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## **A Collective Aspiration Formation Framework: Developing a Dual Regulatory Process using Identity**

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We used a grounded theory approach to investigate the role of identity in the goal setting process in the organizational form of a whole network. The findings indicate how identity is used in the strategic positioning of actors across the goal setting process, as well as within the four processes of framing, directionizing, focusing and interpreting. We explain how these processes become pivotal in the dynamic role of the central network administration organization (NAO) in governing eight meta-level routines; and how this gives rise to dual regulatory controls. These controls become central in increasing homophilic identity and heterogeneous capability levels across network members to collectively compete. The findings contribute to the organizational goal setting and collective identity literatures.

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**Key Words:** goal directed networks; network administration organization; governing; goal setting; aspirations; identity; collective identity; regulation

## INTRODUCTION

This paper seeks to extend understanding on the goal setting process in an inter-organizational network. Goal setting in networks has long interested network scholars where there are collaborative, as well as performance consequences for individual members and for the whole network (Cyert & March, 1963; Van de Ven, 1976; Powell et al., 2005; Simon, 1964; Provan & Kenis, 2008). This is particularly important when groups of firms (Gomes-Casseres, 1994) are required to collaborate in order to collectively compete (Albers, Schweiger & Gibb, 2015). While goals help to direct what network members aspire to achieve, both individually and collectively, their practical value can be displayed in several ways (Vangen & Huxham, 2011). Goals can justify action (Staw, 1980); provide a source of commitment (March & Simon, 1958; Thomson & Perry, 2006) and performance criteria (Provan & Kenis, 2008; Amirkhanyan, 2008). Just as the perceived values associated with goal setting outcomes can be complex, so too can values, such as identity, that act as behavioural antecedents in this process.

Goal directed networks (e.g. Provan & Kenis, 2008; Saz-Carranza & Ospina, 2010; Vangen & Huxham, 2011), with their single overarching goal, particularly those governed by a network-administration-organization (NAO) provide an ideal context to examine the way in which collective identity can be used across the goal setting process. Identity can be used to develop a collective sense of self to move from 'who we are' to 'who we want to be' (Whetten, Felin & King, 2009; Albert & Whetten, 1985). Indeed, a core strength associated with identity is its strong motivational properties for cooperation and collective action (Kogut & Zander, 1996). Yet, numerous issues arise in understanding how this concept might be used in the goal setting process in this network organizational form. This includes recognizing the dynamics the internal processes (Lok & de Rond, 2013) and how these processes might be linked together (Ashforth, Rogers & Corely, 2011). They also include boundaries concerns, whether identity

is viewed from an insider or outsider perspective (Gioia et al, 2013), the starting point to view identity (Fiol & Romanelli, 2012).

Organizational forms in general are complex problem solving systems that have simultaneous interplay occurring between their aspirations, strategies and competencies (Levinthal & March, 1981; Gavetti, Greve, Levinthal & Ocasio, 2012). Taking a network organization perspective reduces some complexity, particularly in governance forms such as a whole network, as member firms work collaboratively towards a more or less common goal (Provan, Fish & Sydow, 2007; Provan & Kenis, 2008). Yet numerous other governance issues remain in this network form particularly if it is to compete. One issue that is particularly pertinent to behavioural strategists is to gain a better understanding of how concepts such as identity that cross the psychological and social divide can be strategically used (Gavetti et al., 2012). Powell, Lovallo and Fox, (2011) caution that in using psychological factors at the organizational level care should be taken to avoid making simplistic assumptions such as believing numerous individual choices will automatically sum to a collective choice. Another issue, is to move beyond the assumption that member firms join a whole network for similar reasons (Provan & Kenis, 2008) to build a more fine grained understanding of their problems, in order to better inform decision making (Baer et al., 2013), particularly, in working towards a common overall goal. There has been no empirical research we are aware of that has systematically examined how identity can be used across the goal setting process, particularly in this network type to bring about effective performance outcomes.

In this study we followed the farm-to-process sector of the New Zealand dairy industry over a three year period to examine the goal setting processes in this organizational form. Our core research question was: By what processes is identity systematically used in governing the goal setting process in a whole network? We implemented a cross level design within this meta-

level industry collective that included individual farmers (micro level), strategic networks (macro level) and the governing role of Dairy New Zealand (DNZ) (bridging). Our findings based on the perspectives and experiences of key industry stakeholders about the network's goal-setting process uncovered how identity was embedded in the structures and processes involved in goal setting and the dynamic regulatory role of the NAO. This study's main contribution lies in the development of a cross level grounded model – the collective aspiration formation process. We develop a three part grounded theory framework. First, we outline the structure of this process over four stages: pre collective aspiring, collective aspiring, collective aspiring and post-collective aspiring. Second, we highlight the goal setting processes across these stages framing, directionizing, focusing and interpreting. We identify and explain how the NAO works to govern eight meta-routines that occur across these processes. Third, we demonstrate how these meta-routines lead to the development of a dual regulatory process. We explain how managing the tension between the processes gives rise to an inter-organizational outcome of overall increased effectiveness for members with a rise in both homogenous identity and heterogeneous capabilities among network members.

This paper is structured as follows. In the next section we review the relevant literature on collective organizational identity and inter-organizational goal setting. After the methods section where we explain our use of process methodology using a single case study, and then present and discuss our findings. These are presented across the three stages in developing a grounded theory model –collective aspiration formation process. From here we develop conclusions to highlight the theoretical and practical contributions this study makes, particularly surrounding the dual regulatory process that emerges in the goal setting process, as well as its limitations.

## **THEORETICAL BACKGROUND**

### **Collective Organizational Identity**

Research on organizational identity whether the focus is at the single (e.g. Nag, Corely & Gioia, 2007) or macro levels (e.g. Patvardhan, Gioia & Hamilton, 2015), is often based on Albert and Whetten's (1985) definition, as those organizational features, in the eyes of its members that are central, distinctive, and enduring that signal for members 'who we are.' These features, which also align with Kelly's (1955) core identity constructs, are embedded in the assumptions of organizational members (Fiol & Huff, 1992; Reger, Gustafson, Demarie & Mullane, 1994), where they can be used to interpret action (Dutton & Dukerich, 1991). The subsequent actions an organization takes arising from this combined effort and skill set and collective set of values are perceived as the joint property of its members (Gioia, 1998; Gioia, Pratvardhan, Hamilton & Corley, 2013). We adopt the generic term collective identity as a shared sense of self among members that becomes instrumental in determining who 'we' are and who 'we' aspire to be (Leary & Tangney, 2003; Albert & Whetten, 1985; Whetten et al., 2009).

