

# A CATALYST FOR CHANGE IN BUSINESS NETWORKS

## ABSTRACT

The aim of this paper is to explore the dynamics of business networks when a critical incident occurs. Traditionally, the critical incident literature has been associated with *Services Marketing*. The paper unites the critical incident literature with business network literature in order to highlight the effect that a critical incident has on a business network. The paper adopts the Critical Incident Technique and the AARS Model to interpret rich qualitative data from the dairy industry. The Australian drinking milk industry has been chosen, as it is a 'concentrated network' with relatively clearly delineated, distinct and stable parts. The catalyst for change in this situation is considered to be the outbreak of a milk price-war within the supermarket channel in January 2011. At this time, there was heavy discounting of 'private label' or 'home brand' milk.

To investigate this critical incident, an in-depth qualitative analysis was conducted which included 11 high engagement interviews with farmers, processors and industry associations. In addition, a documentary analysis using *Leximancer* software was undertaken. Empirically tracing the effects of the critical incident on the business network highlighted the short and long term changes that have occurred within the activities, actor bonds, and resources of the business network. The paper goes beyond current literature to highlight that a critical incident can amplify changes that naturally occur in dynamic business relationships. Additionally, it provides implications for the Australian drinking milk industry specifically, identifying strategy implications, consolidation trends and emerging international opportunities.

**Keywords:** Business Networks, critical incidents, change, dynamics.

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## INTRODUCTION

*Business networks* experience an impact when a *critical incident* occurs. Empirical observations have indicated that when a critical incident happens there are immediate effects, which are then followed by longer-term effects (Halinen and Salmi 2001). This study provides a case study which integrates the *Critical Incident Technique* (Flanagan 1954) with business networks, to explore the wider impact that a critical incident has on business relationships. A *critical incident* is defined as an activity that permits inferences and predictions about the entity performing them, and that has sufficiently definite consequences (Edvardsson and Roos 2001). A *business network* is the complex representation of business relationships that occur between different interacting *actors* (Håkansson and Snehota 1995, Turnbull, Ford, and Cunningham 1996, Håkansson et al. 2009).

The case at the centre of this study is concerned with the Australian drinking milk industry and the effect that the process of *discounting milk* has had on the broader business relationships within the dairy industry. *Discounted milk* refers to the ‘milk price-war’ between Australia’s two largest supermarkets; Coles and Woolworths. Between them, these two chains account for almost 80% of national sales of drinking milk (Euromonitor Australia 2014). In Australia, supermarket price wars represent one of the most fierce forms of competitive interplay (Mortimer 2014). *Discounted milk* was first introduced on 26<sup>th</sup> January in 2011, when *private-label milk* was reduced from a normal price of around \$1.40 to \$1 a litre<sup>1</sup> (Senate Inquiry 2011). The purpose of this research is to explore the changes in business relationships that have taken place, over the last three and a half years, as a result of this action.

## THE DRINKING MILK SECTOR IN AUSTRALIA

As a AUD13 billion farming, manufacturing and export industry (Dairy Australia 2014), the Australian Dairy industry is large and efficient, which enriches regional communities with its role as a major employer (Senate Inquiry 2011). Given the nature of the critical incident that forms the basis of this study, the focus of this paper will be the on the drinking milk sector of this industry in Australia. The supply of drinking milk in Australia, is far less concentrated than the retail side. There are two large national players, with the largest being Lion Pty. Ltd., with a 29% value share in 2013 (Euromonitor Australia 2014). Lion owns the two largest brands in drinking milk in Australia; Pura and Dairy Farmers. The second largest player in the drinking milk industry is Parmalat Australia (Euromonitor Australia 2014). The rest of the market is made up of smaller regional suppliers. In Australia, drinking milk can be purchased from small convenience stores, service stations, and larger supermarket channels. For the purpose of this study the focus will be on the supermarket channel, accounting for some 80% percent of total sales, as this is the channel where the decisive milk price-war took place. Late-January 2011 saw the outbreak of the milk price-war within the supermarket channel. This marketing manoeuvre is considered to be a *critical incident* and forms the basis of this study.

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<sup>1</sup> Note: at the time the Australian Dollar, AUD, equalled roughly US\$1.00

As the drinking milk industry has such a complex and intertwined network of processors (Dairy Australia 2014), it is a suitable industry to discuss the impact of a *critical incident* on business networks. By exploring the business relationships, before and after the milk price war, findings will contribute managerially to the drinking milk sector in Australia, and also provide informative value thereby contributing to the business relationships and network literature.

## THEORETICAL BACKGROUND

The notion of business networks stems from the notable idea, that ‘no business is an island’ (Håkansson and Snehota 1989). The IMP idea of business networks has evolved over the past 20 years, and essentially encompasses the actuality that business environments are composed of a complex number of interdependencies and interactions that exist between interacting firms (Axelsson 1998, Gnyawali and Madhavan 2001, Gadde, Huemer, and Håkansson 2003, Mouzas 2006, Håkansson and Ford 2002).

In its most abstract form, a business network is a structure where specific ‘threads’ (or relationships) link a number of ‘nodes’ (or actors) to one other (Håkansson and Ford 2002, Ford and Mouzas 2008, Bengtsson and Kock 2000, Halinen and Törnroos 1998, Mattsson and Johanson 1992). The ‘threads’ symbolize the relationship and interdependencies between *actors*. An *actor* is a term used to refer to the parties in the network. These actors could include universities, trade organizations and government (Ford and Mouzas 2008, Ramos and Ford 2011). The ‘nodes’ represent these actors in the business environment (Håkansson and Snehota 1995, Halinen, Salmi, and Havila 1999, Håkansson et al. 2009, Ford and Mouzas 2013). This implies that no one relationship in the business environment can be understood without reference to the *wider network*.

The analysis of strategy differs between traditional market strategy and strategy planning in a business network (Mouzas 2006, Ford and Mouzas 2008, Gadde, Huemer, and Håkansson 2003). Unlike market strategy, business network strategy cannot realistically be regarded as an individual-company activity (Ford and Mouzas 2008, Axelsson 1998, Gadde, Huemer, and Håkansson 2003). However, the strategy of a single company can usefully be interpreted as part of the process of interaction in a business network strategy. Given this insight, it is recommended that actors within the network do strive for new possibilities, whilst conforming to other existing patterns within the network (Alt, Puschmann, and Reichmayr 2001, Ford and Mouzas 2013).

