Time, timing and managing closure of a large manufacturing business

Competitive paper

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Abstract

This paper tackles the research question of how time and timing influence the nature of business interaction processes. The paper begins by considering time in business networks. Next we consider theoretical perspectives of time, timing and different times. This leads to development of a conceptual model concerning how time periods, timing, coordination, synchronization, duration and sequencing influence and shape the pace of interaction between actors in a business network.

Next a longitudinal case study is presented of the closure of a motor vehicle manufacturing plant. This case study allows an analysis of the interaction processes based on different time periods within the plant closure process. Variations in interaction pace can be directly attributed to time periods created in the business cultures of the firms involved in the plant closure.

Finally, our understanding of time and timing and how they influence interaction processes allows some comment of the role of time/s in coordination and synchronizing across interfaces in business networks. Conversely, some comments can be made concerning how interaction processes shape construction of time. The final sections provide managerial implications and opportunities for future research.

Key words: interaction, business networks, interfaces, coordination, synchronization, timing

INTRODUCTION

Interaction between firms in a business network setting follows the economic purpose and intentions of the actors. However, the network setting means no firm, or manager, acts alone (Håkansson & Snehota 2006). Rather firms and managers interact within their business relationships over time, and time acts as an environment that shapes the inter-firm coordination (Ford, Gadde, Håkansson, Snehota & Waluszewski 2010; Halinen 1998; Halinen, Medlin & Törnroos 2012). This elongated perspective of business relationships and the network they form is one of the strengths of the IMP approach: the role of change and stability is brought into focus.

This interest in the development and decline of parts of the business network has lead IMP researchers to focus on the development of business relationships (Andersen & Kumar 2006; Axelsson 2010), their ending (Holmlund-Rytkönen & Strandvik 2005; Tähtinen 2002) and also change in networks (Andersson & Mattsson 2010b; Corsaro & Snehota 2012; Sutton-Brady 2008). Underlying all of these studies is the conceptualization of time and timing.

Time has recently been of interest to IMP researchers (Andersson & Mattsson 2010a; Andersson & Mattsson 2004; Halinen et al. 2012). Time is a rather complex human construct, one that in its many interrelated dimensions allows humans to construct the world so that each event, activity, situation and place is unique (Halinen et al. 2012). Sztompka (1994, 55) describes the uniqueness of social events and activities along four temporal dimensions; "sequential structure, duration, localization in wider sequences, and repeatedness or uniqueness". These temporal characteristics allow description of business interaction periods, or phases, however Sztompka (1994) also adds six functions of time which are clearly central to business interaction, namely; synchronization, coordination, sequencing, timing, measuring and differentiation.

All activities between firms rely on these six temporal functions, and their roles and interdependent characters open considerable research into how time is involved in the metronome of business interaction. Each temporal function is inextricably linked in the other (cf Quintens & Matthyssens 2010). Thus where to start is difficult, but we believe timing leads to an understanding of coordination - a central concern of early IMP research (Håkansson & Lind 2004; Hallén, Johanson & Seyed-Mohamed 1991; Möller & Wilson 1995). Timing is defined as "the regulation of actions … in relation to others to produce the best effect" (Wilkes & Krebs 1985, 1227). Thus, timing is concerned with the time relativity between actors' actions; that is timing requires coordination. Alternately, timing can occur by chance, in which case an actor gains an advantage because opportunities coincide.

However, timing is rarely commented upon in the IMP literature, even though the concepts of interaction and coordination appear in almost every IMP publication. In the IMP database (www.impgroup.org/papers.php) containing over 2,000 papers, three titles include 'timing' (Andersson & Mattsson 2004; Knight, Walker, Caldwell & Harland 2002; Verboven, Vandenbempt & Matthysens 2005) and four include 'coordination' (Bankvall 2008; Lehtimäki & Pernu 2011; Medlin, Aurifeille & Quester 2005; Medlin & Quester 2001).

In the broader business literature the concept of timing is considered for market entry (cf Mitchell 1989; Schoenecker & Cooper 1998) and financial decisions (cf Lee & Rahman 1990,

and many others), but the conception of time is relatively static. For example, Lilien and Yoon (1990) consider market entry in terms of whether one firm enters a market before or after the other. Here the idea of time flow and the resulting sequencing of time periods are not considered in relational terms. Rather a simple two state variable is applied in a static model. Thus, time is considered as an empty vessel, which separates two events so that they are different (Ackoff & Emery 1972). An alternate perspective is that proposed by Berger and Luckmann (1966), who argue that time is constructed between humans interacting inside social structures. And to place a stronger relational perspective on time, Kavanagh and Araujo (1995) consider time and timing as contested between and relative to at least two different entities with regard to an object.

In this paper we apply this relative view of time and we add to the network and business relationship literature by elaborating a conception of timing and synchronization in the processes of interaction and coordination. This elaboration of timing also extends understanding of the way actors speed up and slow down interactions, so creating timing, as they pursue their intentions.

The paper is structured in the following way. In the next section we combine the literature on business networks with the concepts of time and elaborate how different times exist according to different network time contexts. Next we provide a case study of the closure of an automobile manufacturing plant owned by Mitsubishi Motors Australia Limited (MMAL). The decision to close is taken by the parent company Mitsubishi Motors Corporation (MMC) of Japan, on the basis of a recommendation by MMAL. The case allows exploration of time differences and timing effects on the speed of interaction processes. In the fourth section of the paper we elaborate further the concepts of time pace and business interactions. Finally we close by discussing future research and managerial implications.

BUSINESS INTERACTION AND TIME

Network context and business interaction

Firms in seeking their economic purpose jointly coordinate their resources and activities (Ford et al. 2010). This joint coordination creates exclusive business relationships, which are heterogeneous and in which the dynamics of each relationship are specific. The business relationships are based on the resources and activity strengths of each firm, and this includes the firm's relationships to the resources and activities of other firms. From outside the business relationship the intricacies of joint coordination within are obscure (Johanson & Vahlne 2006), but the joining of coordination across many business relationships provides a network perspective of firms.