Our focus on the ways in which identity is used to govern inter-organizational networks acknowledges the numerous complexities and constraints that can be present across multi-levels. These include deciding on network boundaries (Gulati, 2000; Human & Provan, 2000), and those organizations to include as members (Scott & Lane, 2000); the extent to which beliefs are shared (Weick & Roberts, 1993) since they can be powerful motivators for cooperation (Kogut & Zander, 1996); and how to manage cases of hybrid or multiple identities to ensure legitimacy in the actions of members (Human & Provan, 2000), particular when they lack joint synergies (Pratt & Rafaeli, 1997).

These choices can lead to tasks such as planning and coordination to be performed by powerful lead organizations (Lorenzoni & Ornati, 1988; or strategic hubs (Lorenzoni & Baden-Fuller, 1995) to create and guide a shared sense of purpose (Huemer, Becerra & Lunnan, 2004) and commitment (Patvardhan et al., 2015). An additional complexity surrounds the third feature of Albert and Whetten's (1985) definition, enduring. It has been suggested that while the labels members use to describe identity may be stable, their meanings may be less durable (Gioia et al., 2013). This can potentially lead to conflicts for example, where insiders tend to perceive identity as stable, even when it is changing from the perceptions of outsiders, which can be particularly the case when the predominant ecological or institutional approaches have been used (Gioia et al., 2013; Gnyawali & Madhavian, 2001).

One way to address these collective level issues, is to examine the processes involved in using identity that move beyond treating it as a given. This is particularly the case when examining the governance processes and dynamics involved (Gioia et al., 2013; Patvardhan et al., 2015) that include the impact of the before-identity processes ((Fiol & Romanelli, 2012). Consideration should also be given to the impact of external factors that have typically been addressed by taking an institutional perspective where examinations have been made from the outside-in. Such studies have often led to collectives being viewed as market categories or organizational forms, where the social dynamics leading to the development of the collective 'we' have not been addressed (Khair & Wadhawani 2010; Navis & Glynn, 2010). Hence, it is important to understand how the claims and the associated meanings of those claims arise in collectives (Patvardhan et al., 2015).

Taking a social constructionist perspective enhances such understanding by encouraging an internal focus on the collective identity processes. Using an inside-out perspective organizational members interact and negotiate to arrive at a shared set of meanings for given

situations that lead to a plan of action (Gecas 2000). At the macro-level this view focuses on the nature of activities that the collective (e.g. at an industry level) uses to develop an understanding of self for the organization, the key stakeholders and their governance mechanisms (Lok & de Rond, 2013). At the organizational level Alvesson and Willmott, (2002) uncover patterns of identity regulation surrounding the employees, work oriented actions, social relations and the larger social organizational and economic situation. Collective identity can also be viewed from a social actor perspective (Corley 2006; Whetten 2006) that refers to claims from a particular social category (Glynn, 2008), implicit, for example in industry membership (Rao 2000). Yet, the meaning supporting such claims and the processes giving rise to such meanings can be omitted, leaving the basic social nature of collective identity formation unfinished (Fiol, 2012). Hence, in this study we use a combined social constructionist (social/relational) and social actor (cognitive/categories) views.

The processes involved in using identity can be considered as a way to investigate the truly dynamic nature of how identity can be used to govern as well as to form goal directed relationships. Sometimes processes can be perceived as a sequential and linear, particularly if viewed from a single category level. To better understand the complexities associated with collective identity, Ashforth, Rogers & Corley (2011) draw attention to processes that link identities across levels to develop subjective understanding between 'I think' and 'we think'. These processes can be applied at the industry or macro levels, as well as at the strategic level. The resultant shared identity can then be encoded in goals, routines, information flows to further shape the identity of members. Taking a social actor view of organizations (King, Felin & Whetten, 2010) a core actor organization can be designated a central bridging role across the diverse views present at multiple levels including those at the individual firm and industry levels (Whetten et al., 2009). In doing so, this organization can view the common experiences

shared across single organizations (bottom-up) as well as a top-down view, understanding external requirements from industry (Ashforth, Harrison & Corley, 2008). This core actor organization may also serve to bridge the dynamics occurring between the three identity stages - core identity (e.g. self-definition – I am...), content identity (values, goals, beliefs) and behavioural actions (Ashforth, Harrison & Corley, 2008).

### **Inter-Organizational Goal-Setting Process**

We draw from the core principles of the behaviour theory of the firm (Cyert & March, 1963) to examine the structure of the goal setting process in the context of an inter-organizational network. This structural process is typically viewed as a hierarchical one where the goals of individuals are subordinate to those of the organization (Simon, 1964), and strategic goals are developed by more influential individuals (Eden & Ackermann, 1998; Vangen & Huxham, 2011). In this process, organizational aspirations which are frequently referred to as goals, are used to communicate strategic direction (Fiegenbaum et al., 1996), and to provide a performance measure (Carver & Scheier, 1981; Shinkle, 2012) that are adjusted, up or down, based on past experience (Cyert & March, 1963). One antecedent to goal dimensions is the composition of an organizational coalition that gives rise to entities such as goal seeking inter-organizational relationships. While these networks can arise for a variety of reasons, where individual members may have various goals (Park, 1996), when there is general consensus at a broad network-level on goals, in terms of process and content (Van de Ven, 1976), this can give rise to a focus on the importance of the governance of the whole network referred to as a goal-directed network (Kilduff & Tsai, 2003; Provan & Kenis, 2008) where a central network administration organization (NAO) (Provan & Kenis, 2007) may be appointed as a social actor organization. The NAO is typically viewed by others, as having the capability to take action

and to act intentionally in a goal directed way (Ocasio, 1997) to facilitate the achievement of effective network outcomes.

From a whole network perspective, effectiveness is defined by Provan and Kenis (2008) as the attainment of positive network level outcomes that could not normally be achieved by individual members if they were to work independently. While there is no consensus on the specific factors that constitute network effectiveness (Raab, Mannak & Cambre, 2013); authors such as Provan and Kenis (2008), Saz-Carranza and Ospina (2011) and Vangen and Huxham, (2011) acknowledge the merits of overall goal congruence for the entire network. Each also suggests that by identifying and managing the core presenting tensions will lead to improved governance. In developing their conceptual framework, Provan and Kenis (2008) focus on managing the tension that arises between stability and flexibility in striving for network effectiveness. While Saz-Carranza and Ospina's (2011) empirical investigation examines the tension arising between unity and diversity, Vangen and Huxham, (2011) uncover a congruence – diversity tension across a six level framework. They identify a sub and superordinate hierarchical relationship existing between various goal dimensions that partners are likely to perceive differently.

To refine our examination of the dynamics involved in governing the aspiration formation process in an inter-organizational network, more specifically in the context of a whole network, we draw on the nature of organizational routines. Here the importance of actions, particularly in this instance of the NAO can be just as important, as the actors involved (e.g. Parmigiani & Howard-Grenville, 2011). Organizational routines are defined as repetitive patterns of interdependent organization actions that can remain stable or they can change, particularly when the outcomes of routines fall short of the desired outcomes (Feldman, 2000). Routines have been broadly categorized as occurring from two general perspectives (Parmigiani &

Howard-Grenville, 2011). From an economics perspective routines refer to ‘what they do’ and ‘how they lead to firm performance’; and from a practice perspective ‘how they operate.’