Recent IMP literature defines the term *business networking* as ‘the conscious attempts of an actor to change or develop the process of interaction or the structure of relationships in which it is directly or indirectly involved in’ (Ford and Mouzas 2013). Although research into the concept is still developing, it is suggested to be at the core of management in the business landscape (Ford and Mouzas 2010, Håkansson and Ford 2002, Håkansson et al. 2009, Henneberg, Naudé, and Mouzas 2010, Gadde, Huemer, and Håkansson 2003). The term *business networking* captures the dynamic nature of relationships and position in a business-to-business context. It acknowledges that although there may be a general problem across a business network, there is no general approach each specific business can undertake to overcome this difficulty (Ford and Mouzas 2013, Chell and Baines 2000). Therefore, as businesses encounter unique and different problems, any attempt to standardise the networking between actors across multiple business relationships would be inefficient (Halinen and Salmi 2001, Olsen et al. 2014, Ford and Mouzas 2013).

Ford and Mouzas (2013) contribute to the understanding of the micro and macro level positions through describing business networks as a 'battlefield', highlighting the distinction between a *wider* and a *smaller* business network. It is highlighted that the smaller network has an influence on the wider one. In addition to this fissure in business networks, the effects of dyadic networking across an actor's *small* and *wider* world, the ability of actors to anticipate their counterparts networking and the process of trading-off long and short term benefits within and across dyads are relatively untapped research areas (Ford and Mouzas 2013). It would seem appropriate that *critical incidents* literature be explored in attempt to address these areas of inquiry, as they are a catalyst for change in the *worlds* of business. In order to gauge the effects of network changes and truly grasp the impacts of critical incidents, the *AARS* Model (Håkansson and Snehota 1995, Welch and Wilkinson 2002) can be employed as a structure for the substance of interaction (Ford and Mouzas 2013). The traditional AAR model highlights that business relationships can be divided into three substance 'layers'; activity links (AL), actor bonds (AB) and resource ties (RT) (Håkansson and Snehota 1995, Welch and Wilkinson 2002, Purchase and Ward 2003). *Activity links* are the connections between firms in a business network, and represent the mutual adaptations that take place in activities between dyadic relationships. The adaption and transformation of existing resources denote the *resource ties* that companies develop. Finally, *actor bonds* refer to the ways that the actors within the network respond and perceive one another – both socially and professionally (Welch and Wilkinson 2002, Håkansson and Snehota 1995, Purchase and Ward 2003).

The model was extended to include a fourth dimension known as ideas or *schemas* (Welch and Wilkinson 2002). Schemas are a different type of dynamic force that shapes business relations – it encompasses the way managers make sense of the network around them and the interactions that take place with other organisations (Welch and Wilkinson 2002).

### **Critical Incidents and Change**

Change, in business networks, is an evolutionary process (Anderson, Håkansson, and Johanson 1994, Gadde and Mattsson 1987). There are two types of change defined in business networks; confined change and connected change (Halinen, Salmi, and Havila 1999, Anderson, Håkansson, and Johanson 1994, Håkansson and Snehota 1995). Confined change characterizes the seemingly 'stable situation' that provides a platform for continuous interaction and change (Halinen, Salmi, and Havila 1999). Connected change is the idea that change in one business relationship also influences some other business relationships (Halinen, Salmi, and Havila 1999). That is, that a change in one relationship will be received and acted upon by other actors in the network. This idea of change is what brings about the concept of a *critical incident* (Anderson, Håkansson, and Johanson 1994, Halinen, Salmi, and Havila 1999)

If an incident has a decisive effect on the development of a relationship it is considered to be a *critical incident* (Anderson, Håkansson, and Johanson 1994, Halinen, Salmi, and Havila 1999). Such incidents are recognized as 'triggers' of radical change in a business dyad. These incidents can occur from either within the dyad or in the 'external' business environment (Håkansson and Snehota 1995).

Networks between interacting partners are never in a state of optimum equilibrium, but are continuously changing, albeit at different rates (Håkansson & Snehota, 1995; Håkansson &

Prenekert, 2004). From an IMP perspective, this change is seen as the continuous adaptation between parties as they reconfigure their actors, activities and resources.

In attempting to understand how this change takes place, we believe that there are four particular avenues of thought that need to be followed, all of which have been explored in the recent business-to-business marketing literature. These are listed below, and we discuss each of them in turn

- 1 – How widespread is the change?
- 2 – What is the nature of the change?
- 3 – What may change?
- 4 – How to analyse such changes?

### **How widespread is the change?**

The issue to address here is to what extent to changes taking place are contained within a simplest units of analysis – a single actor or perhaps taking place just within a dyad, through to more widespread changes that can affect the wider network or even whole economic systems. Halinen and her colleagues (1999) classified these extreme cases as being either confined dyadic change or changes connected to the wider network. In the former case, the effects of the changes are limited or confined to particular dyads with no impact upon any other external parties. Network changes, on the other hand, are far more widespread, affecting the interconnected parties in the network, often through ‘domino effects’ whereby the output of one change acts as an input to change somewhere else in the wider system. These two extremes have been noted by other authors. Håkansson and Snehota (1995) for example have a similar concept in looking at endogenous and exogenous changes, and Hedaa and Törnroos (2008) examine ‘micro and business related change’ on the one hand, and ‘supra-macro and macro developments’ on the other. In an attempt to define the gradations more clearly Halinen et al. (1999) also talk of change taking place at the dyadic level, to those taking place within marketing channels, with small nets or triads, and then finally within the wider network.

A related issue is then an examination of what the impetus is for such change, irrespective of how widespread it is. For example, is the change caused by one actor in a dyad deciding to confront a counterpart and change something, or is it a wider pattern of coercion to get many actors in the network to change (see Ritter and Ford for a discussion of the broader ‘6Cs’ model). This raises the question of where the new ideas come from, based on the various parties’ level of ‘network insight’ (Mouzas et al., 2008), and their subsequent attempts to influence other parties. This is seen by Abrahamsen et al. (2011) as a ‘battle of ideas’ between the different actors, in which they use their idea structures (views on how things could be) in one time period in order to influence the activated structures (how things are) in the next time period.

### **What is the nature of the change?**

This question attempts to address the issue of how innovative/disruptive/radical the change is. Halinen et al. (1999) describe the extremes as being either incremental or radical. They argue that incremental change ‘has been seen as the main mode of network change’ (1999: 780), while still recognising that radical disruptions do occur. Incremental change is seen as likely to be continuous in nature, with radical changes more typically taking place under conditions of ‘punctuated equilibrium’ in which ‘longer periods of stability are punctuated by sudden and revolutionary changes’ (1999: 785).

