be located at different places within a field. Arrows in figure 2 are used to indicate that community groups and water authorities drove these dialogues about water

efficiency with these would-be leaders. An arrow is also shown from Alpha and Beta to the fringe organisations, to represent claims that these would-be leaders would ultimately shame those others to seek replication of the logics they sought to promote.

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*Research question iv) - theorisation for water efficiency into the late 2000s*

In this final section we ask; if pervasive water efficiency had not institutionalised by 2010, was it continuing to progress, or was it at risk of waning as having been no more than a fad or fashion (Abrahamson, 1991)? The water efficiency organisational field examined here can be described as having reached a ‘pre-institutionalisation’ phase by the late 2000s (Greenwood *et al.*, 2002). Consistent with Tolbert and Zucker’s (1996) descriptions, both Beta and Alpha were facing similar motivating circumstances and responded by developing pervasive, yet relatively heterogeneous water efficiency practices. Beyond pre-institutionalisation, institutional entrepreneurs are expected to develop arguments about how new logics align with the technical, and so convince laggards in the field to respond through ‘theorisation’ (Greenwood *et al.*, 2002).

It is apparent that the key ‘theorisation’ with respect to water usage prior to the development of water scarcity into the mid-2000s was; ‘use it as you please’. With little economic incentive, unsustainable water use practices had institutionalised into the late 20<sup>th</sup> century (McKay, 2005). By 2010, theorisation with respect to water usage was changing in response to drought. Argument was now being articulated across the field that water efficiency was advantageous as it could facilitate cost savings. The New South Wales ‘Every Drop Counts’ business program argued for example, that water efficiency “gives businesses a competitive advantage by helping them get the most out of the water they purchase” (SWC, 2009 p 4). However, low water costs persisted into 2010 and so cost did not present a consistently strong theorisation for the importance of water efficiency change. The AFGC acknowledged this problem (and the failings of that theorisation) in its *Towards Sustainability 2007–08* report; “the low price of water ... is the greatest impediment to implementation of reuse strategies by industry” (AFGC, 2009b p 14). A superior theorisation to cost was developing however, and was already well understood among the would-be leaders. That better theorisation argued that the adoption of pervasive water efficiency practices could better secure on-going access to long-term water supply needs. The AFGC argued in its *State of the Industry 2010* report that, “drought and



continuing low water storage levels in many of the country's rivers and dams mean that water security, quality and availability are critical issues" (AFGC, 2010 p 55). Interestingly, cost advantages were not included in these refined theoretical arguments.

Just as theorisation for the importance of water efficiency was becoming more convincing, rainfall levels improved dramatically across Australia into the late 2000s. On interviewing the AFGC director again in 2010, he acknowledged; "from my general perspective, the issue of water, certainly in the last 12 months, has reduced a little bit." In 2010 Alpha's environment manager also argued, "I have not perceived water to be their [AFGC's] big issue." Similarly, Eta's environment manager commented on the impact of the AFGC's *State of the Industry 2010* report and argued, "I think that the easing up of the drought in Australia has probably taken the foot off the accelerator." While the AFGC represented "80% of the dollar value of the sector" (AFGC, 2009a) and so had the power to "progress the debate"<sup>14</sup>, it would seem that into 2010, they were not promoting themselves as "hypermuscular supermen" (Suddaby, 2010 p 15) for water efficiency change. Without strong championing from that body, the laggards in this study were still not feeling any significant pressure to catch up to the practices evident among the leaders.

Regardless of the easing of the drought, and the less than 'hypermuscular' championing efforts of the AFGC, several case organisations remained keen to contribute to developing theorisation for the importance of water efficiency into 2010. Epsilon's environment manager explained in 2009 that he was working on a document with SWC on the challenges of investing in water treatment and recycling technology. That document would become an important part of theorising the case for that particular water efficiency initiative (or logic). The environment manager of Alpha explained in 2010 that she was now a board member of the recently formed 'Australian Water Stewardship Organisation'. The stated purpose of that body was to develop global certifiable standards for water efficiency for all large water consuming organisations. Beta's environment manager also explained in 2010 that "we participate in a number of industry forums." In this 'pre-institutionalisation' field, the development of both the logics for the field, and convincing theorisation, was largely being managed by the would-be leaders. Further to Suddaby (2010), this study demonstrates that in the absence of clear championing by professional bodies, 'hypermuscular' champions can also emerge directly from organisations impacted within the field.