An examination of inter-organizational routines (Zollo, Reuer & Singh, 2002) highlight the importance of building collective understanding between firms to understand how they can incrementally provide performance gains. These can include where familiar partners of interaction encourage trust (Gulati, 1995); and the alignment of partner incentives such as to improve technologies arise from the complementary capability set of partners (Geringer, 1988). It should be noted that capabilities, in contrast to routines, are defined as “the range of things a firm can do at any time.” (Nelson & Winter, 1982, p.52). Yet questions remain regarding the intentionality of routines, how they result from a collective mind (Weick & Roberts, 1993), the extent to which they are stable or change (Parmigiani & Howard-Grenville, 2011), how they are used in interorganizational governance structures (Zollo et al., 2002); and in this instance, how they can be used to understand the dynamics of the goal setting process, particularly in relation to the use of the identity concept.

## **METHODOLOGY**

### **Research Design**

We used a qualitative grounded theory research approach, as most suited in this context of the farm-to-process sector of milk production, a commodity product where the New Zealand Dairy industry is required to compete on the international market. Given the limited literature on meta-collective identity (Patvardhan et al 2015; Edmondson & McManus, (2007) and the separateness of goal setting in networks we blending theories of identity and goal setting (Whetton, et al., 2009). Since there is some work on meta-level collective identity, we used

grounded theory not only as a means for generating new theory but also to elaborate on existing theory across these two areas. Our desire to understand events as experienced by organizational actors enabled us to investigate the dynamic nature of the aspiration formation process using identity in a network setting. Hence, we use the process theory approach as advocated by Langley (1999). We followed the natural progression of the aspiration process in this industry sector paying particular attention to the dynamics involved at each stage. We began our data collection with archival data from associated websites, and written material on the sector as well as conducting interviews with some key industry representatives. We observed the dynamics of field goal setting process over a period of three years, during which time key things happened in e.g. solutions, adjustments developments of targets within the stages later identified in the aspiration formation process.

### **Research Context:**

The context for this study is the NZ dairy industry, which provided an ideal setting to examine the processes involved in the aspiration formation process in a single industry sector that competes internationally using a complex set of processes and associated values. The dairy industry is one of New Zealand's largest industries, producing approximately 29% by value of the country's merchandise exports, (NZ\$13.7 2014). With approximately 11,300 farmers and over 6 million dairy cows (30 June 2011 when we began this study), the industry produces milk products, where only 5% are consumed locally, with the remaining 95% being sold on the world market. In particular the farm-to-gate sector of this industry provides an interesting research context for studying collaboration in a whole network setting. The industry's unique ownership and co-operative operating structure provide a strong motivation for collaboration between its participants and create the distinct identity of the industry's goal-directed organizational network.

In particular, farmers own the land and cows they farm with, and have voting rights over the continuance of Dairy NZ which was voluntarily established by network members as a network administration organization (NAO) in 2008. The farmers also co-operatively own Fonterra, the internationally competitive dairy giant, who sells on their behalf NZ produced milk and associated products on the global competitive milk market. The inter-organizational network is goal directed and its key stakeholders individual farmers, Dairy NZ (NAO), Federated Farmers (their cooperative), Fonterra, and numerous research and commercial firms collaborate and cooperate to reach the outcomes of the supply-to-process sector of the New Zealand dairy industry. The identity and goal setting processes of the whole network are the focus of this study. The findings are based on DairyNZ's (NAO) role in coordinating and sustaining the network and in particular its central governing role in the goal setting process.

We selected an in-depth single case study design for several reasons. First, our research question called for a detailed examination of how the concept of identity can be effectively used in the effective governance of the goal setting process in a whole network. This overall direction of questioning (with a how question) is known to be ideally achieved with a case study, where substantial rich granular data can be extracted using natural contextual boundaries in a real-life context (Yin, 2009; Hood, 2009). Second, our review of the literature had indicated that there had been no prior empirical investigation into the systematic relationship between our core constructs. Hence, rather than aiming for general representativeness an inductive and qualitative single case study that would enable conceptual understanding based on a clear picture of the relationship between whole networks and identity was selected with the overall purpose of extending understanding on the effective governance of the goal setting process in this context.

## **Data Collection**

Closely following the farm-to-process sector of the NZ dairy industry between 2011-2014; adhering to the principles of case study research (Eisenhardt, 1989; Miles & Huberman 1994; Yin, 2009; Eisenhardt & Graebner, 2007). We relied on both primary and secondary data. These sources included four complementary sources of evidence: interviews, observations (attending industry forums and farmer field days), an industry led annual farmer survey and published industry material (See Appendix A). We conducted 42 in-depth interviews that began with 3 senior managers with DairyNZ. From these early interviews we established DairyNZ as the NAO and gained introduction to key representatives from associated stakeholder groups. All interviews, which ranged from one to two hours, took place between 2011-2014 and were conducted in two waves. The first was in 2011 over a 16 week period with 35 interviews. The second was in 2014 with seven interviews. The interviews were conducted with two DairyNZ managers (hereafter referred to as NAO), in-house consultant, veterinarians, employees including social and agricultural scientists, and a marketing manager. The interviewees included not only most business partners e.g. AgITO, suppliers that work directly with the NAO, i.e. within its external environment on the supply and demand side selected farmers and Fonterra, as well as official representatives that shaped and governed the sector (Federated Farmers and as well as selected farmers).

## **Interview and sampling Procedures**

All the interviews including subsequent clarifications sought from the interviewees were recorded and transcribed. We also used alternative data sources, such as feedback from farmers and field days, participation in forums and promotional material to further confirm interview data, and increase our understanding. Our focus was the processes involved in setting and

implementing the 2010 productivity goal. We also used annual survey data from 7763 farmers in 2012 that the NAO provided access to. This survey data was particularly helpful in verifying performance outcomes from the goal setting process. The interview data collected allowed us to gain an in-depth knowledge and a vivid understanding of the goal setting process in the industry sector and NAO's governance role, particularly with the use of identity.

The contextual data, such as location, time, political, social and economic influences on the industry (Collis & Hussey, 2009) that was gained prior to the interview from the respective websites of the organizations concerned, and from general industry reports, was used to cross check interview data. These additional sources of evidence when combined with the interview data, allowed us to develop a thorough understanding of the setting, and enabled us to triangulate information in a clear and thorough manner.

Third, data triangulation, a key aspect of case study, was used for developing a richer understanding of how the goal setting process emerged across the whole network as well as for key industry stakeholders. For this, data from multiple sources, including from industrial journals and news on the industry, was collected. Thus, data triangulation was used to increase the credibility and, therefore, the trustworthiness of a qualitative study (Bryman, 2001) which is similar to assessing the validity and reliability of a quantitative study (Lincoln & Guba, 2005).