### **What may change?**

In order to study the change taking within networks, it is necessary to define not just what the unit of analysis is (for example, Halinen et al.'s (1999) framework of change at the dyadic, channel, triadic, or network levels), but also to ascertain the unit of observation. Common within the IMP Group is to use the well-known AAR framework (Håkansson and Snehota, 1995) to examine how the actor bonds, activity links, and resource structures vary over time between the parties concerned. More subtle analysis will also discern differences in aspects such as the structure of the network itself (i.e. the 'network picture' – see Henneberg et al., 2006) and hence also changes in the power relationships between the actors and the tie-strength between them. This is clearly linked to the first question above, in that it is to be expected that the more that the changes are at the network level rather than at the dyadic level, the greater will be the changes in the various actors' network pictures.

### **How to analyse such changes?**

The underlying question here is decide on what 'tools' will be used to conduct the analysis. A number of these can be identified in the literature, with varying levels of overlap and interaction between them. Table 1 below simply lists these, making no attempt to assess the extent to which one is more suited to the task, or provides more insightful. While the AAR analysis is well known to the IMP Group, some other approaches have also been developed. An obvious approach is to use time as the underlying variable (Medlin, 2004), typically combining this with other approaches, most notably an AAR approach or event/critical incident modelling. Schurr and his colleagues introduced the idea of 'episode diagrams' as a way of studying the impact of changes on dyadic partners over different episodes. The use of critical incidents, working on the framework originally proposed by Flanagan (1954) has been combined with other approaches in a number of studies. Combining these different approaches was the subject of a recent Special Issue of IMM (Halinen et al., 2012) which identified flow, point, and sequential mapping as three different approaches to undertake process research in the area. Öberg et al. (2007) have shown how network pictures can be used to study the way in which managers make sense of changes within their networks. Although the study of events, and especially critical incidents, underlies many of the research approach, Halinen et al. (2013) introduce an event based analysis strategy that builds on the combination of three triangulating approaches: a research steering wheel, an analytical scheme, and the study of even trajectories. In addition, Abrahamsen et al. (2012a, b) introduced the twin notions of dottograms and a study of roles and positions. The former study proposed a particular approach to study the ways in which descriptions of change based upon network pictures were linked to descriptions of change (what happened) and to ascriptions for these changes (why they happened). The second approach examines network dynamics by analysing how actors make sense of change within networks, by looking at the extent to which this sense-making process is based upon their network role and network position.

There are also other approaches that have been adopted, but which are perhaps less well-known within the IMP Tradition. An example of such an underutilised approach would be experimentation (Corsaro et al., 2011), in which the effect of different variables on managerial action can be modelled. Finally, work that has been done in the social sciences in terms of understanding how social networks are constructed and can be measured (Wasserman and Faust, 1994; Borgatti et al., 2013) can also be used to study the structure of B2B networks and will, in our view, become an increasingly useful toolkit.

| <b>Approach</b>                     | <b>Indicative references</b>                                      |
|-------------------------------------|---|
| AAR model                           | Håkansson and Snehota, 1995                                       |
| Time                                | Medlin, 2004; Halinen et al., 2012                                |
| Episode Diagrams                    | Schurr et al., 2008   |
| Critical incidents                  | Halinen et al., 1999; Schurr et al., 2008; Hedaa & Törnroos, 2008 |
| Flow, Point, and Sequential Mapping | Halinen et al., 2012  |
| Network Pictures                    | Henneberg et al., 2006  |
| Event based analysis                | Halinen et al., 2013  |
| Dottograms                          | Abrahamsen et al., 2012a  |
| Roles and Positions                 | Abrahamsen et al., 2012b  |
| Experimentation                     | Corsaro et al., 2011  |
| Social Network Analysis             | Wasserman and Faust, 1994; Borgatti et al., 2013                  |

**Table 1: Different Approaches adopted to study Network Change**

With reference to the discussion above, the central research question for this study is: *What effect do critical incidents have on business networks?* Based on the literature review, the aim of this research is to examine a business network where a critical incident has occurred and identify the changes that have taken place in the business relationships as a result of the critical incident.

## METHODOLOGY

To investigate the impact of this critical incident, an in-depth qualitative analysis was conducted which included 11 high engagement interviews with farmers, processors and industry associations, as well as a documentary analysis using *Leximancer* software. The documentary analysis comprised of the Senate Inquiry into the impact of supermarket pricing on the dairy industry (Senate Inquiry 2011). The data included in the inquiry analysis is presented in Table 2.

| <b>Senate Inquiry Documents</b>   | <b>Number of Pages</b> |
|---|------------------------|
| 168 Submissions (by dairy producers, processors, distributors, associations/representing bodies and supermarkets) | 1340 pages             |
| 5 Public Hearings   | 443 pages              |
| Report  | 182 pages              |

**Table 2 – Content of Senate Inquiry into *the impact of supermarket pricing on the dairy industry***

### Data analysis, coding and developing core themes

Analysis of the above mentioned data was undertaken using the *Leximancer software*. *Leximancer (2011)* is software that generates concepts and themes based on statistical information with regards to co-occurrence between high frequency words. It will be applied to aid the development of key emerging themes in this research, and provide a framework to begin an in-depth analysis.

The *Leximancer* software has an algorithm that evaluates the given text according to the amount of words that appear to be relevant to a certain concept (Leximancer 2011). As a certain threshold is achieved, the developed concept is added to the thesaurus built by *Leximancer*. Although the actual number of themes is a decision that is made by the researchers, the size or content of a theme is a result of the *Leximancer* algorithm. The multi-dimensional hierarchy of themes is then projected onto two dimensions for the researchers interpretation (*a concept map*), with different colours to note the level of a concept in the hierarchy (Leximancer 2011).

There are assumptions that lie within the algorithm of the *Leximancer* software. One of these is that there is a single objective reality present in the multiple informant texts applied as input to the algorithm. Whilst assuming this however, the software does not recognize that each informant has a different point of view. Therefore, the interview transcripts, from different actors within the business network, will be analysed separately to find common ground, and highlight the key issues and impacts of critical incidents on their business operations. Thus, the software will provide a deeper understanding of the representatives' logic and their interpretation of the business network (very much similar to *network pictures*). This understanding is an abstract representation of the managers logic, or schemas (Wilkinson and Young 2002), for network impact (Munksgaard and Medlin 2014).