As a final comment, Beta's environment manager predicted in 2010 that a process of coercive isomorphism might be complete by around 2020; "we'd sort of co-opt everyone to all be operating in the same way in ten years, [so as to be able to] continue in business, continue using resources, and ensure that they are replenishable." If that was to be achieved however, the developing theorisation for water efficiency would need on-going support, particularly from authorities. With water scarcity abating, theorisation about the importance of water efficiency would now need to emphasise that scarcity remained a long-term concern. This paper therefore also has policy implications; if water authorities believe water efficiency remains important, they should not leave it to the 'Betas' to 'co-opt' others in the field, but should take a more active role in promoting convincing theorisation that takes these evolving issues into consideration.

For now, theorisations about water usage were varied. Some in the field appreciated arguments about reducing cost. Others appreciated arguments about securing supply. For others however, theorisation about water usage continued to be; 'use it as you please'. At the end of this study, it was apparent that further study could explore how pervasive water efficiency responses either continue to institutionalise, or erode as having been no more than a fad or fashion of the 2000s (Abrahamson, 1991).

## **CONCLUSIONS**

This study has explored how four un-coordinated, and in some cases weak factors, drove a heterogeneous range of water efficiency responses across a field of seven Sydney-based food and beverage producing organisations into the late 2000s. Through institutional theory, this study has explored; how a water efficiency organisational field began to develop, the institutional logics within that nascent field, and whether those logics were continuing to institutionalise into 2010. In so doing, three key contributions are made to understanding how water efficiency change can be explained and understood through the application of institutional theory.

First, the executive in Alpha, Beta and Gamma sensed an opportunity to achieve some competitive advantage if they responded first to a developing sense of scrutiny from authorities and community groups, by adopting pervasive and innovative water efficiency practices. Those 'would-be' leaders anticipated that other laggard organisations would increasingly feel a sense of shame and so would begin to seek some appearance of

isomorphism. A water efficiency organisational field was beginning to be invoked into the late 2000s through the efforts of would-be leaders in that field. Further to the arguments of Deephouse (1999 p 152), this study shows that would-be leaders had an opportunity to creatively experiment with a range of “strategies outside of the range of acceptability.”

Second, this scrutiny and criticism felt within some of the case organisations, drove a developing dialogue across the field about water efficiency. Executives, environment managers, plant managers, engineers and accountants contributed to that dialogue, and began to experiment with a range of water efficiency practices. By the late 2000s, that dialogue had evolved into nascent logics that were beginning to be understood across the field. However, authorities and professional bodies continued to play a limited role in shaping and promoting those new logics. This study demonstrates that in this ‘pre-institutionalisation’ field, where the drivers of change were limited and diffuse, would-be leaders had an opportunity to set a moral high ground and specify what new logics were now important. For now however, other ‘laggard’ organisations felt little sense of any pressure to seek relatively homogeneous responses. Without strong support for pervasive water efficiency change from authorities, the would-be leaders in the field were not yet able to normatively or coercively muster homogeneous responses among others in the field.

Third, to 2010, a diversity of theorisations for water efficiency persisted, most of which had limited ability to convince laggards in the field. However, as with the logics developing in the field, theorisation was also evolving which again, was largely managed by the would-be leaders. Better theorisation was beginning to argue that pervasive water efficiency responses mitigated threats to long-term water supply needs. While the process was slow, it was apparent that pervasive water efficiency responses were continuing to institutionalise across the field into 2010. These processes were at risk however, of ultimately waning as having been no more than a fad or fashion (Abrahamson, 1991).