Using a data set that included input from representatives associated with all key stakeholders in an intra-industry goal directed network enabled us (a) to develop a fine-grained understanding of the processes and structures between whole networks and identity in goal setting, and (b) to closely investigate the governance role of the NAO across this process

## **Data Analysis**

This study on how the concept of identity can be used to organize goal setting in a strategic network found the role of the NAO to be pivotal in understanding the key steps involved in the process that we observed. (Figure available on request) for the emergent data structure. The first order categories are shown on each side of the figure as short captions that reflect the meaning of the comments offered by the participants. The second order themes reflect the theoretical and analytical themes as they emerged from the first order categories; while the concepts showing in the centre of the figure represent the overarching dimensions to emerge from our analysis.

### **Coding and Analysis**

After all major documents were imported into ATLAS TI qualitative research software. Our analysis then progressed in an iterative manner, across four stages that allowed us to systematically identify the core relationships and structures between the mass of data that we had assembled. First, the author who took the lead role in collecting the data wrote a rich account of the goal setting process in the farm-to-process sector of the NZ dairy industry, with a particular focus on the role played by the NAO and the concept of 'identity', using a thick descriptive approach. The case study was discussed with another author and a key representative from the NAO to validate its content (Lincoln & Guba, 2005).

Second, the co-authors discussed the richness of the story in relation to the research question. Our purpose was to identify the process by which actors developed meaning out of intersubjective experiences (Suddaby, 2006) as well as how they engaged in practice to develop their network's identity and goals. We began by noting the collective emphasis placed on words associated with macro industry positioning e.g. 'where we are' and values e.g. 'who we are' as observed by the NAO and all other key stakeholder's. Next, we examined the stages in the whole network's goals and the various associated processes, and relational structures involved,

in response to the basic goal setting question ‘where do we want to be. We then compared this material with interview data in an iterative manner by making inferences from representative farmer interviews on the beliefs of the larger farmer population (Tansey, 2007). In particular we were interested in the role taken by the NAO and how this organization was perceived by the farmers and other industry members. To support our data analysis we reviewed and compared interview data from stakeholders in the various groups (e.g. strategic alliance group with adoption partners group), where we watched for multiple meanings and terms that were sometimes used by these various stakeholders (Eisenhardt & Graebner, 2007) in relation to the role played by the NAO in the evolution of network’s micro and macro identity features and goals. We also returned to the initial interview data from senior management at the NAO to ensure we were observing a logical flow and progression of well-defined events and processes (Tansey, 2007) involved in governing goal setting in the whole network.

Third, we developed a coding schema in an iterative manner, with the purpose of understanding how micro values are collated together with traditional goal setting practices and structures by the various stakeholders in the interview data. This included the examining the nature and purpose of key relationship structures within the network and the positioning and role of the NAO in sustaining the network through governance. We identified how the NAO worked to overcome potential challenges such as the need to remain neutral and to ensure a wide and transparent communication exchange takes place during the governance of the whole network’ goal setting process. At the first revision of coding, the first two authors checked and discussed the schema to ensure all codes had research question and contextual relevance. The third author, who was not involved in the data collection, adopted a more ‘objective’ approach to question and on occasion to challenge the codes in subsequent rounds (Evered & Louis, 1981).

Fourth, using our coding structure and research question we investigated the relationship between the processes and structures the NAO uses in governing the goal setting process. This involved developing interpretive codes for each of the three analytical phases in the aspiration formation process: pre co-aspiring; co-aspiring (grafting; focusing); and co-aspiring (reviewing and adjusting). These codes included at each successive stage overarching dimension (e.g. pre-co-aspiring) associated with second order themes (e.g. collective identity building ‘who are we’ (pre-aspiring stage) as well as where are we (traditional goal setting). These themes were then broken down into first order themes (e.g. developing macro industry structure) (see Figure 1 and Table 3). When the interpretive coding controlled for across case variance (Eisenhardt & Graebner, 2007) the understanding of the collective goal setting process was obtained. In contrast within-case process tracing (George & Bennett, 2005) was useful for understanding how the NAO worked to ensure the values embedded in each relationship structure as well as the processes engaged in by each had overall consistency with the industry values, as well as to some extent had heterogeneous values partly in relation to their respective objectives. By taking these measures we also investigated how the NAO managed the transition between these structures and the objectives of each relationship structure. Finally, adopting a more temporal view we examined how the NAO administered the review and adjustment of the goal setting process.

## **FINDINGS**

### **Overview**

We present our findings in three parts. In the first part we briefly summarize what the overall structure is in the meta-collective aspiration formation process. This structure consists of four stages: pre meta-collective aspiring, meta-collective aspiring, macro-collective aspiring and

post-meta-collective aspiring. The second part provides a more detailed analysis of the dynamic nature of the aspiration formation process. This process begin (see Figure 1) with the NAO taking the central coordinated organizing process of the NAO combines meaning and practice routines ending with ‘ing’ to develop four meta goal setting routines, framing, directionizing, focusing and interpreting. We explain how the NAO develops these meta-goal setting routines at each successive stage of the aspiration formation process; and how these routines lead to the development of a dual regulatory process. Then in the third part we demonstrate how managing the tension between these two regulatory processes gives rise to an inter-organizational outcome of overall increased effectiveness for members with a rise in both homogenous identity and heterogeneous capabilities among network members (See Figure 3).

Insert Figure 1 here

Next we discuss what we term meta-collective and macro-collective strategic identity structures present at the beginning of each stage across the meta-collective aspiration formation process. We overview the strategic actor composition and the shared values, as well as the rationale, for each strategic identity structure. These structures provide strategic boundaries for the core dynamic processes that are central in each stage; problem (framing), goal setting (directionizing); solution (focusing); and reviewing (interpreting). The processes across these stages and the governance activities associated with each are explained in Part 2 below (See Figure 2).

Figure 2 about here

## **Findings Part 1: Building a Collective Aspiration Formation Process**

### **Pre Co-Aspiring (Framing)**

**Framing an Identity Structure** The most common theme in the pre-co-aspiring stage (framing) in the interviews and secondary data sources was the desire by individual farmers, and in fact all industry members, to produce quality milk. This single desire brought with it a need for members to jointly focus their attention (Ocasio, 2011) on how to build and frame an organizational structure that we term a meta-identity structure. This structure includes formal and informal representatives (e.g. DairyNZ, Federated Farmers, Fonterra) and 11,000 individual farmers, where the members have a shared set of values in finding ways to help farmers increase their standard of milk production. This large fragmented group of dairy farmers is a powerful set of individual business units, where they own their farms and cows, and have voting rights for the continuance of DNZ. However, they also have much diversity in geographical location, dairy herd size, prior experience and capability levels. For example, location can affect soil and pastures types, as well as calving times, where farmers in the southern parts of New Zealand need to withstand cooler temperatures. Yet the concerns are different in the North Island where some farmer focus – as one reports “you need to make sure you get rid of culls early enough so that the supplement is going into the cows you want to keep, so culling dates are important.” What these farmers didn’t have was a collective voice and access to information so they could understand what was required to compete internationally. DairyNZ (NAO) was voted by farmers in 2008 to develop boundaries and frame a shared sense of purpose (Huemer et al., 2004; Dyer & Nobeoka, 2000) in this meta-identity structure.