The coordination processes between firms are mutual (Johanson & Vahlne 2011) and also seek to achieve the self-interest of each firm (Medlin 2006). The business relationships are a way of shaping and effecting economically valued exchange for short and long-term profit. This drive towards achieving a profit through business relationships points to the idea that business interaction processes are future oriented and time bound (Medlin 2004). The interactions of each firm follow a temporal strategy, that is a path of activities into the future (Andersson & Mattsson 2010b); and also the interactions are adjusted and coordinated across resource and activity

interfaces (Håkansson & Snehota 2006) with related firms, so that changes are dealt with in the networked firm environment.

Business interaction requires coordination of activities and resources (Håkansson 1982). Coordination is defined as "the balanced and effective interaction of movement" (Wilkes & Krebs 1985). Effective implies a result and movement is through space and time. Thus, coordination and the pace of business interaction are necessarily shaped by conceptions of time. Time rules over coordination. On the other hand, the ways business interaction processes are projected forward in time (through managerial discussion, planning and coordination) are ruled over by the intended economic result; which is positioned in space and time.

The coordination activity inside business relationship is undertaken by individuals who act in groups representing each firm: managers, teams, departments, firms or business relationships. Individual actors arrange and coordinate events, resource ties and activity links by setting up routines, policies and work flows that are designed to take raw materials from one part of the network and deliver via interfaces finished product at another part of the network. Thus individuals drive the economic processes of the network; with firms, their strategy and their business relationships as the process mediators.

Time is one of the basic human concepts that allows understanding by individuals and societies of the physical and social environment: the other is space (Kant 1953). Both concepts are essential in all human categorizations through their roles of providing specificity to human social apprehensions of the world (Halinen et al. 2012). Time and space locate all events and human constructs in a specific world/meaning context. Separations in time/space denote meanings and mediate all human interaction. Large space/time separations of events and human constructs invariably result in vastly different understandings; because network connections, time contexts and space situations are significantly different. Interactions across large space/time differences require a greater resource and activity commitment[1], as the physical and cultural separation makes interaction more difficult.

Equally, however, the difference in firm location by space/time also provides sources of heterogeneity and resource/market differences, and so a reason for economic activity or resource flows. Business interactions are necessarily shaped by space/time separation, but equally all economic activity is about overcoming space/time separation between suppliers, producers and consumers. Noteworthy is that space can be overcome with time and resource costs, but time is asymmetric (Adam 2000), so that inter-firm business interaction only moves forward in time flow.

In the remainder of the paper the concept of space is not explored. Understanding space requires an elaboration of time, as space exists within time. Thus, in this paper we focus first on understanding time and timing.

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[1] The electronic and digital medium of the Internet vastly reduces the physical and time cost of bridging space, and so creates new mediated contexts/network connections. However, time is flowing and so interactions across larger time separations remain always asymmetric (Adam 2000).

Time and different times

Time is apprehended subjectively by every individual and also by each group of individuals (Bluedorn 2002). Time is also measured objectively through the application of science, clocks and the observation of planetary movement (Davies 1994). The rotation of the earth and global trade has lead societies to accept Greenwich Mean Time (GMT), so that synchronization of activities is possible across national boundaries. However, each individual and each society arranges interactions against and within their local time (Bluedorn 2002), and only applies GMT to translate between two space/time events for the purpose of synchronization. That is, objective socially created time is important for coordination of resources and/or activities within an interaction process.

Missing in the above description of different global time zones is a deeper understanding of time as a relative concept. The relative time perspective is apparent in the ideas of Berger and Luckmann (1966), who theorize that humans construct time as they interact within social structures. Thus, time is subjective and relative to the activities of interaction as well as relative to the socially understood situation or structure. Kavanagh and Araujo (1995) take this slightly further and note that the time construct is contested between and relative to two or more different entities. These theories of time construction rely on the idea that each individual apprehends time in a purely subjective manner (Whitehead 1920), and then must also deal with differences in others' perspectives of time to achieve coordination and interaction outcomes.

This contestation and construction of time between two or more entities is replicated in an analogous way between managerial groups, between firms in a business relationship, and between any entities seeking to coordinate their activities. The contestations and creation of time is conducted by individuals and groups to achieve coordination of the entities. The evidence for different times according to social groups in a work place is reported by Roy (1959). While Hassard (1991) notes that an important role of social institutions is the training and gaining of external temporal consciousness that is specialized to specific workplaces. Together these ideas suggest that every individual and every organization operates according to constructed time realities and that there are multiple time realities operating within socially constructed objective times.

The recognition of different temporal orientations (Sztompka 1994) is applied by Andersson and Mattsson (2010b), along with differences in network orientations to describe the way resources are adjusted between networked firms during crisis events (i.e. a severe economic recession). These authors present a model of interdependencies between the temporal view of actors in a market network and within a financial and political context (ibid, 921), when there is a dramatic environmental shift. The coordination between the actors to adjust resources given the slower economic environment is explained by introducing the concept of an actor's network orientation and two concepts from Sztompka (1994): temporal orientation and temporal profile.

The actor network orientation captures "how actors perceive and make sense of the network structures in which they are embedded" (Andersson & Mattsson 2010b, 920). This construct is composed of three elements; the actors network horizon (Holmen & Pedersen 2003), actor

cognitions of network interdependencies, or their network theories (Johanson & Mattsson 1992), and the actor's network picture (Henneberg, Mouzas & Naudé 2006). Thus, an actor's network orientation encompasses a phase dependent and subjective perspective of a part of the broader industrial network.