This study is limited to an exploration of water efficiency change in one region, one industry and at one point in time. Drought conditions abated across Australia into the late 2000s. In February 2013, the Sydney Water Corporation released its latest *Water Efficiency Report 2011-2012* (SWC, 2013) which indicated that many of the demand management programs implemented through the mid-2000s were now going to be discontinued. In light of these developments, we speculate that theorisations arguing that pervasive water efficiency was

important, were probably becoming less convincing. Further studies could explore whether 'institutionalisation' within this sector continued to unfold or alternatively, how it subsequently failed or eroded in response to that declining emphasis on demand management. Exploring potential differences in other locations and industries also presents a rich opportunity for further study.

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<sup>1</sup> Sourced from the Australian Government Bureau of Meteorology, 3 February 2008:

<http://www.bom.gov.au/climate/drought/livedrought.shtml>.

<sup>2</sup> In this study we take water efficiency to be a sub-set of 'sustainability management'.

<sup>3</sup> In working through the environment manager, it is acknowledged that others who may have also had comments about water efficiency may have been overlooked for interviewing.

<sup>4</sup> The sole retailer of potable water in the Sydney water catchment basin.

<sup>5</sup> The representative body for Australia's food and beverage industry.

<sup>6</sup> NVivo is a software package that allows qualitative data to be coded into themes, each of which can then be separately reviewed and analysed.

<sup>7</sup> Egan (2009) summarised the movement in water costs for industrial water consumers in Sydney noting a progressive increase from approximately \$0.85/kL in 1999, to approximately \$1.90/kL by 2009.

<sup>8</sup> Here he was referring to the development of a number of infrastructure projects designed to capture and store rain water from the rooves of their major Sydney-based warehouses.

<sup>9</sup> All organisations included in this study were able to apply for some funding to support the development of water specific infrastructure within their Sydney-based operations.

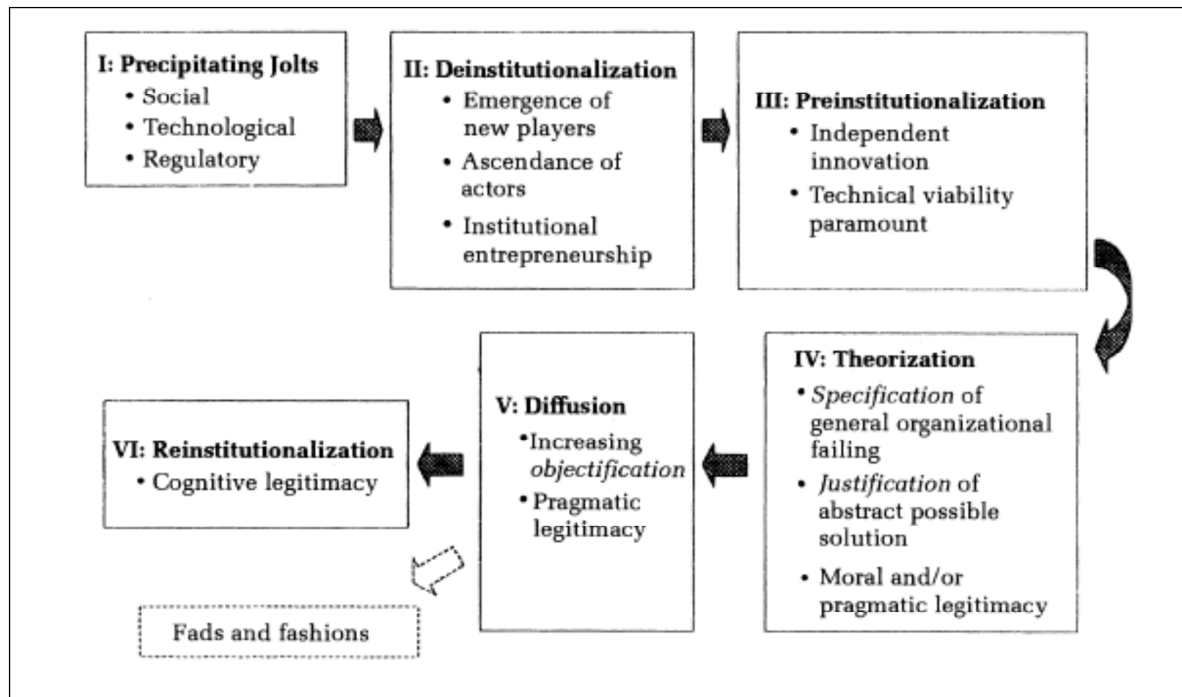
<sup>10</sup> A staple is taken to be a food or beverage generally considered to be central to a standard diet. Non-staple foods and beverages include such products as alcoholic beverages, sugary beverages, and snack foods.