### **Collective Aspiring (Directionizing)**

**Directionizing an Identity Structure** The process of directionizing begins with the assembly of a strategic alliance structure. Members in this overarching meta-level structure include dairy

farmer representatives e.g. Federated Farmers, Fonterra and the NAO that are governed by the NAO. Together these alliance members have shared values and strategic knowledge of how to improve the competitive position of New Zealand's dairy industry. This strategic knowledge includes general dairy industry knowledge as well as specialist knowledge, held by members. For example, DNZ takes responsibility to search outside New Zealand to seek data on the global milk supply situation that it combines with knowledge on local and national industry requirements. Hence, this structure has embedded in it the macro-values of the industry as well as specialist knowledge that is used to move the industry forward in a purposeful direction.

### **Co-Aspiring (Focus)**

**Focusing an Identity Structures** In this part of the collective aspiration process the attention of the NAO turns to focus on developing the competencies required to implement the industry sector's 27 targets (e.g. achieve an increase to 1750 kg milk solids production per hectare) and to develop product and service solutions (e.g. develop a rotary milking plant) for farmers. The NAO develops and is a member of two key macro-level partnership types - solution partnerships and adoption partnerships. Over 80 solution partnerships have been formed. For example, to combat the condition of cow mastitis, external scientists with specialist skills were brought in to work with NAO scientists and managers to develop a programme for farmers. Adoption partnerships are developed with e.g. veterinarians and rural bankers who have direct access to individual farmers. Much care is taken at this point to ensure that only those firms with similar values, in improving animal health care are recruited, as partners. The NAO also becomes the bridge builder between the solution and adoption partners, where for example, a two way information exchange is facilitated on the needs of each of these parties. It should be noted that these macro-level partnerships have the dual purpose of attempting to stream line

the direction and focus of attention in implementing the industry sector's goals, while providing farmers with choice of which and what solutions they might either need or want to adopt.

### **Post Collective Aspiring**

**Interpreting an Identity Structure** This stage in the process involves the collection of feedback from individual (micro-level) farmers, and groups (macro-level) (e.g. adoption partners such as veterinarians) where feedback is sought in various ways (e.g. farmer surveys, one-on-one farmer visits with rural bankers) and at multiple times (e.g. annual, monthly, adhoc visits) and points (e.g. annual field days, demonstration days) during the year. The feedback from at these micro and macro levels is collated and interpreted by the NAO to gauge progress in working towards achieving the five year productivity goal for the entire industry sector. A farmer survey is sent out annually to assess individual farmer opinion on the NAO, their awareness, usage and satisfaction of the programmes offers, and current concerns. Feedback is also sought regularly sought from solution and adoption partners. Ad hoc feedback is asked for at regular industry forum meetings throughout the country as well as annual farmer field days and visits by individual farmers to e.g. demonstration farms. These times provide the NAO with opportunity points to disassemble the collective of farmers to examine from an individual perspective their views, values and opinions.

### **Findings Part 2: Discovering Meta-Level Routines in the Aspiration Formation Process**

Figure 3, shows the second part in developing the grounded theory framework. We uncover four meta-level routinized processes (framing, directionizing, focusing and interpreting) that occur across the three stages in the meta-collective aspiration formation process. These meta-level processes occur within each successive stage of the aspiration formation process where they are broken down into two meta-routines, for example, framing (collective problem and creating collective awareness). In all, we uncover eight meta-routines across this framework.

We also discuss the dynamic role of the NAO in governing these routines. When the outcomes from routines are collectively viewed across the framework they provide a regulatory (i.e. 1, 3, 5 and 7) and self-regulatory (i.e. 2, 4, 6 and 8) functions. A regulatory function is provided by e.g. problem framing and directionizing goal setting. While a self-regulatory function is provided by e.g. framing meta-cognitive awareness and directionizing meta-cognitive motivation. NB: We explain these two regulatory functions that occur across the framework in Findings Part 3 below. We now discuss in more detail these meta-level routines.

### **Pre Co-Aspiring (Framing)**

**Collective Routine 1: Problem Framing** - This macro-level problem in 2010 arose for New Zealand dairy industry members (farmers, DNZ, Federated Farmers and Fonterra) from the tension presenting between ‘who we are’ and ‘where we are.’ All members shared similar values and concerns as reported by one senior NAO manager “How can we as a sector compete internationally? . . . We need to offer top quality milk . . . to compete in this market.” Taking a central and neutral governing position in this meta-strategic identity structure, the NAO sought data on the rules and standards required to compete in the global milk industry. This organization also sources information on e.g. farm locations, herd sizes, nature of ownership, farming values, and prior experience. This data is sought through annual and customized surveys as well as ad-hoc contact with farmers and key industry participants such as Federated Farmers. Since individual farmers all had similar views on what they valued for the industry, when combined, they were able to collate to form a macro view of ‘who we are’ as an industry. The NAO was also aware that this large fragmented group of farmers have a wide range of capability handed down through generations, and or e.g. geographically specific that should be fostered and where appropriated encouraged to be improved upon in assessing ‘where we are.’

**Collective Routine 2: Framing Collective Awareness of the Problem** Upon collating the data and feedback on ‘where we are’ and ‘who we are’ it is the task of the NAO to take the lead role in raising industry awareness of those factors that serve to identify the overarching problem for this sector of the New Zealand dairy industry. While there is much skill and goodwill in the industry it is widely recognized that a lot of improvement is desired across a range of areas. For example, in raising cow fertility rates, improving milking plant standards and nitrogen levels in the soil. Areas for improvement are relayed to farmers through website updates, quarterly newsletters, annual field days and regional focus groups around the country. Farmers are informed for example, of the extent of reliance the industry has on the international market where combined milk production capability exceeds local market requirements to the extent that currently 95% needs to be exported. The NAO is cautious that the style of communication used to send out this data is viewed by farmers as informative and consultative, where shared values are practiced, rather than it being seen as “telling farmers what should be done” (NAO manager). Regular attempts are made to seek feedback during these news exchanges, however, the challenge is to acknowledge and act upon this information that may come from several thousand farmers at any one time.

“That’s the huge strength of NZ dairy, in how we’ve succeeded and got to being the best in the world at it. Because there’s this sharing knowledge kind of concept that we are competing with the world, and not each other, and creating awareness that we’re all out there to help each other” (Federated Farmers).