To the idea of an actor's network orientation Andersson and Mattsson (2010b) add for each actor a temporal orientation (Sztompka 1994). This effectively extends the actor's network perspective through time in a subjective manner. Thus the past-present-future of relational time (Halinen & Törnroos 1995), is viewed or brought into focus from a perspective in ether the past, present, or future and with a depth of vision that encompasses the past, present or future to different degrees (Sztompka 1994). This temporally extended view of a business network is similar to that presented by Medlin and Törnroos (2007), but in this case time is added to the concept of the actor's network horizon.

Finally, to describe the processes of resource adjustment, Andersson and Mattsson (2010b) introduce the concept of activities and events having a temporal profile (Sztompka 1994). That is every activity is characterized on four temporal dimensions; "sequential structure, duration, localization in wider sequences, and repeatedness or uniqueness" (ibid 55). These temporal characteristics allow description of business interaction phases, and the constituent activities, as well as a way to position events within the time flow. According to Andersson and Mattsson (2010b) actors must bring together some elements of their temporal and network orientations around the activity temporal profile, so that inter-firm resource adjustment can occur. We contend that these three constructs can be applied usefully to explaining timing in all situations (i.e not only dramatic environmental change), by also bringing into the frame the concept of different times. That is we extend Sztompka's (1994) concept of an actor's temporal orientation by adding that all times are different (Bluedorn 2002).

CONCEPTUAL FRAMEWORK

All times are socially created and all times are different (Bluedorn 2002). Industrial firms operate on different timelines, with the pace of internal activities differentiated even within departments. The local time is constructed according to the way activities are sequenced within their production processes, and according to how and when actors exchange with supplier and customer firms. The concept of different times is a corollary of the subjective nature of interaction between actors in a business network (Ford & Håkansson 2006).

The different timelines do not operate in *parallel*, which is a spatial term not at all related to time or timing. Rather the different times of each actor are literally singular, so that each actor's timeline is not the same. The measures of time maybe seconds, hours, and days; but the pace of time flow is constructed within firms according to their internal sequences and interdependencies between activities. This distinction is commented on in the literature (Hassard 1991; Roy 1959) and the idea of different times is also suggested by Sztompka's (1994) concept of an actor's temporal orientation. Since actor time is viewed from different perspectives in the past, present of future and involves different depths of past-present-future focus, then the pace of time is also different in the subjective realm of the actor. That is different time lines are found according to

actor perspective. Only when an externally generated deadline is met, is there a coming together of the different timelines. That is the different timelines are synchronized at points in the time flow according to a measured time that is more generally accepted (e.g. GMT). Even GMT is a different time, especially constructed by applying the earth's rotation and revolution, so that people according to time zones around the earth can synchronise. Mars Time shows again that GMT is created as a different time (Jet Propulsion Laboratory 2004).

The coming together of different times is a synchronization effect; where for a period, the two or more different times are the same. This synchronized time of different timelines effectively creates another timeline, or to say this in a different way: a new timeline is stabilized in the actors understanding of a part of the network by the synchronization of their different actor timelines. To the degree that each actor is constrained by the other, through interdependence, to continue to synchronize at that time; the new timeline is maintained or comes into being and/or drops out of being and reappears as necessary for interdependence.

Timing elaborated

Timing and coordination are achieved through contesting and constructing time. Time is constructed within actors: including the business relationship as an actor from within a network perspective. However, when time is required for synchronization, the time of the larger actor or more powerful actors is most likely to constrain time construction. Figure 1 presents the idea of different times being applied to construct another, or other, different time(s). The figure is a process based model, which sets out how idiosyncratic times are created within entities. The model is concerning creation of different times; so the future is a key aspect of the process. As entities join into larger entities new times are created.

Figure 1 is based on the presumption that there is an on-going business relationship between two actors in a network of connected firms. Each actor operates in its own different timeline according to its network and temporal orientations. An actor's temporal orientation constrains and creates the meaning of the actor's network orientation and also vice versa (see Andersson and Mattson 2010b)[2]. The temporal profile of internal actor activities are shown within the actor's timeline, as waves of sequenced activities; while at the period of synchronization between the actors the contestation over times leads to a new timeline. Joined activities between the firms are found in the new timeline.

One-way communication will cross between the actors outside of synchronization periods, and these will not affect the new timeline. However, any two-way interactions including resource exchange, communications and negotiations requiring a synchronized effort will lead to stabilization of the new time line.

[2] Readers familiar with Andersson and Mattsson's (2010b, 921) temporal interdependencies model will note that our figure one is focused on arrow three, and also includes arrow one.