<sup>11</sup> These approximate percentages were all obtained from estimates advised by interviewees. The balance of water *not used* within the product was consumed in ancillary functions including cleaning, heating, and amenities.

<sup>12</sup> Here he was commenting on Beta's new rain harvesting infrastructure.

<sup>13</sup> Unlike this water efficiency study, the specific focus of Palenburg *et al.*, (2006) was the development of voluntary sustainability reporting practices.

<sup>14</sup> As argued by one of AFGC's directors in our interview with him.



**Figure 1**          Reproduction of Greenwood, Suddaby and Hinings model of the ‘Stages of Institutional Change’ (Figure 1 2002: 60)

**Table 1**          Semi-structured interview issues

1	Introductions
2	Uses of water at this organisation
3	Overview of this organisation’s water management practices
4	Roles, responsibilities, networks and integration
5	Data collection, reporting processes and use in decision making
6	Integration with broader accounting systems
7	Effectiveness
8	The past - history, motivations and hurdles
9	The future - challenges, threats, opportunities, vision and strategies
10	Other matters

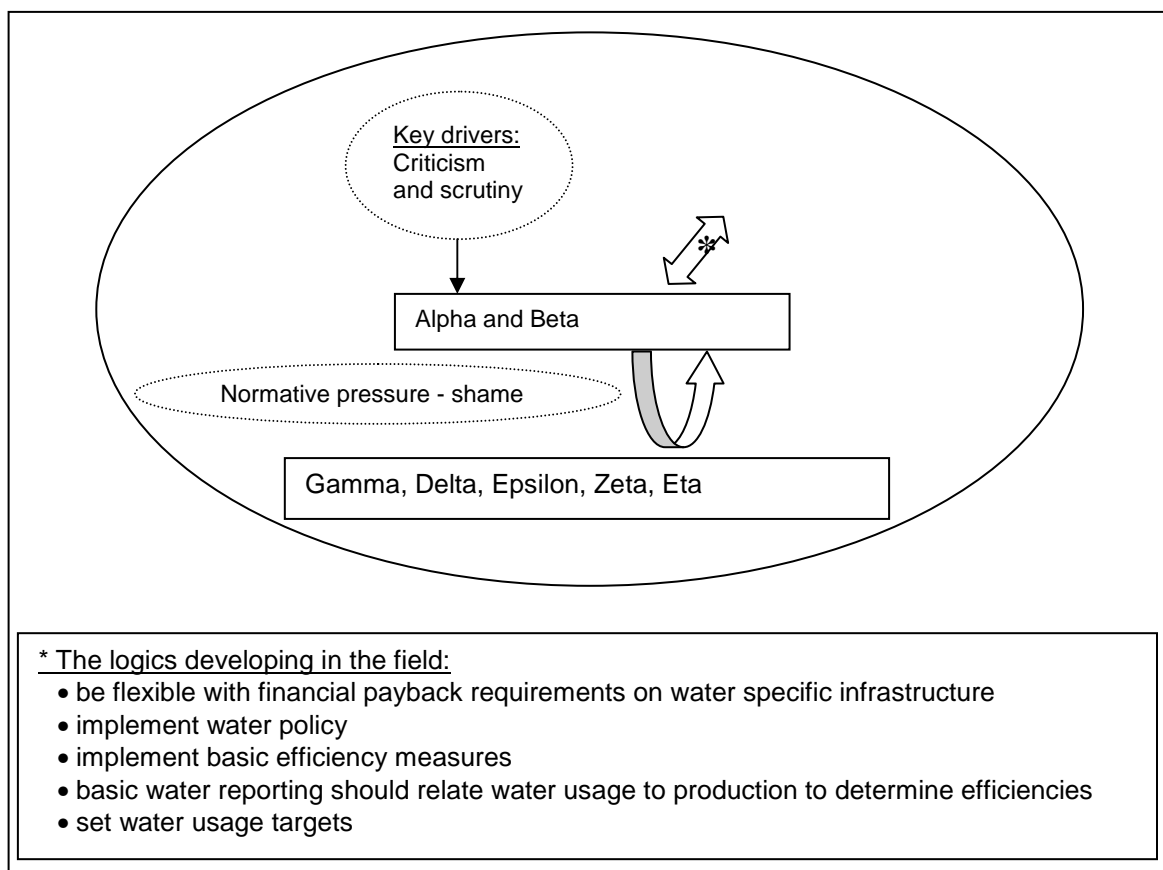


**Table 2** Summary of the semi-structured interviews

	<b>Date of interview</b>	<b>Generic position description</b>	<b>Organisation</b>	<b>Length (mins)</b>
1	27/10/2008	Director	AFGC	15
2	17/09/2008	Head office environment manager	Alpha	89
3&4	30/10/2008	Plant manager & the effluent manager	Alpha	66
5	01/12/2008	Operations manager	Alpha	35
6	01/12/2008	Management accountant	Alpha	52
7	14/05/2009	Head office environment manager	Alpha	51
8	9/11/2010	Head office environment manager	Alpha	40
9	17/06/2008	Corporate affairs manager	Beta	75
10	25/06/2008	Head office environment manager	Beta	102
11	23/07/2008	Engineer	Beta	83
12	03/10/2008	Environment assistant	Beta	26
13	03/10/2008	Plant environment manager	Beta	46
14	03/10/2008	Plant manager	Beta	43
15&16	03/12/2008	Management accountant (2)	Beta	40