## DOCUMENTARY ANALYSIS FINDINGS

The Leximancer (2011) software was used to categorize and explore the information contained in the Senate Inquiry. First, the Senate Inquiry was manually separated into the submissions entered, the public hearings and the report. Secondly, the submissions were further separated into the different 'actors' in the business network. This was done to enhance the analysis of the direct impact of discounted milk on each actor within the network (as they may not all be the same). Moreover, the rationale behind organising the inquiry into different groups, and running separate concept maps for each grouping, was to ensure transparency in the data – that the content analysis was indicative of that relevant group. The 'grandfather' map was the first content map generated. It can be seen in Figure 1. The 'grandfather' map included all the documents from the inquiry – the report, submissions and public hearings. The concept map presents coloured circles, which are the themes that emerged from the documents. Within the circles are words that are the concepts within the themes. The map is produced in colours with concepts sharing a theme in the same colour as their cluster group circle and cluster label (Leximancer 2011). The colours are also heat-mapped to indicate the importance of themes. This means that the 'hot' colours (red and orange) denote the most important themes and cool colours (blue and green) denote the least important themes (Sotiriadou, Brouwers, and Le 2014). This concept map highlighted the following four themes to have the greatest relevance: **drinking, price, chain and farmers**.



Coles appears in the knowledge pathway, from this it can be deduced that supermarkets like Coles hold *power*. According to the pathway, this *power* is associated with *price* and *market*. As Coles is one of the dominant actors within the business network, it suggests that *power* exists within the network, as opposed to outside in the *wider world*. This aligns with the literature about *smaller* and *wider* world business networking (Ford and Mouzas 2013), which posits that it is the actors within the business network that ‘govern’ the industry, as opposed to the expected actors ‘outside’ the network, such as the government and governing associations. Moreover, *chain* implies an interrelated structure exists between the actors in the network. This aligns with business networking literature as it proposes that businesses cannot be considered as single entities (Halinen and Törnroos 1998). Moreover, the theme demonstrates the embeddedness that exists within business networks (Gnyawali and Madhavan 2001).

### Product

An objective of this research was to ‘*explore the impact of the supermarket price-war on the activities, resources and bonds of the actors in the business network*’. For this reason, a knowledge pathway was generated between the themes *products* and *impact*.

***products* ↔ *branded* ↔ *brand* ↔ *Coles* ↔ *processors* ↔ *impact***

Firstly, in terms of *activities*, the knowledge pathway highlights a change in activities towards *branded products*. By analysing the submissions, it is clear that following the discount in the price of milk there was a shift towards the activity *branding* (Senate Inquiry 2011). *Branding* has become a more dominant activity, which has a significant role in the business network. Moreover, in terms of sales (i.e. sales *activities*), there has been a large shift towards private label milk. Discounted milk has shifted the buying behaviour of consumers significantly, and thus had a flow on impact on the business network. Secondly, the knowledge pathway suggests that it is supermarkets and the processors that have had an impact on the *products* in the industry. This insight provided a significant point of enquiry in the in-depth interviews.

### Brand/Private

In the drinking milk market, *private* label milk has always been available. With the discount in the price, the appeal of the product grew exponentially (Euromonitor Australia 2014). Consumers began to purchase the lower priced milk. Thus, it has become even more important for businesses in the industry to differentiate and sell their milk product on platforms other than price. One of the tools/platforms is *branding*.

As the theme *brand* has emerged through the processors submissions, this highlights that *brand* is a topic of interest for processors. This is an interesting finding as milk has conventionally been considered to be a necessary staple good. It is this necessity that has sustained the sales of the product, as opposed to selling a milk product based on its *brand*. Following the price discount, it appears brand does have a greater influence on the sales of branded milk. Moreover, the theme *private* emerged from the inquiry report. *Private* refers to *private* label milk. *Private* label milk is the product that has been reduced in price, and simultaneously grown in sales (Euromonitor Australia 2014). Its occurrence as a theme suggests it has had an impact on the dairy industry. As the Senate Inquiry was an investigation into the impact supermarket pricing has on the dairy industry, the theme *private* suggests private label milk has had an impact.

## Supply

*Supply* is a key theme that has emerged from the public hearings. *Supply* encompasses both activities and resources. The occurrence of the theme in the inquiry suggests that there will be an impact on supply as a result of the supermarkets discounting milk prices. Whether this impact is beneficial or detrimental to the business network could not be determined from this data analysis, however was a suitable point of discussion for the in-depth interviews. The connection between *supply* and *impact* is demonstrated in the knowledge pathway. *Supply* is linked to *chain*, highlighting the interrelatedness and connectivity of the drinking milk *supply chain*. The theme *supply chain* is then linked to *prices*, which suggests price is impacting on the supply chain. **Supply ↔ chain ↔ prices ↔ impact**

A quotation associated by Leximancer with the theme *price* in the Senate Inquiry (2011) was;

*'What is the longer term impact on the capacity to supply other products or the capacity to supply a generic product at a price if it becomes so much more of the market sector?'*

This question was explored in more detail through the in-depth interviews.

## FINDINGS FROM THE INTERVIEWS

The in-depth interviews were conducted with experienced personnel from within the Australian drinking milk industry and ranged from 1-2 hours in duration. The interviews were recorded with the participants consent. All the people who were interviewed were very passionate about the topic and the industry. This made the interviews intuitive and fruitful.

| Actor Position                       | Number of Interviews |
|--------------------------------------|----------------------|
| Dairy Producers                      | 3 (D1, D2, D3)       |
| Processors                           | 4 (P1, P2, P3, P4)   |
| Industry/Association Representatives | 4 (R1, R2, R3, R4)   |

**Table 3 – Number of interviews conducted with each actor position**

These interviews provided responses three and half years after the incident. While conducting interviews aspects of the AARS continue to be raised by the interviewees, and each of the different levels of the model had experienced change since the incident. Whether it was a direct impact of the discounted milk, or a combination of factors that resulted in these changes was a matter of heated discussion. Nonetheless, changes had occurred, and these changes are presented in Table 4.

| Level of the AARS Model | Changes that have occurred in the past three and a half years  |
|-------------------------|--|
| Activities Links        | Farming activities (i.e. types of fertilisers used, less bulk buying)<br>Herd sizes                          |
| Actor Bonds             | Dual processing contract agreements<br>Dual vending contract agreements                                      |
| Resource Ties           | The supply of milk processors receive from dairy producers<br>Contract lengths<br>Dual processing agreements |
| Schemas                 | Processors managers conducted more short term orientated activities  |