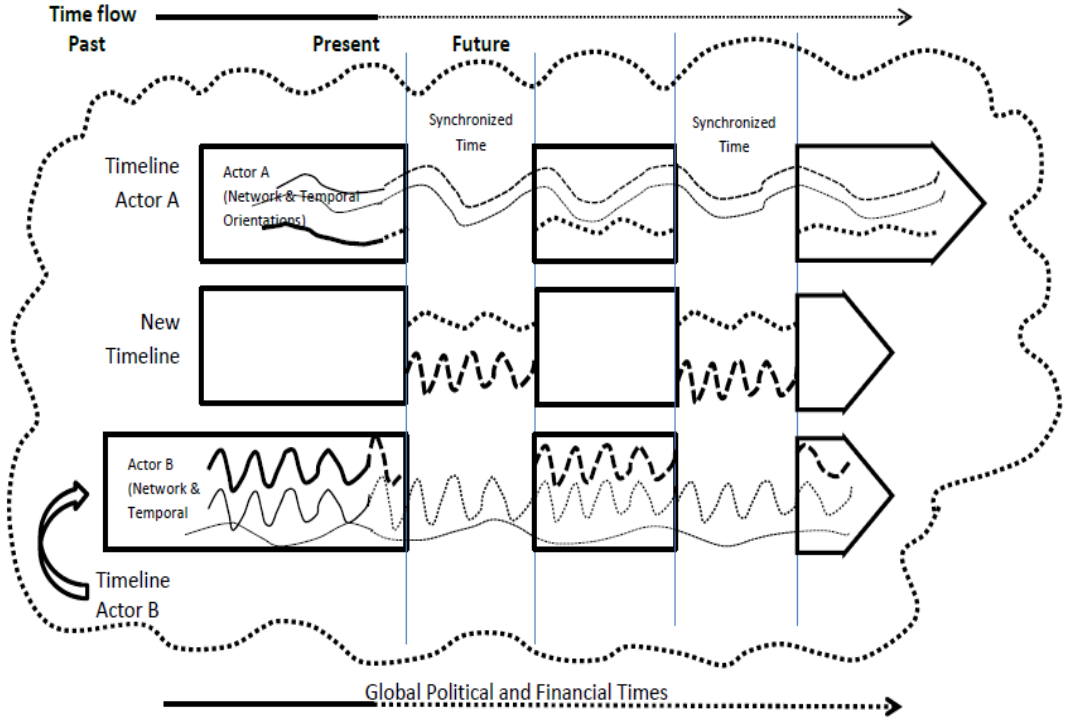
Following Sztompka (1994) figure 1 allows some distinctions to be made between the six time functions. The periods where there is a single timeline represent *synchronization*, but only for activities that must be synchronized as other internal actor activities will continue within the different actor times. *Coordination* is the concept of Firm A, or B, adjusting resources and activities on its own timeline so as to meet the requirements of synchronization. Thus coordination is based on there being at least two or three timelines, depending on the outcome of the contestation (see shortly). Coordination requires *sequencing* of activities in time. The internal actor activities are sequenced, and the activities of synchronization are sequenced independently on their own time line; but the act of synchronization drives the internal actor activity sequencing to some degree. *Measuring* of time occurs in all timelines, and the periods of synchronization and independent but coordinated action represent different forms of time based *differentiation*. *Timing* is the synchronization, or alignment, of different timelines, whether by choice or by chance. The idea of chance timing requires that an actor must interact with an entity operating on another timeline, where the other actor is not seeking to coordinate with the first. When timing is about synchronization there is a degree of coordination between the actors across their timelines.

Figure 1 also displays to some extent the temporal profile concept (Sztompka (1994). Each period of time, that of independent and coordinated activity and that of synchronized activity, has a *sequential structure*, which is a necessary requirement because of the asymmetry of time (Adam 2000). The activities in each period have a *duration*, and we can add a *pace* that is created by the coordination imperative: that is by the future synchronization. Next each period is *localized within a wider sequence* of periods, so the independent time periods are between and dominated by the synchronized periods; and this asymmetry of periods extends outwards into the future across the network. Finally portrayed in figure 1, is the *repeatedness* of periods, while coincidental events and chance activities might appear as *unique* periods.

All coordination between firms relies on these six temporal functions, and their roles and interdependent characters open considerable research into how time is involved in the metronome of business interaction.

There are many interesting issues to consider given the conceptualization of times and synchronization in Figure 1. First, the whole figure displays interaction between two actors, meaning that the activities inside each entity as well as the actors are all interacting because of their synchronization. Second, there are interfaces between resources and activities at the point of synchronization, which is at points in time and space. Third, usually time synchronization is enforced from larger and more powerful institutions in the network. This idea brings back into focus the idea of timing, as the less powerful actor must by chance or some degree of coordination meet the timing of the more powerful actor. Conversely, this implies that some actors, because of resource and/or activity control, can enforce a degree of synchronization across the network.

Figure 1: Times and contested time: Independent and interacting activity



Note: Activity sequences within timelines are shown as waves of coordinated activities.

One important issue is how the contestation over time is resolved. There are two opposite possibilities, with a middle ground of different degrees of compromise. The polar opposites represent situations when actor A or B constrain the periods of synchronization, and between this the number of possible outcomes for self and collective interest to be met are many. Where one actor forces the other to meet their timeline requirements, only two different timelines are applicable. Where a compromise is reached between contesting actors a new timeline is found for the relationship, and so three different timelines exist.

To explore how contestation of different times by actors affects interaction, we undertake a longitudinal case study where we wish to explore the concepts in figure 1. We also expect the case study to lead to refinements of Figure 1 and inform on ways that different time lines can be applied in future empirically based research.

METHOD

A longitudinal case study was chosen to explore different timelines. The case includes a network of different actors, each with different temporal orientations and different network orientations. There was also one common timeline, imposed by a more powerful actor. Thus this case allows exploration of network effects across different actor timelines, but always with reference back to the dominant timeline. The dominant actor's timeline was the synchronization timeline, which constrained all other actor time lines cascaded.

The case deals with the decision that was taken by Mitsubishi Motors Corporation of Japan (MMC) in February 2008 to end production of Mitsubishi cars in Australia. This decision meant closing of a factory and laying-off most of the employees that had worked at the plant. This decision influenced not only Mitsubishi Motors Australia Ltd. (MMAL) and its 1,141 employees, but also all of the 137 companies that had supplied parts to the car that was produced at that moment (Mitsubishi 380) as well as all the earlier models that still needed spare parts.

In total, the study is based on 17 in-depth interviews with 14 persons, ranging in length from 30 minutes to two hours (see Table 1). One person was interviewed three times and one twice.

The interviewees answered questions that developed a chronological story of the closure. Interviews were conducted, after the March 2008 closure, in May, October and November 2008 and again in November and December 2009 when all external relationships were well ended. The final series of interviews allowed checking of previously collected data and finalization of the closure. Five of the interviewed persons worked at MMAL in different managerial roles. These managers were chosen to disclose the ending story from different perspectives including importantly the interdependencies of commitments both internal and external to the business. To gain an external perspective, nine interviews were conducted at seven different supplier companies. These firms were chosen to represent a range of relationship changes, with five being complete endings and two changing the character of their continuing association.