17	29/04/2009	Director	Beta	15
18&19	06/05/2009	Head office environment manager & the corporate affairs manager	Beta	36
20&21	25/11/2010	Head office environment manager & the corporate affairs manager	Beta	32
22	03/10/2008	Director	Gamma	70
23	30/04/2008	Management accountant	Gamma	90
24	30/04/2008	Plant environment manager	Gamma	46
25	30/04/2008	Environment manager	Delta	10
26&27	01/08/2008	Plant manager & the effluent manager	Delta	62
28	22/07/2008	Engineer	Epsilon	44
29	22/07/2008	Management accountant	Epsilon	16
30	22/07/2008	Water consultant	Epsilon	57
31	22/07/2008	Plant environment manager	Epsilon	74
32	14/05/2009	Plant environment manager	Epsilon	42
33	20/10/2010	Plant environment manager	Epsilon	28
34	15/09/2008	Head office environment manager	Zeta	15
35	24/10/2008	Plant environment manager	Zeta	53
36&37	26/06/2008	Sustainability manager & the environment manager	Eta	69
38	08/05/2009	Head office environment manager	Eta	24
39	25/11/2010	Head office environment manager	Eta	10
40	04/05/2007	Water savings specialist	NSW Department of Water & Energy	15
41	24/08/2009	Industry liaison manager	Sydney Water Corporation	43
				1,614

**Table 3** Key corporate and water related features of each case organisation

<b>Organisation</b>	<b>Corporate form</b>	<b>Food or beverage produced</b>	<b>% total water used within the product</b>	<b>Water management outcome</b>
Alpha	Private Australian-based	Staples	50%	Pervasive change
Beta	Multinational public with foreign parent	Non-staples	70%	Pervasive change
Gamma	Multinational public with foreign parent	Non-staples	90%	Marginal and fragile
Delta	Multinational public with foreign parent	Non-staples	90%	Marginal and fragile
Epsilon	Private Australian-based	Non-staples	Minimal	Marginal and fragile
Zeta	Multinational public with foreign parent	Mixed	50%	Marginal and fragile
Eta	Multinational public with Australian parent	Staples	50%	Marginal and fragile



**Figure 2** Model of the progress towards the institutionalisation of water efficiency across the field into 2010