### **Co-Aspiring: Directionizing**

**Collective Routine 3: Directionizing Collective Goal Setting** In this process the NAO works with its strategic alliance partners – Federated Farmers and Fonterra to draw together ‘who we want to be’ and ‘where do we want to be’ to then establish a direction to move towards ‘where we want to be’ and ‘who we want to be.’ This involves collating current farmer skill capacity

and international competitive requirements and then deciding where the NZ dairy industry wants to be in the world market in terms retaining or improving its current position as number three. As one alliance member said “this is a very complex process . . . the industry is huge.” Due to the enormity of the nature of operationalizing and measuring these aims and the very real complexities involved with and across each aim, the partners decided DairyNZ should take the lead role in coordinating how to develop these goals. In order to engage in envisioning a future, the alliance reflected on the current capability levels and values of farmers. A 5 year goal was jointly set by the alliance. A member from the alliance reports “It was jointly agreed that industry productivity should increase by 15% by the end of 2015 if we are going to remain competitive on the international market.”

#### **Collective Routine 4: Directionizing Macro-Collective Motivation to Achieve Goal**

Knowledge of the range of farmer skills needed to be improved and the requirements to retain or improve its number 3 ranking in the global market industry provided a base to establish the 27 growth targets. These targets provided direction with practical support as well as to foster the development of values such as milking efficiency, sustainable practices in working towards achieving the sector’s productivity goal. The targets were developed with the intent of providing the industry with a meta base from which to motivate a wide range of choice among industry representatives (e.g. specialists in mastitis, veterinarians) and farmers on areas that needed improving overall. For example, target one was designed to address the problem of how to improve industry animal health and milk quality. The milk production company participant reports “Animal health, reproductive performance and milk quality are important to the industry. Then a DairyNZ management participant said “for reasons of profitability, reputation and product quality . . . we have set the target for that at \$110 per ha pa, increase. We call that profit from productivity which is directly earned from the milk price.” Hence, these targets

represent a means to direct the development of industry knowledge and values (Nag, Corley & Gioia, 2007).

### **Collective Routine 5: Providing Focused Choice**

Having put in place the 27 growth targets the NAO has responsibility to oversee the creation of various solutions to achieve these targets (e.g. cow fertility and milking efficiency programmes were implemented). From here various projects were designed. The Rotary Benchmarking project sits in the milking efficiencies programme, with the aim of enhancing understanding of rotary dairy milking practice in New Zealand. The rotary dairy refers to the style of shed that reflects a “merry-go-round”, rather than the traditional herringbone structure. DNZ estimates 40% of dairy cows in NZ, particularly those on large farms, are now milked on a rotary system (DNZ project manager).

*Over the last 10 years, (farmers) have really gone heavily into investment in rotaries and we haven't actually had a systematic look at how we milk in those rotaries... The project was seeking more efficient ways of milking in rotary dairies. As part of that we wanted to continue with our experimental work and to see what was happening on the farm . . . together some benchmark performance data.*

Over half of labour on dairy farms is tied up in milking which substantially impact the running of each farm, as well as farmer and employee lifestyles. The aims of the milking efficiency programme are based around reducing the duration of twice daily milking, which will free up time and labour for reallocation to other jobs on the farm (DairyNZ). Alongside the milking efficiencies programme, Jenny Jago also oversees Precision Dairy, a combination of projects that seek to align various individual product technologies to allow herd management to be fine-tuned to focus on the individual cow. While ultimately separate, the milking efficiency and Precision Dairy projects complement one another, with the knowledge gained from the Rotary Benchmarking project being shared with the Precision Dairy project in terms of investment decisions made by farmers. Initial contact was made with participating farmers over two time

periods to catch the different seasonal lactations. Out of 120 farmers who were approached for participation in the project, 80 farmers with the required technology were signed up.

**Collective Routine 6: Focusing Macro-Collective Motivation to improve Practice** A NAO

manager reflects “we are very aware our job is to come up with innovative and realistic solutions to improve their practice . . . Their [individual farmer] abilities and needs are so different across the board. Hence, it is important that multiple avenues are used to create and to share in motivating improved farming practice.” With shared values of improving animal health adoption partners’ then have the task of tailoring the knowledge they have with the individual requirements of farmers. For example, a veterinarian might be called to visit a farmer with cow hoof problems but become aware of cow fertility problems. Due to the complexity of cow fertility the veterinarian will select those parts of the fertility programme relevant to a farmer’s particular needs. The adoption partners are also trained to look across and suggest, but not demand the uptake of other areas that farmers may need upskilling for example in farm management practices, particularly when there are five or more farm workers.

**Collective Routine 7: Interpreting the Goal Setting Process** The industry sector and DNZ

in particular, believes it is important to develop methods seek and share information on industry sector progress. This includes formal annual farmer perception surveys, regular solution uptake reports, as well as informal feedback from farmers, with an open door policy across e.g. veterinarians, rural bankers, and in turn with DNZ, through e.g. ad-hoc farm visits, annual field days and regional focus groups. DNZ is aware that the views and opinions of stakeholders, especially farmers are listened, even though they cannot all be acted on – “it’s to develop an open industry culture” (Federated Farmers).

A DNZ management participant said “We want to ensure that we are always coming up with ways to improve the quality of the milk that we produce . . . We are equally aware we

have on-going responsibility to New Zealand in terms of reducing pollution”. . . “we needed to sort out how to keep cattle away from streams and rivers and lakes and share this information with farmers.”

This culture is also reflected from a technology partner.

“We are always willing to participate in these things. Productivity in the market place is what we want. I think everyone wants to do better, right. And if that means you’ve got to share the information . . . in terms of sharing information that can give productivity to the farmer or efficiency on the farm, everybody’s willing to do that” (Technology Company).

The results from the annual farmer perception survey indicated that 73% believed the NAO added value to the dairy industry; where 84% of farmers want investment priorities to be geared to research and development. At the point of writing, a senior manager at DNZ interpreted the feedback they had sought, to suggest the sector was on track to achieve a 15% increase in productivity, as targeted by the end of 2015.

### **Collective Routine 8: Interpreting Meta-Cognitive Capability - Reviewing and Adjusting**

The data on reviewing and adjusting collective capability came from the annual farmer perception survey and interview data. Interpretations from farmers indicated an 85% awareness of the overall solution programmes offered by the NAO, with lesser awareness for individual programmes (e.g. healthy hoof programme 57%, in calf programme 62%). Increased motivation was also reported where 72% of farmers reported feeling inspired by the work of the NAO and its partners to engage in improved farming practice; the level of trust in the NAO remained constant at 72%; while there was a 61% awareness of NAO research programmes. Interview data from various sources reflects the collective motivation and awareness of industry members. For instance a farmer representative reported “We need to constantly be on top of figuring out ways to keep our cows in peak health”. Another reported “I think there’s so much information

sitting out there that we can utilise from things like this and if we can make things better, you know, there could be whole new window or something open up.” A veterinarian reports “The programme help[s] with staff training, team morale, financial productivity, and using time that’s no longer spent fixing problems on the farm . . . it’s encouraging to see farmers taking control. Another veterinarian said, it’s our job to encourage farmers to “figure out what they need [with solutions], sometimes, with e.g. cow fertility, it’s about them realising they need help now . . . and knowing what resources they have and what they need.” The NAO is aware of the value of sharing information and encouraging adjustments across solution programmes. For example, since some of the management solutions involved in preventing lame cows used on the Healthy Hoof Programme can also improve cow management and milking efficiency. This learning has since been incorporated in the MilkSmart programme. “(DairyNZ management participant).