**Table 4 – Industry changes uncovered in the interviews**

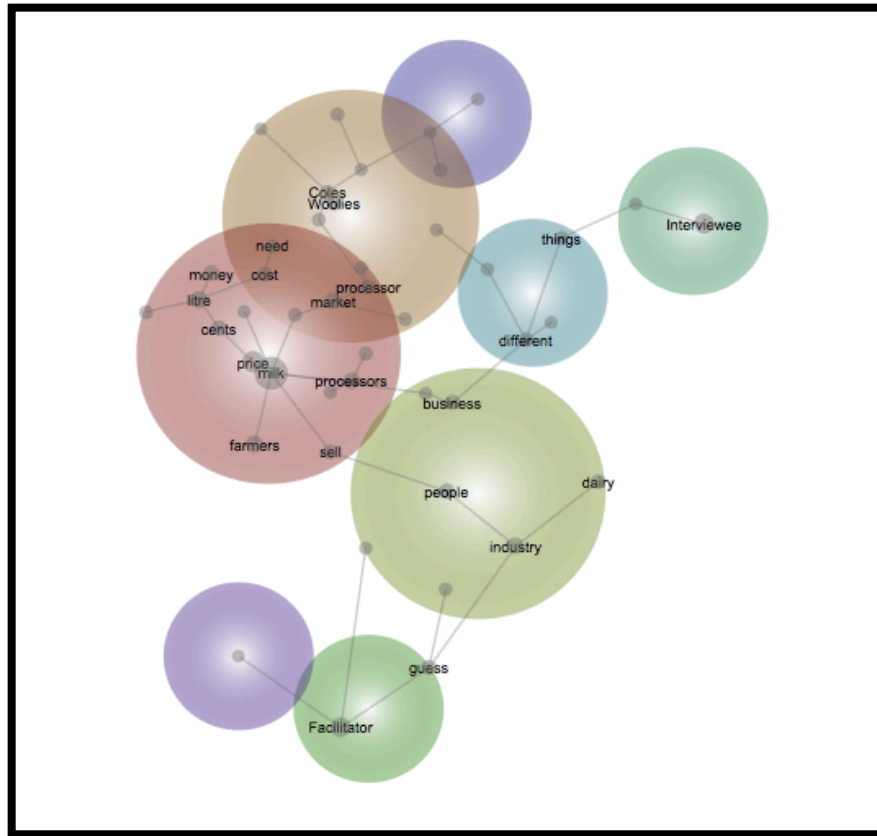
### **Emerging Themes from Leximancer**

The themes generated from Leximancer were: **different, Coles, price and industry**. The concept map for these themes can be seen in Figure 2. Expectedly, price was an emerging theme that surfaced from the interviews. As the research question of this research, and many of the interview questions were based on pricing, price was a common topic of discussion. As price is an expected theme it was not be discussed further in this part of the findings. Similarly, Coles was a theme that emerged from the interview transcripts. As Coles is one of the *actors* within the network it was not discussed as a theme in this section. *Coles* was also a theme in the Senate Inquiry submissions, showing a similarity between the content of the submissions and the interviews and the perceived relationship between *Coles* and discounted milk.

*Different* and *industry* were the other two themes that emerged from the interview transcripts. These two themes suggest that discounted milk has had an impact on the industry, and that it is different in some way. To explore this inference further, the transcriptions have been open-coded to explore the extent to which the *industry* is *different*. Prior to the manual open coding a knowledge pathway was generated.

**Different ↔ business ↔ people ↔ industry**

The other themes that link the two themes together are business and people. This suggests that it is the businesses and people within them that have incurred the most changes since discounted milk. Therefore, *people* and business changes were a central focus when conducting a further exploration of the interviews.



**Figure 2: Leximancer concept map of themes for in-depth interviews**

### **Short-Term vs. Long-Term Impacts**

The themes generated by *Leximancer* were used to further explore the content of the interviews through open-coding the transcripts. One of the key findings was the constant reference and vast difference between long and short terms effects of discounted milk. The participants continually referred to potential impacts in the future, and expressed their concern about these repercussions. They stressed that although the industry was viable today, and was able to withstand the discount in drinking milk price today, this may not be viable moving forward.

The *value of milk* was discussed as a long-term impact. The dairy producers described, in a distressed tone, their concern about the decreased value in milk since the discount occurred. They explained that it was not necessarily the attractive price of \$1 per litre milk that affected them, but more so the way it has *devalued* the industry and the product. As a result of the discounted milk, they believe consumers will not see value in paying an extra premium on milk.

*'It's not just about money...for that to happen – just devalued the product that they worked so hard to produce' – D3*

*'I got to the point where I would thank people for putting branded milk in their trolley, I was a madwoman, I'd say oh thank you so much for buying that branded milk. People thought I was a lunatic but that's what it was like' – D1*

The vast difference between long and short-term impacts is underlined by a cross reference between the Senate Inquiry report and an interviewee's response. The quotation below by the ACCC from the Senate Inquiry (2011):

*'It is apparent that when looking at the dairy industry at a national level, most dairy farmers will not be significantly worse off because of the price cuts' (Senate Inquiry 2011)*

The interviewees' response questioned the conclusion of the Senate Inquiry, which was published only a couple of months after the incident. Many interviewees pointed out how this was too soon to determine the impact discounted milk would have on the dairy industry.

*'of course there was no effect (response to above quote) because we were under bloody contract. The second the contracts came out, you have a look down the track at milk prices in the later half of that year and they all got smashed' – R2*

It was also highlighted that once discounted milk was introduced, drastic cuts had to be made which affected the distribution networks and farm gate price. The cuts were so drastic that many farms and distributors could no longer operate.

*'you had to get efficient or disappear' – D2*  
*'that 13 cents (price producers paying for surplus milk) meant you were instantly losing money. You cannot make milk for that price. People had to drastically restructure their business and decide what they were going to do.'* – R2

### **Consolidation**

One of the major outcomes expressed in the interviews was consolidation within the industry. From distributive networks to farm sizes, each of the actors interviewed highlighted some form of consolidation that has occurred since discounted milk was introduced. Consolidation was described as either an efficiency strategy, or in some cases to *'just make ends meet'* (R3). There have been different types of consolidation in the industry, depending on actor position. The dairy producers interviewed discussed the closure of other dairy producers they knew of. Although each of the dairy producers interviewed were still operating, they expressed their concern for other dairy producers.