Table 1. Interviews

Mitsubishi Motors Australia Ltd.	
General Manager, Supply Division Manager Corporate Logistics, Supply Division Manager OE & Aftersales Purchasing	Interviewed together 6th May 2008
Manager OE & Aftersales Purchasing	Interviewed 30th October 2008
CEO Manager Corporate Affairs & HR	Interviewed together 30th November 2009
Manager Corporate Affairs & HR	Interviewed 2nd December 2009
(Former) Manager OE & Aftersales Purchasing	Interviewed 4th December 2009
Supplier companies	
National account Manager, CEVA Business Manager, CEVA	Interviewed together 1th May 2008
CEO Continental	Telephone interview 12th May 2008
CEO Toyo Tyres and FAPM vice–president	Telephone interview 4th November 2008
Technical and Sales Manager, BSTG Sales Account Manager, BSTG	Interviewed together 1st December 2009
General Manager, ROH	Interviewed 1st December 2009
Director OE Sales & Engineering, Tenneco	Interviewed 2nd December 2009
Account Manager, Bluescope Steel	Interviewed 3rd December 2009

All the interviews were recorded and transcribed and a case history was produced. This also included a wide range of secondary material, such as information from the different companies' web sites and news articles.

THE CASE OF COMMUNICATING THE DECISION TO CLOSE A PRODUCTION PLANT

By late 2007 Mitsubishi Motors Australia Ltd. (MMAL), a wholly owned subsidiary to Mitsubishi Motors Corporation of Japan (MMC), was primarily an importer of Mitsubishi cars to Australia. When the long-running production of Magna cars was ended in August 2005, production of Mitsubishi 380 cars started. The 380 model was a large family car with considerable petrol consumption, which was introduced at the same time as petrol prices began to rise. This was also at the same time when the demand in the large car segment was decreasing. One of the alternatives for MMAL was to close the production plant and become a full importer.

When the Tonsley plant in Adelaide, Australia was closed on the 31st March 2008 only 32,004 cars of the new model had been produced. The closure of the plant meant that from 1st April 2008 MMAL became a full importer.

The case deals with a worry that management at MMAL had that the closure would affect the sales of imported Mitsubishi cars:

> *"Damage to corporate reputations and consumer confidence in the brand can often linger for years and hurt our revenues and bottom lines quite severely."(CEO, MMAL)*

Thus, potential buyers became an important stakeholder group when planning for the official announcement of closure of the production.

Pre-announcement: Adelaide 2006-2007 and January 2008

Sales of the 380 model were planned at 30,000 per annum; but sales only reached about 10,000 cars per year. As a result MMAL had re-configured their production schedule and re-negotiated supplier contracts to the new level of manufacture:

> *"…we've become very proficient at downscaling over the last few years. […] from an operation that was running at 30,000 […] down to something that's just producing 10,000 cars." (Manager Corporate Logistics, Supply Division)*

Rumours about closure would arise and disappear throughout 2006 and 2007. Speculation would appear in the media, and news would be interpreted by employees, suppliers and by the many local businesses that depended on the local economy for their livelihood:

> *"This week the future of Mitsubishi has again been in the news after the ABC got hold of a company report looking at options to close down its Tonsley Park factory." (www.abc.net.au/stateline/sa/content/2006/s1776841.htm, 2008-06-02)*

Already before the final decision was taken the management of MMAL tried to keep the employees informed of the difficult issues facing the company. There was a difficulty in the communications because any information to employees would pass through the network with new interpretations depending on many factors, and then be reported out of context in the media. Since so many people' futures depended on the decision to continue or even possibly close there was a high level of concern for any new information about sales or MMAL continuing commitment. Thus, managers had to be extremely careful in their communication to employees

and suppliers; being realistic and warning carefully the people not to take on large financial risks (e.g. home mortgage). In the end this was very important, as the information communicated *"would help them understand the closure decision we had made and therefore reduce the degree of shock" (CEO, MMAL).*

Pre-announcement time: Tokyo on 5th February 2008

As MMAL is a wholly owned subsidiary of MMC, the closure decision made by MMAL needed to be approved by the Board of MMC in Japan. This meant that until the Board meeting of MMC on 5th February 2008 it was uncertain whether the plant would be closed or not. Even though the Board of MMAL had approved a closure earlier in the week, there was no certainty that the MMC Board approve the subsidiary's decision.

Then in the afternoon the local management was officially advised that their suggestion to close the Tonsley plant was approved by the parent company. The decision was announced in a press release of MMC saying that its production facility in Australia was to be closed:

> *"Tokyo, February 5, 2008 — Mitsubishi Motors leaves its full-year net income forecast of 20 billion yen unchanged as it expects to make up extraordinary losses incurred through the closure of its production facility in Australia."*
> *(www.mitsubishi-motors.com/en/corporate/pressrelease/corporate/detail1726.html, 2009-03-03)*

A few key suppliers received prior warning via a telephone call of the closure before the official announcement. At that time they were asked not to disclose anything.

Announcement time: Adelaide on 5th February 2008, at 3:45pm

The CEO of MMAL made the official announcement of the closure at 3:45pm on Tuesday 5th February 2008 standing in front of the over 1,000 employees:

> *"I don't think I'll ever forget where I was at 3:45pm on Tuesday 5th February, standing in front of 1,000 people who had worked so hard and shown so much resilience for so long, and telling them that they were all about to lose their livelihoods is not something I really want to have to do again." (CEO, MMAL)*

The goal had been that the employees would be told in person before reading or hearing about the decision through other channels. However, when the CEO of MMAL made the announcement, the employees were already aware of the coming closure as the decision had leaked to media from the news release by MMC earlier that day.