*“The steering group wasn’t a requirement of the project but I’ve found over the years that they are invaluable. If you get the right people and you ask the right questions, they will cut you off from going somewhere you shouldn’t go, and help you to go somewhere that’s useful” (DairyNZ).*

### **Findings Part 3: Meta-Collective Aspiration Formation: A Dual (Meta-Regulatory and Meta-Self-Regulatory) Process**

To explain the third and final part in the grounded theory - meta-collective goal setting process framework, our focus starts at the centre of Figure 4. At this mid-point we find the routines (1) problem framing; (3) directionizing goal setting; (5) focusing solution implementation, and (7) interpreting goal setting progress. Together these meta-routines collectively combine via the coordination efforts of the NAO to form a meta-regulatory function. We then find a second meta-regulatory process surrounding this first one. These routines include (2) framing meta-cognitive awareness of problem, (4) directionizing meta-cognitive motivation towards goal, (6) focusing meta-cognitive motivation to adopt solutions, and (8) reviewing and adjusting meta-

cognitive capabilities. This second process, also governed by the NAO, encourages self-regulation. The two larger overlapping circles reflect the dual tensions the NAO attempts to effectively manage via the four meta-level processes (framing, directionizing, focusing and interpreting) occurring at each stage of the framework to homogeneously raise collective identity and heterogeneously raise individual network member capability levels (see Figure 3).

Figure 3 about here

The four meta-level processes (e.g. framing) provide a centre point between what routines the NAO uses to govern within, and between, each stage of the framework; and how met-regulation and meta self-regulation gives rise to these dual process outcomes. As seen in Figure 3 the effectiveness of these two regulatory processes, depend on the governance efforts of the NAO. When broken down these efforts begin with the development of strategic identity structures at each of these meta-level stages (e.g. focusing – micro-industry strategic alliances with veterinarian and rural banker solution partners) that combine complementary skill sets and shared values. This complementarity between shared meaning, values and capability then extend into the routinized processes within each meta-level (e.g. routine (1) framing collective problem and; routine (2) framing collective awareness. When routines 1, 3, 5 and 7 are viewed across Figure 3 (or in the centre of Figure 4) they provide a regulatory goal setting process (Shinkle, 2012) that incorporates the concept of identity (Alvesson & Willmott, 2002).

While the regulatory function is important, perhaps more important is the self-regulatory function. Industry members are encouraged to collectively develop e.g. meta-cognitive awareness of the industry problem leading to the goal setting process and are then encouraged to become self-motivated in selecting to adopt a solution. Important to note here is the move from meta level motivation at routine (4) to micro-level motivation at routine (6). While the

concept of identity in terms of the overall associated values in aiming for quality milk production remain constant, this also includes respecting the individual situation and skill levels of farmers where attempts are made to foster heterogeneity among capability sets of farmers adopted via the solutions. All parties are continually encouraged by the NAO to engage in self-monitoring and adjusting their own behaviour (Forgas, Baumeister, & Tice, 2009; Zimmerman, 2006). This is especially observable at routine (8). Hence, to succeed farmers are required to partly surrender their autonomy and independence in during this process while retaining the ability to work together towards the overall performance goal. Where it becomes the task of the NAO to manage the tension between (who we were and who we are) and (where we were and where we are).

## **DISCUSSION**

In examining how identity is used in governing the goal setting process in a whole network we develop a collective aspiration formation framework. We show in this framework, how identity is used in the strategic positioning of actors across the goal setting process, as well as within the four meta-level processes of framing, directionizing, focusing and interpreting. We also explain the dynamic role of the NAO in working to develop and govern shared meaning and differential capability uptake across network members in the form of meta-routines. We now highlight three of the most notable findings with implications for theory and future research on the goal setting process: (1) explaining boundary extensions in the goal setting process, (2) the dynamic role of the NAO in governing meta-level regulatory processes, and (3) implications for organizational and industry control.

### **Extending Actual and Perceptual Parameters**

We extend the actual parameters across the goal setting process to include pre meta-collective aspiring (i.e. with framing). It is at this point that collective organizational attention focused towards identifying the overarching problem of the industry sector before actual goal setting occurs. During framing, the NAO works to collate ‘who we are’ with ‘where we are.’ In the psychology literature in a conceptual account, Alicke and Sedikides (2009) develop the term perceived aspiration level to refer to “where the person believes that he or she currently stands with respect to” an interest p.29. The difference between these two situations is that the individual is perceived to collectively hold this combined information, while information requires collating by the NAO.

Using the concept of identity enables us to extend the actual as well as the perceptual parameters that occur within each of the four key stages in the goal setting process. The strategic identity structures we uncover provide a set of boundaries that have embedded with meaning and capability (e.g. Granovetter, 1985) that provide boundaries and in effect structural control at the beginning of each successive stage of the goal setting process. Hence they provide a natural boundary between ‘them against us’ (Huemer, Becerra & Lunnan, 2004) when these structures are collectively viewed to compete in the global milk production industry. Taking a combined social constructionist, social actor view of identity, when compared with taking an institutional perspective also enabled us to understand the processes involved in seeking information by these strategic identity structures from outside the industry to the inside (Gioia et al., 2013). Furthermore, the inclusion of identity in the meta-routines also serves to extend the perceptual boundaries within each stage of the goal setting process, with the strong associated motivational properties (Kogut, 1992) that support the development of our meta-cognitive routines (e.g. meta-cognitive motivation).

## **NAO Dynamics: Governing Interplay Between Meta-level Regulatory Processes**

The four meta processes (e.g. framing, directionizing) enable us to extend understanding on how the NAO can work to regulate the routinized processes that occur within each of the successive stages of the goal setting process. These processes provide a means to anchor the dynamics that occur between meta-routines 1, 3, 5 and 7 and meta-routines 2, 4, 6 and 8. It then becomes the task of the NAO to balance the tensions that arise between these two meta-routine levels. As such we uncover how the NAO develops a primary form of regulatory ‘control’ that we term Meta-Regulation.