*'People had to sell cows, drastically reduce herd numbers' – D3*  
*'We had an on-farm cow sales; we reduced our herd size, people stopped mating cows and they sent them to abattoirs' – D1*  
*'...the fact that it has driven down prices to farmers has resulted in a number of farmers leaving the industry and I think that's been one of the bigger impacts' – P1*

Three of the interviewees (one dairy producer, one processor and one representative) felt that the consolidation of the distributive network was one of the major impacts of discounted milk, with many vendors buying each other out. It was suggested that Australia would potentially mimic the recent changes in the UK supermarket distributive networks, and become much more consolidated.

*'You'll have less distribution centres. You'll have one major one in each city, where everyone comes in. That's just how it will evolve' – P2*  
*'The processor then doesn't have a dedicated distribution network. It just supplies its product to these hubs and they deliver it...It's what's happened in the UK. If you look at the UK, it usually happens here in Australia 10,15, whatever years later' – R4*

For the processors, the major impact in terms of consolidation was cost consolidation. When the milk price was discounted, processors were unexpectedly forced to take price costs.

*'The low prices have been – it's been a domino effect through the industry. Obviously low retail prices equated to low farm land prices.'* – P1

*'I think initially the biggest impact was on processors. If your company EBITs going to be X, its ends up being Y overnight (with the introduction of discounted milk). There was a huge impact on processors, yeah, don't worry about that'* – P2

### **Changing Opportunities**

A total of 9 of the 11 interviewees raised the topic of industry opportunities. Although different opportunities were discussed in each interview, it was clear that the industry was one that thrived on opportunities. Some interviewees discussed the discounted milk price restricted their ability to take advantage of opportunities, and others discussed how it provided them with no other choice but to take these opportunities. Many of the interviewees explained that the discount in milk price was unexpected and a shock that *'occurred over night'*. As a result, many of the actors within the network were not prepared for it and thus had to make immediate and drastic changes. As most of the emphasis was on adapting to this price change, many of the actors were not able to take advantage of other opportunities.

*'What they have said is that there's no opportunity for dairy farmers to extract profits out of the domestic market with the \$1 milk here to stay'* – D1

An example provided in the interviews was export opportunities, which was also raised in the Senate Inquiry. All the interviewees agreed that the opportunity for international success was still available, however it is just more difficult to attain now. A comparison was made with the New Zealand drinking milk industry. It was said that 10-15 years ago New Zealand were producing roughly the same volumes of milk as Australia. Then New Zealand began to focus predominately on the export industry, and currently are producing about twice as much milk as Australia. Therefore, it is clear that there is an opportunity for the Australian drinking milk industry to grow with export opportunities, however the opportunity has been put on hold for some dairy producers who are still adjusting to the impact of the discounted milk.

*'It's going to be hard for a lot of people to grow because of that one dollar milk. We can't take as big advantage of opportunities in Asia. It's had a very big impact, make no doubt about that'* – D3

*'That's where New Zealand is better at it...they're more on the same page in attacking internationally rather than fighting domestically, although international trade isn't the be all and end all'* – R3

### **Product Development and Innovation**

When discussing instigators of change, research and development (R&D) and innovation were discussed. It was referred to as both an instigator of change, and a result of discounted milk.

*'Research and development definitely has an influence. So there's a lot of effort that goes into that, not just in Australia, but internationally'* – R1

*'A big thing in any business is product development and innovation'* – P1

When discussing innovation in terms of an impact of discounted milk, it referred mainly to farming operations and differentiating products. The interviewees highlighted that research and development had been invested back into the farms, to look for ways to improve productivity, profitability and efficiency. R&D is a highly regarded area in any business, however now that there is *'a lot of pressure on our business to grab market share back'* (since discounted milk was introduced) the focus has amplified. Branded milk producers now have a greater focus on product development and innovation. Examples of product developments since the introduction of discounted milk are presented in the quotes below.

*'So since 2011 we've pulled permeate out of milk. That was a big one, That obviously cost the business a lot of money'* – P1

*'There was always a focus on brand, just even more so now because you can actually add value into them. You can't add value into generic milk and a product that's not going to move'* – P3

### **Change**

When asked what changes have occurred (in terms of activities, resources and business relationships) since the introduction of discounted milk in 2011 a variety of answers surfaced. Depending on their actor position, and their role within the network, the answers differed in terms of what could be changed, what are the factors of change and who could implement the changes. Most of the dairy producers had a large focus on price. On the contrary, association representatives, and those who did not work within the *'smaller world'* of the network believed that price was not something that could be controlled, and therefore should not be the centre of focus. A consensus was made throughout all the interviews that the domestic pricing of milk was determined by international pricing. However, there were differing views based on whether the domestic price could still be changed.

*'It's a pain. The milk price should be – we should be averaging \$0.65 to \$0.70 a litre to be honest but it's stuck on \$0.53.'* – D1

*'I mean we can't fix price, we just can't do that, because it's set on a global market...So what we're trying to do is influence policy that improves the cost of production and to improve market opportunities, but yeah, it's not about price'* R1

All interviewees were asked what other influences of change existed. Two key factors came to light throughout all the interviews; research/product development and global competitiveness.

*'Research development definitely has an influence'* – R1

*'It's just a vicious cycle – because we're not controlled by the market in Australia'* – R4

In terms of who was responsible for creating change, the interpretations of each actor was different. Depending on the factor of change, the party responsible for instigating it differed. For example, in terms of the export opportunities, each dairy producer stated it was out of their decision-making realm, and it was in the control of the processors. Moreover, in terms of pricing, it was understood that it was international competitiveness that determined the domestic price and that it was not set domestically. There was no one key actor within the network that was perceived to have control of change in the industry.

## **DISCUSSION OF FINDINGS**

### **Business Networking**

The literature review highlighted gaps that prevailed in business networking literature. This specifically referred to the relationship between the 'wider world' and 'smaller world' actors, which in this case refers to the government/governing associations and actors within the network such as the supermarkets. Since deregulation in 2000, the government 'control' over the Australian drinking milk industry is not as apparent. To some extent, it is the larger supermarkets that are able to dictate the pricing trends. However, this is only to a certain extent, as it is the international price of milk that determines the final price in Australia. Therefore, in terms of 'control' it is in fact international influences that determine the price of milk in Australia.