In the announcement, the CEO stressed on the commitment of MMAL and promised that the company *"would provide the best possible level of support to help employees".* After the closure announcement all employees were sent home for the remainder of the week.

Post-announcement time: Adelaide on 6th - 11th February 2008

All employees were sent home immediately after the official announcement and needed not to return until on Monday 12th February. This was done partly to give all the employees a chance to

start planning for the future, but also to give the management time to start planning the close-down process. No prior planning had been conducted by MMAL, as there was no certainty that MMC would decide to close the plant.

The whole Human Resource Department with about 10 people were involved in the planning work. One of the biggest issues was how to coordinate the Federal Government's and State departments' programs. All the parties agreed on who was going to do what, and during the weekend individual employee folders were produced. When the employees returned to work they were gathered together in the canteen and given information regarding what would happen during the coming weeks. For example, they got information that they would get a redundancy offer of five and a half weeks for each year of service. They also got information of the exact times and what would happen during the last weeks of their employment.

The date of closure was set to 31st March 2008 (end of the Japanese financial year), which gave MMAL about seven weeks to finish production and to start to plan how to deal with the around 900 employees who would be made redundant. The average length of service was 15.5 years which meant that many of the employees had not been in the *"job market"* for many years. And many of them had only worked at MMAL, as the average age was 44 years.

Immediately after the announcement media channels in South Australia went out with the information. For example, ABC News pointed out that the local economy might be influenced both directly, as about 900 workers at the plant would lose their jobs, as well as indirectly as component suppliers would lose part of their business.

Many of the 137 component suppliers would not be able to recoup their investments, as production ceased several years and several thousand cars earlier than planned. What was complicated was that Mitsubishi 380 and all the earlier models would need spare parts for some more years. Within the car manufacturing industry there is an agreement that a manufacturer will service each car for 10 years. For Mitsubishi this meant that the company would need to supply spare parts for the 380 model until March 2018. The standard supply contract that had been used between MMAL and their suppliers was for 90 days. The fact that the period from announcement to closure was less than two months meant that several suppliers already had more stock than required by MMAL.

Immediately after the announcement a letter was sent to the suppliers and dealers about the decision to close the plant and the reasons for that. The closure announcement did not come as a surprise for many of the suppliers, as it had come out several times that the company was looking at different alternatives. Thus, the speculations and the *"negative cloud"* hanging over the plant became a liability for the brand.

For some of the suppliers the closure was not a matter of strategic importance. One reason was that the volume of manufactured cars had been reducing over a longer time period, so that the relative effect was low. This also made future expectations more realistic:

> *"…the volumes didn't move for nearly 12 months, we realised that the writing was on the wall" (National account Manager, CEVA)*

Last weeks of production: The Tonsley plant between 12th February until 31st March

At the time of the closure announcement, MMAL still had about 1,000 cars to build. All these were built during the last seven weeks – and to a higher quality than normally would have been the case.

MMAL reconfigured the canteen with booths for employee meetings with service providers:

> *"In all, over the seven weeks, 39 different agencies with 75 individual staff met with 894 employees in over 4,030 individual meetings." (CEO, MMAL)*

MMAL also invited both local and national prospective employers to take part in a job expo. The expo was run over two days and on each day 36 different employers from all over Australia staffed booths.

One way to try to keep spirits up during the last weeks of production was the celebration that was linked to building of the last Mitsubishi 380. Over the two week period when the last car moved down the production line, each team had a group photo taken with the car passing their workstation. The next day each team was invited to have a barbeque lunch together.

Clocking-off the last time: On 31st March 2008

The celebration culminated with two events when the last car (number 32,004) came to the end of the production line. The first event was only for the employees and the second for media and outsiders the day after. The last day started with a breakfast for all employees in the marque. After that everybody returned to their work areas during the morning to meet each other and their managers for the last time. Finally, the final farewell took place in the canteen with some brief speeches and the drawing of the winner of one of the last Mitsubishi 380 out of a barrel where each of the employees had a free raffle ticket.

Closing the last supplier contract: 24 December 2008

After the around 900 employees that became redundant had clocked off the for last time, the management of the Supply Division continued the negotiations with all the suppliers. The deadline for the closure of supplier relationships was set to the end of the year 2008. The management felt that this was an important goal, as people involved at the Supply Division would leave for other jobs:

> *"We wanted to finish up as soon as possible of course. […] We really definitely don't want to go over Christmas* [9 months after close]*."* (*General Manager, Supply Division).*

However, this goal was not fully reached as the last negotiations were finished in March 2009.

CASE DISCUSSION

The case exemplifies that there are several individual timelines within the business closure situation. There are, for example, the timelines of MMC, MMAL, the media, the federal government and state departments, potential customers, suppliers and also employees. The case also illustrates how these timelines needed on several occasions be synchronized, involving

coordination and sequencing of activities. As the discussion below illustrates, timing and synchronization were key issues.

Synchronizing time in the relationship between MMAL and MMC

In the relationship between the multinational corporation, MMC, and its subsidiary, MMAL, it is the mother company that had the power to decide over the common timeline, that is, decide when the synchronized time periods would take place. The individual timelines of these two actors were synchronized on the 5th February 2008, when MMC's board of directors confirmed the plant-closure decision already taken by MMAL. This means that one synchronized time period in the case was between the decision at MMC and the official announcement of the closure by MMAL.

The MMC Board timeline is based on the reporting requirements to the Tokyo Stock Exchange and the Japanese financial year. This is shown in figure one as the political and financial timelines. MMAL had no choice but to continue interactions with all other parties on the basis that business might continue as normal, in case the MMC Board decided the current financial year was inappropriate for realizing a loss by closing the plant. MMC had to spend A$300 million to close The Tonsley plant. Here is evidence of a timing issue: the decision was relative to MMC's financial position, given the timeline of the Japanese financial year.