This meta-regulatory process stems from the role the NAO pursues within each strategic identity structure and from the inter-organizational routines it engages in across the aspiration formation process. The NAO combines meaning and capability (Parmigiani et al., 2011) in many of the routines it pursues. For example, the NAO is perceived as an organization with fair and neutral values that it combines with its focus on regularly seeking and interpreting feedback from farmers and adjusting e.g. communication channels. It is noted that the routines that we suggest are more closely involved in developing ‘economic’ control occur in the main between the strategic identity structures (meta-identity structure) and the meta-regulatory process (i.e. mid-point in Figure 3. These interorganizational routines form stable patterns of interaction (Zollo et al., 2011) occurring across the stages; e.g. across the identity structures – outside-to-inside (meta-industry); inside-to-inside (macro-industry); inside-to-inside (micro-industry); and, inside-to-outside (meta-industry). This process attempts to extend understanding on collective identity (Gioia et al., 2013). We also attempt to build on Alvesson and Willmott’s (2002) work as our study uses identity to explore organizational control at a meta-level.

The second regulatory process in our model - meta-cognitive self-regulation encourages self-monitoring, evaluating, directing and adjusting of each network member party's own behaviours, in working towards a common overall goal. In our model this process, which is governed by the NAO, is particularly valuable in the goal setting process as it integrates meta-awareness of the industry situation and motivation towards achieving the overall collective goal, with micro level motivation to implement, review and adjust capabilities by individual and strategic network partnerships. We suggest that when viewed together they become particularly powerful motivators of self-control as they are the outcome of meta-level processes, where the concept of identity has been used in the meta-routine processes and the strategic structures to arrive at them. The value of engaging in self-regulatory processes has long been recognized (Forgas, Baumeister & Tice, 2009; Zimmerman, 2006) as a way to encourage the use and coevolution of one another's knowledge and capabilities (Nambisan & Baron, 2012). Within the field of entrepreneurship leveraging self-regulatory processes has been found to increase entrepreneurial expertise (Baron & Henry, 2010; Mitchell et al., 2007) where meta-cognitive processes can be particularly valuable in encouraging adaptive behavior (e.g. Haynie & Shepherd, 2009; Nambisan & Baron, 2012).

### **Implications for Organizational and Industry Control**

Using our meta-collective aspiration formation framework provides the potential to secure increased control over the goal setting process in an organizational setting. This control arises in part from the boundary features already discussed, as well as through the meta-level routines, which combine an identity / meanings perspective and a capabilities perspective and supports a call by Parmigiani and Howard-Grenville (2011) for routines to have more dynamism and intentionality. The NAO efforts to develop collective attention via e.g. framing and focusing also serve to reduce any partially independent (King, Felin & Whetton, 2010) or conflicting

values and goal preferences (Ravasi & Schultz, 2006) held across network members. Furthermore, the two regulatory processes we uncover provide two further ways to develop control (Alvesson xx) across the goal setting process at a meta level.

Our framework also has implications at the broader industry level. The two regulatory processes we identify encourage collective awareness of the economic factors involved as well as self-reflection and control of one's thinking. These cross level findings within the context of a meta-level industry setting can be linked to Chen's (1996) Awareness-Motivation-Capability perspective. Hence, in using the concept of identity we offer extended understanding to explain processes surrounding some key antecedents to competitive activity (Chen & Miller, 2012). Our findings also serve to extend Livengood and Reger's (2010) conceptual account where organizational identity and the AMC framework are used to build a cognitive

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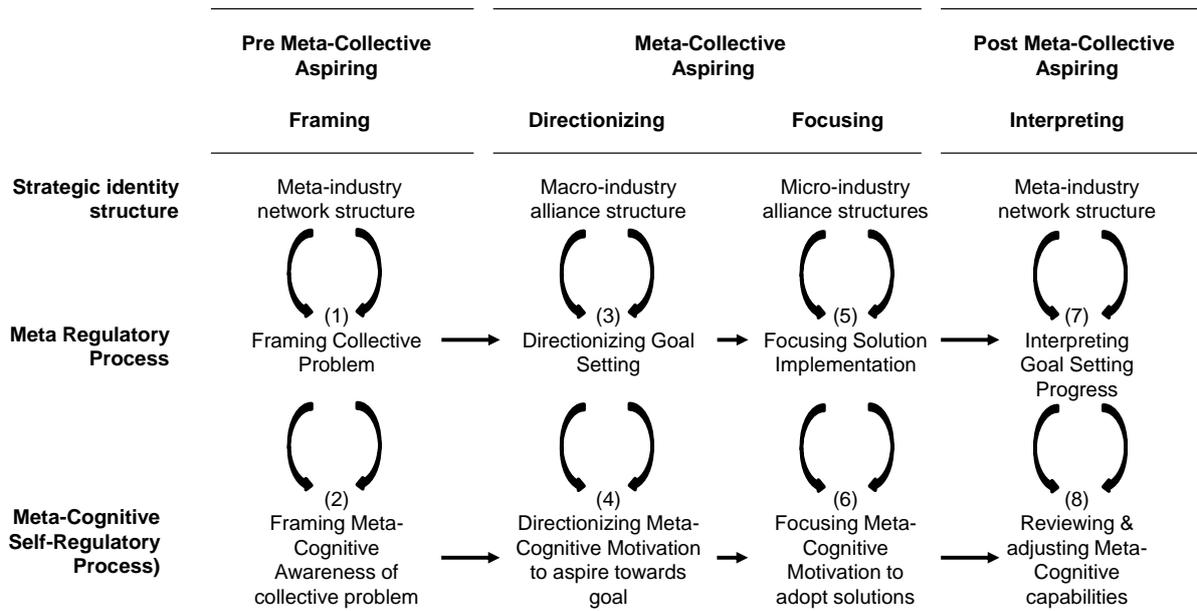
## Appendix A: Interview Data Sources

Primary Data – Informants	Number of interviews 2011	Number of interviews 2014
4 DairyNZ senior managers	10	2
3 DairyNZ project managers & operational managers	6	
2 Veterinarians	2	3
1 Research Institute scientist	1	
2 Federated Farmers managers	2	
1 AgITo training provider	2	
2 Fonterra managers	2	
2 Rural Bankers	2	
5 Farmers	5	2

**Figure 1: Figure 2: Co-Aspiration Formation Process**

	Pre Co-Aspiring (Framing)	Co-Aspiring (Directionizing)	Co-Aspiring (Focus)	Post Co-Aspiring
<i>Strategic Identity structures</i>	Identify a macro-industry network structure	Developing a subsidiary strategic alliance structure	Building skill specific implementation structures	Seeking individual feedback from macro industry structure
<i>NAO organizing</i>	Raise collective awareness between 'who we are' and 'where we are'	Organizing goal setting - identifying 'where we want to be' & 'who do we want to be', linking with grafted targets	Offering farmer participants' choice on 'how to get there'	Interpreting responses 'who & where are we now'; reconciling with 'where were we' & 'where did we want to be'
<i>NAO outcomes</i>	Identifying a collective problem	Collective goal setting	Motivating individual goal-directed change	Reviewing & adjusting

**Figure 2: Stage 1 Co-Aspiration Framework Regulatory Process**



**Figure 3: Stage 2 Co-Aspiration Formation Regulatory Process**