Business networking literature also refers to the lack of research into the process of trading off long and short term benefits (Ford and Mouzas 2013). In this case, it was the short-term strategy of processors that were expected to have long-term impacts on the industry. In order to adapt to the discounted milk costs, processors needed to make drastic changes in their operational costs. As the business network literature on strategy states, for successful strategy planning the company must consider its surrounding actors, as they all influence one another (Alt, Puschmann, and Reichmayr 2001). This has been confirmed in this case, as the strategy implemented to deal with the sudden discounted milk was a short-sighted strategy. Consequently, the strategy of some processors in the industry may create larger issues in the near future. This has already become apparent, as many dairy producers are no longer operating. In the long term this may mean that processors may struggle to find viable dairy producers to supply milk.

### **Current Network Picture**

The network picture that was established by the researchers based on information prior to this study is depicted in Figure 3. Throughout the interviews all participants were asked to draw a network picture based on their perspective of the industry. Using these descriptions, and analysing the data from this study allowed us to consolidate the pictures and based on our sense-making Figure 4 depicts the current network picture. It highlights consolidation in the industry, the reduction in distributive networks and the merging of certain sectors (i.e. the cross-over between farmers and processors).

It also highlights the newly established direct links between dairy producers and supermarkets, which reflects newly established long-term relationships such as the 10-year contract between Murray Goulburn and Coles (Merrett 2013) and the authorisation of a group of dairy farmers from Manning Valley in NSW to collectively bargain with Woolworths (ACCC 2013b). Moreover, the consolidation of drinking milk distributive networks is highlighted, as processors now have direct relationships with supermarkets and convenience stores. The contrast between Figure 3 and Figure 4 demonstrate the themes of consolidation and long-term impacts that have emerged from this research. This is in line with Ford and Mouzas (2013) who no longer consider position titles to be accurate representation of actor positions. Dairy producers now also process and supply milk, reinforcing that an actor's position should be defined by the business relationships it has, and not by a label.

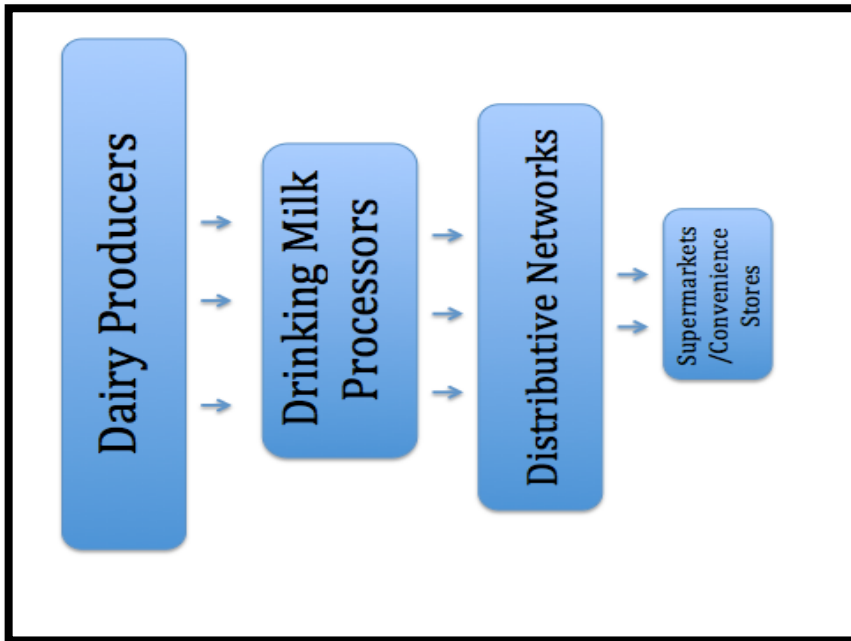


Figure 3 - Network prior to the introduction of discounted milk

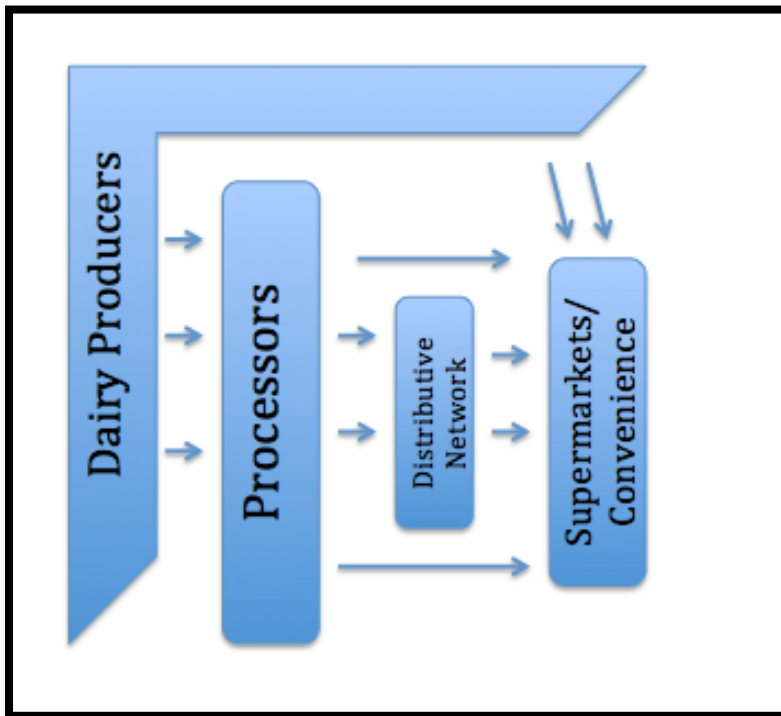


Figure 4 – Network after critical incident

### Three paradoxes in business networks

The three paradoxes that exist in business networks (Håkansson and Ford 2002) are evident in our findings. Although something we had not considered in undertaking the research and therefore had not discussed in our review of the literature it was an emerging issue and one

which needs further investigation. As mentioned earlier, it is international markets that determine the price of milk in Australia. Therefore, although supermarkets do have some control, it is limited to a certain extent. The paradox can be seen when examining the contract agreements between actors in the supply chain. As mentioned earlier contracts prohibit dual processors and dual vending. This type of *control* over the industry has created a degree of inefficiency. The weight of evidence suggests that if distributive networks and dairy producers were able to carry more than one brand of milk and provide milk to more than one processor, there would be more milk being produced and delivered nationwide.