In terms of interaction pace, the synchronization of all actors at the timing of the MMC Board Meeting is significant. MMAL held interactions steady prior to the decision. That is to say, MMAL was waiting on a decision event in the MMC timeline. From MMAL's perspective nothing could be done to pre-empt the decision. Any moves by MMAL to prepare for plant closure would be taken as signal that the decision was already made; when in fact MMC might equally defer the decision. Here we see the effect of timing. Before the decision event all synchronization, coordination and event sequencing across the multiple actor timelines was undertaken on the premise that car manufacture would proceed at 10,500 cars per annum. There was no possibility to prepare for closure at MMAL, the timing was not right from MMAL's perspective. After the decision MMAL took time, five days, to organize the first parts of the closure.

Many actors more distant in the network did not see the potential significance of the MMC Board meeting time. From the moment of the closure decision individuals in MMAL began to change the proposed interactions for The Tonsley plant. The synchronization of timelines and the decision, lead to a cascading across timelines as the information spread through the network. The proposed interactions of all actors were re-configured to account for the plant closure on the 31st March.

Synchronizing time in the relationship between MMAL and the media

MMAL had been manufacturing Mitsubishi 380 cars since August 2005 and more than 1,000 employees were involved in the production. As the closure decision had leaked to media from MMC already before the official announcement in Australia, all the employees knew what was going to happen. The reason for the CEO of MMAL calling all employees together for an

announcement was pre-empted by the media. Still the CEO acted on the belief that all employees should hear the news correctly from the company, especially that MMAL would support employees in the time ahead.

The idea to note here is that the media was an actor with its own timeline, influencing the timeline of MMAL that needed to react. This illustrates the power of media as the actor deciding on timing.

Synchronizing time in the relationships between MMAL and federal government and state departments, and between MMAL and potential customers

Directly after the announcement all the ordinary activities of MMAL stopped for five days as all the staff were sent home for the remainder of the week. During this time the management of MMAL planned for the closure, only focusing on its own timeline. However, Federal Government and State departments were also invited to become involved in coordinating and sequencing the re-employment activities for the workers. When the staff came back the focus of MMAL was on how to help the employees in getting new jobs and how to build the last 1,000 cars. In this way the timelines of MMAL and its potential customers were contested and stabilized.

Here MMAL was the powerful actor as it decided over the timing of activities. However, it was dependent on the employees who needed to build the remaining cars.

Synchronising time in the relationships between MMAL and its suppliers

Each of the 137 suppliers were contacted to coordinate and sequence the activities concerning how to supply vehicle spare parts in the next 10 years, and how to deal with the stock that suppliers already had for MMAL. Suppliers worked on a 90 day rolling contract to provide parts for vehicle manufacture. The time to the plant closure was less than 90 days; so many suppliers had more parts on hand for MMAL than required. Thus, there were 137 synchronizations between MMAL and supplier timelines that had to be negotiated. In some cases the coordination and sequencing was made between several timelines.

Conclusion

The plant closure by MMAL displays the effect of time and timing on business interaction, with the decision, and the final plant closure time, acting as points of synchronization across many actor timelines. In each timeline the actors coordinated and sequenced activities in new ways than prior to the closure announcement; with now a new goal of halting physical resource interaction at the time of closure. However, for suppliers many two-way communications continued until the actors could sign-off the supply contracts, with one supplier timeline with MMAL continuing on into 2009.

The power of the larger actor is evident in the contestation of timelines, as is the strong influence of institutionalized timelines. The later have so much influence because so many people and organizations are synchronizing their activities by them. Still within the institutionalized

timelines MMC and MMAL had discretion concerning when to close the plant. Even until the vote was taken in the MMC Board Meeting, MMAL was uncertain of its future. But once the MMC decision was taken MMAL began the negotiation of timelines, and all other actor timelines in the case were changed or influenced in some way.

Also evident in the case is the way MMAL managed the interaction pace between actors. MMAL stabilized their manufacturing activity sequences and the pace of interaction with suppliers to change from the planned 30,000 cars per year, to 10,000 cars per year; and then to no cars manufactured after the 31st March. Each supplier coordinated activities to synchronize with MMAL production. The synchronization across the resource and activity interfaces between MMAL and their suppliers can be seen as the on-going creation of part of the industrial network.

Finally, an important distinction is now apparent between timing and synchronization: timing is relative from one actor to another actor across different timelines; whereas synchronization is between actors with some common, but possibly disjointed, timeline. Timing is an issue for one actor (or group of actors) relative to another actor on a different timeline. In this case timing was an issue for MMC relative to the Japanese stock exchange, and for MMAL relative to MMC, and so on across different actor timelines. Or to say it in another way, which accounts for groups of actors; timing was an issue for MMC and MMAL relative to the Japanese stock exchange, and so on. However, synchronization between actors occurs with a common timeline, as with the common timeline between actor A and B. That is synchronization occurs to some degree *within* the interaction between two actors, whereas timing occurs *outside* of the interaction and relative to a third actor who is not synchronized.

MANAGERIAL IMPLICATIONS

Time and time perspectives play an important part in how actors interact, and how events are timed so as to meet the purpose and intention of the actors. For managers being able to influence and change timing is a key skill. The theoretical perspective of six time functions (Sztompka 1994) shows that timing is open to negotiation either by re-arranging activity sequences internal to the entity, or by understanding and apply knowledge of activity sequences within the other party. Also overarching these matters is always the synchronization and timing requirements for dealing with larger entities, which necessarily constrain the ability of lesser entities to create their own time. We next deal with each of these issues.