*Control* was also discussed when speaking to governing bodies in the industry. When discussing their role in the industry, it was to focus on factors that can be *controlled*. Such focuses included the ADF Policy Priorities for 2014 that are; (1) drive markets, trade and farm prosperity, (2) building a highly skilled and productive workforce, (3) securing the industry's environmental sustainability and (4) implementing critical government initiatives: the Agricultural Competitiveness White Paper (Australian Dairy Farmers 2014). The aim is to move away from issues dairy producers cannot control such as price, and focus on what can be changed. Therefore in terms of the third paradox about control, it is efficient to control aspects of a business that have the potential to change, however it becomes inefficient when you try to control other aspects which are out of the businesses capabilities.

The findings indicate that regulatory influences sometimes hinder business relationship from occurring, but also promote other aspects of business conduct. For instance, the binding contracts many of the actors agree to, prevent certain activities and actor bonds being established. Industry bodies such as the ADF facilitate growth and maintenance within the industry, providing a channel to communicate with government.

### **AARS Model**

Another objective of this study was to explore the impact discounted milk has had on the activities, resources and bonds of actors in the business network. Actor bonds, activities, resource ties and schemas have all changed in some form over the past three and a half years. Whether this is a direct result of the critical incident (discounted milk) cannot be concluded, as there are a number of factors of change in the industry. Other factors that were considered to be elements of change in the Australian drinking milk industry include climate, research and development and international milk markets. However, the weight of evidence does suggest the changes have been exaggerated with the introduction of discounted milk.

Activities occur within the company (activity structure), in relationships (activity links) and in the network (activity patterns) (Welch and Wilkinson 2002). In terms of companies, many processors have reorganised their activity structure and invested in export opportunities. This opportunity has always been there; however now with discounted milk it has provided an additional avenue for revenue. In terms of activity links, many interviewees have stressed their interest in being able to provide resources to more than one processor. This idea would double activity links, and has already happened in some cases. For example, a dairy producer that was interviewed highlighted how they have now been allowed to provide milk to two processors, which is a very rare activity. With regards to the network, patterns in the network have been the least impacted. However, the longer-term impacts that may occur, such as a nationwide shortage of milk, would impact the patterns within the network.

Actor bonds within the network create organisational structures and a web of actors (Hakansson and Snehota 1995). The bonds between actors within the Australian drinking milk industry have changed since discounted milk was introduced. For instance, one solution being embraced by Coles and Woolworths, to address concerns regarding the alleged mistreatment of farmers in their pricing, is to by-pass the major milk processors in the milk production process (Euromonitor Australia 2014). Instead, they have begun to source their milk either directly from farmers or co-operatives that are owned by the farmers. The most notable bond is the recent 10 year agreement between Coles and Murray Goulburn, that is 'expected to see \$1 per litre milk remain a fixture in Australian supermarkets' (Speedy 2014). These new, longer-term agreements may become a trend in the industry, with the larger supermarkets seeking more long term supply deals (Speedy 2014).

Resources in the network create ties, collections and constellations (Hakansson and Snehota 1995). Although there was no consensus of a nationwide milk shortage, reports and findings did indicate a resource shortage in some states. As mentioned earlier, the impact of discounted milk differed slightly in each state, as national production declines, Queensland and Western Australia are experiencing a milk shortage (Locke 2014). Although Queensland often experiences milk shortages during the colder months, the problem has increased in recent years (Locke 2014) The resource collections in these parts of the network have been most effected since the introduction of discounted milk.

Schemas, or ideas, come in configurations and couplings in business networks (Snehota and Hakansson 1995, Welch and Wilkinson 2002). The schemas for each actor in the Australian drinking milk industry differed depending on their actor position. Most dairy producers were fixed on the idea that it was the discounted price that needed to be changed to make the industry more efficient. On the contrary, industry bodies stressed that it was not price that requires focus, but more so other factors within the actor's control. Similarly, the processors schemas have been described as short-term orientated. All these schemas make up the configuration of the business network.

### **Critical Incident Impact**

Our findings indicate that critical incidents amplify certain changes in business networks. The weight of evidence suggests they do have the potential to promote efficiency, as businesses must endure times of heightened change. However the effect is two sided, and some businesses may be put out of production due to unrealistic operating conditions. Therefore, the effect of a critical incident on a business network is unique for each actor and is dependent on the existing framework of the company. Businesses that have resilient actor bonds, and sufficient activities and resources are better able to withstand times of change and experience more minor impacts when a critical incident occurs.

### **IMPLICATIONS**

Perhaps the most striking conclusion that has been brought to light in this study is the shift from price to brand. In an industry where price has traditionally been the selling point for products, there has now been a shift to *branding*. A focus on brand and points of differentiation has begun to emerge in the milk industry. With the recent introduction of niche products such as A2 milk and the focus on permeate-free milk (Euromonitor Australia 2014), it is clear there is a trend emerging. These examples highlight that the importance of branding in a supermarket context has been recognised in the drinking milk industry. This

trend towards branding may promote a shift in *power* and *control* in the industry, alleviating the industry dominance of the 'supermarket giants'.

The weight of evidence suggests there has been consolidation in the industry since discounted milk was introduced. The number of dairy producers has decreased, the dominant processors have maintained their position and the distributive network has become tighter. In the short-term these changes occurred as a shock to some actors in the industry. However, in the long-term these impacts may be described as improvements promoting efficiency in the industry.

As the industry continues to consolidate, it may notice a change in *power dynamic*. Based on the findings from this study, it was suggested that the larger supermarket retailers held *power* in the industry. However if these long-term business contracts continue to prevail, and processors become more dominant in the industry, this power dynamic may soon shift. The key implication for processors was to focus on branding as leverage in business relationships. If this focus is successful, the *power dynamic* that exists in business networks may be in favour of the 'middle man'. If branding strategies are effective and consumers begin to appreciate the value branded milk can provide, the demand for branded products will increase. Therefore, the power dynamic may shift to processors, who will provide the branded products to supermarket channels.

## CONCLUSION

This study contributes to current literature by highlighting that critical incidents heighten these network changes, and in some cases are catalysts for change. In terms of the Australian drinking milk industry specifically, the central impacts of discounted milk have been further consolidation of the industry, longer-term business relationships and unique 'opportunities'.

To continue to refer to *discounted milk* as a 'milk price-war' would be an inadequate representation of reality. Such a description implies the price will eventually rise again with the end of the 'war'. However, what this study highlights is that the price is unlikely to change, as it is very much dependent on international dairy markets. Therefore, discounted milk should be *adapted* into the strategy of businesses in the Australian drinking milk industry and used as an opportunity to redefine business relationships.

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