The idea that the clock constrains economic activity is incorrect. A firm's economic activity is constrained according to the more powerful firms and economic and social institutions that set synchronization deadlines. This is clear in the MMAL case, where opportunities for closure timing were dictated by the annual reporting timeline of the Japanese Stock Exchange, an institution of the Japanese State and the Japanese economic system. The devolution of times created from that specific timing, were transmitted from the future of the network back to MMAL, via MMC.

Applying this idea of timing constraints requires observing how entities are connected in the network; that is, developing the firm's network orientation. Also required is an examination of synchronization periods working back from the future and determining the length of periods of

possible independent action for each time ordered entity. This concept extends the idea of setting goals in project planning by working backwards from a final goal, to also consider the ordered timing of synchronizations by ordering network entities in a cascading form, according to time asymmetry, back from a final required synchronization time.

Timing possibilities are also suggested for managers who understand the activity sequence of their partner firm. Regardless of the power of the other firm to determine timing, understanding the pace of activity sequencing and synchronizations with that firm's supplier base and other customers opens opportunities for a supplier or customer to adjust their timing. Being able to match resources or activities to the order and timing of sequencing and synchronizations adds value to the other firm, and so the profit of the manager's firm. Just-in-time technologies are an example of this concept carried to the ultimate level.

Again the key from a managerial perspective is developing the firm's network perspective, but from the point of view of the partner firm. Now the focus is on understanding the partner firm's position within the network structure, understanding and having a dynamic theory of how that firm's suppliers and customers interact and why they interact in the way they do. What are the synchronization points in time and space? Between these times other times can be constructed. That is activities can be planned and implemented along different time lines.

The ability to create value by application of timing inside a firm relies on flexibility of the firm's own activity sequences, and that relies on their own resource mix and connections to other firms' resources and activities. The tighter is the synchronization with other firms the less able is a firm to create its own timeline; that is be flexible in its activity sequences. Thus tighter coordination and synchronization creates a very tight firm network, which reduces the opportunity for independent interaction. In such a part of the industrial network environmental change moves more quickly between firms, and the firms have fewer options for adjustment.

However, a firm can also stockpile raw material and finished product so as to increase flexibility. Alternately, a firm can join with other parts of the network connected to other customers, so that change risk is spread across different parts of the network (Jarillo 1988). In each of these scenarios the firm creates a somewhat independent timeline, which allows development of new activity sequences that are less synchronized and to only a few of actors. In each case where synchronization is made more flexible, the network is re-created less tight, and the options for adjustment are increased. In fact, this ability to adjust is the often cited strength of a network (Jarillo 1988), as compared to a hierarchical entity.

FUTURE RESEARCH

The ideas that interaction and timing, as coordination and synchronization, create business relationships provide some interesting areas for research. Combine these ideas with connected firms forming a business network and further research opportunities are found. Working in reverse through these ideas opens up even further research. All of this research extends the markets as networks concept (Johanson & Vahlne 2011).

This research chose timing as the initial entry into understanding inter-firm coordination, and a concept that stands out is that of synchronization in time. Synchronization is a critical aspect of the concept of interfaces in the network. To conceptualize interfaces as the space point between firms, or the point between relationships within a network, as only the physical interface between resources, or between activities, or between actors seems too narrow. The network orientation concept already includes network structure (space), cognitive or theoretical understanding of connections, and a mental picture of a bounded network (Andersson and Mattsson 2010b), and so the interfaces are physical in space and cognitive[3] in nature. To this we must add the time dimension, as this is an important way of differentiating interaction (Sztompka 1994). Time also differentiates interfaces inside the interaction processes within the business network.

Network interfaces are both joining and differentiating, within the interaction processes. Interaction "literally means the shared action between or among the actors involved" (Medlin & Saren 2012, 185). As such business interaction is both across the interface and also encompasses the interfaces between actors. Here is an apparent paradox as "(a) an interaction is both in the actions of the parties and between (i.e., outside) them; (b) interaction is both joint and joining; (c) interaction involves both shared activity and shared experience; (d) interaction is both a boundary and an interface; (e) interaction contains both competitive and collaborative elements; (f) interaction occurs both as a gap and as a link." (Medlin & Saren 2012, 185) Clearly exploring this double sidedness of interaction, coordination and interfaces in networks is going to require some new theoretical insights, however we contend that time, timing and synchronization point to the location of resource and activity interfaces, both in time and space, and within the interaction process in a business network. Time provides a key way of differentiating within and between interactions.

The concept of power and influence is a somewhat neglected aspect of IMP research, possibly because in the network all power is diffused through the requirement that action is jointly managed. However, the contestation of timelines and synchronization seems to offer insight into the role of power inside the network. Asking why a specific interface is synchronized in a specific way opens up the possible interests at play within a studied interaction. Still one must deal with the issue of network boundary, and now also the time network horizon of the actors, but there would appear to be some interesting research on degrees of power and influence possible within industrial networks, if synchronization and coordination are placed in focus.

A final rider to the above research is that expounding the network and time perspectives opens new opportunities, especially given the increasing role of electronic and digital technologies that allow the collapsing of time and space. In space, movement is not so constrained as movement in time. In time the only movement is forwards, and so communication and interaction remain forward focused. Together these ideas, as the interdependencies from synchronization are increased in a globalizing world, reduce the opportunities for creating different times. However,

[3] Not cognitive in a behavioral sense, but cognitive in the way meaning is created in a constructivist epistemology (Järvensivu & Törnroos 2010).

because we are dealing with humans who continually re-construct meaning, there are space situations and time contexts where the converse applies (Foucault 1968). Firms and people will find ways to differentiate themselves in their own timelines by interfacing and synchronizing in new ways. These interactive affects[4], where change in one part of the network creates and relies on stability in another part of the network (i.e. people, firms or relationships), are a common research matter within the IMP tradition.

[4] Interactive affects are defined as the changing meanings that occur when managerial understanding shapes physical and communication interaction processes, and vice versa.

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