

Interdependent supply relationships as institutions:

The role of HR practices

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INTERDEPENDENT SUPPLY RELATIONSHIPS AS INSTITUTIONS: THE ROLE OF HR PRACTICES

ABSTRACT

Purpose: to use institutional theory to explore the role of human resource (HR) practices as carriers in the evolution of interdependent supply relationships.

Design/Methodology: this is a qualitative study of an inter-firm supply relationship where the two partners were interdependent as a result of a ‘closed loop’ supply relationship. We explored the perspectives of employees at multiple levels within both partners, and collected pluralist evidence from 36 interviewees from both sides of the dyad. We also collected documentary evidence such as minutes, contractual agreements and HR documents. This paper re-analyses the evidence from our earlier work (Koulikoff-Souvion and Harrison, 2007) using an institutional theory framework.

Findings: Using Scott’s (2001) ‘three pillars’, we have shown that HR practices can act as carriers of regulative, normative and cultural-cognitive elements in interdependent supply relationships through both formal and informal mechanisms. Regulative elements were less evident, but could be fundamental in shaping the other two. We found a tension between institutional pressures at the inter- and intra-firm levels, an emergence of innovative practices and new routines at inter-organizational level, and an evolution over time that could involve a de-institutionalisation of the relationship as a result of internal priorities competing with the resource requirements of the supply relationship.

Originality/Value: we address the interface between OM and organisational theory. We propose areas where institutionalisation of a supply relationship can be strengthened or weakened. Our findings further challenge the view of supply relationships as a ‘spectrum’ in which progress is unidirectional over time.

Paper Type: Empirical research paper

Keywords: Buyer-supplier relationships, reciprocal interdependence, institutional theory, HR practices, case study

INTRODUCTION

Supply relationships today are often under pressure as a result of calls for defect reduction, for coping with variable demand, for innovation (and thus short product life cycles), for more knowledge-intensive products, and for continuous price reduction. One way to address these growing environmental pressures is to intensify efforts for inter-organisational collaboration. For example, supply base restructuring leads to fewer direct suppliers - with whom a focal firm can develop broader, closer relationships. A new, widely-shared logic has emerged - that there is benefit to be gained by changing the nature of supply relationships by engaging in such developments as partnerships, alliances and contracting out. Many firms now take it for granted that this is an approved ‘modern’ managerial practice. This is evidenced by an emerging OM literature that discusses supply relationships in terms of integration – for example, Frohlich and Westbrook (2001), and Cousins and Menguc (2006).

These trends encourage firms to develop more interdependent supply relationships characterised by increased use of obligational contracting (Cousins and Crone, 2003). A ‘spectrum’ from arm’s length to obligational (Sako, 1992, Speckman, 1998, Humphries *et al* 2007) is often proposed, suggesting that development is unidirectional, homogeneous (each

stage has distinct characteristics that are not shared by others) and progressive (each stage is an advance on its predecessor - and leads to a fully collaborative, ideal destination).

However, recent research suggests that none of these characteristics of the 'spectrum' need apply. While the 'spectrum' may be a useful idea, Cousins and Crome (2003) ask 'what happens when you reach the end of the line?' Even in a reciprocally interdependent supply relationship, we found evidence of 'separatism' - a tendency to give higher priority to internal needs than to supply partner needs (Koulikoff-Souvion and Harrison, 2006, 2007). Other authors have emphasised the need to address the dynamic nature of supply relationships by understanding how they unfold over time (Stuart and McCutcheon, 1996).

In order to probe the often complex and messy nature of supply relationships, it is increasingly necessary to use concepts that were derived from outside OM. Amundson (1998: 341) argues that there is a dearth of theories relative to other fields: by learning from other disciplines, OM can 'exercise prudence without painfully reinventing the wheel'. For example, Ireland and Webb (2007) have drawn on social capital theory, resource dependency theory and transaction cost theory (TCT) to study trust and power in supply chains, whilst Zhao *et al* (2007) studied the same two constructs through TCT and social exchange theory. A common perspective is that borrowing theories from other fields contributes to enriching and broadening OM as a discipline. We sought a theory that would help explain the temporal connections which we had observed during the evolution of supply relationships, and which did not propose some idealised, distinct destination.

A theory that is showing promise in both respects is *institutional theory* (Scott, 1995, 2001). Using this approach to probe a supplier development programme, Rogers *et al* (2006: 569-570) conclude that 'arguments from institutional theory can contribute to a better understanding of the social context of OM and supply chain management strategies'. At the same time, it is possible to contribute to institutional theory - which has focused mostly on 'the firm level of analysis' - in return. Sila (2007) used institutional and contingency theory to probe TQM implementation, and concluded that organisational theory - while rarely used - was valuable in differentiating between universal prescription and context-dependency. Several researchers had earlier chosen to use institutional theory in order to throw light on OM issues in supply relationships (Hunter, 1996; Scarbrough, 2000), and in inter-organisational relations (Marchington and Vincent, 2004). We describe the elements of institutional theory in the next section.

Our earlier paper (Koulikoff-Souvion and Harrison, 2007) connected HR and OM issues in interdependent supply relationships by focusing on the issues of adaptation and the influence of internal HR practices on the relationship. We had thus recognised that there were temporal connections, but had not attempted to analyse them systematically. This paper re-analyses the case in our earlier paper by exploring the role of HR practices within an interdependent supply relationship using Scott's view of institutions as composed of 'cultural-cognitive, normative, and regulative elements that - together with associated activities and resources - provide stability and meaning to social life' (2001: 48). Our study views supply relationships as institutions that comprise a 'community of organisations that partakes of a common meaning system' (2001: 84). Hence, in contrast with other authors who have focused on diffusion of practices (Hunter, 1996; DiMaggio and Powell, 1983), or the influence of the environment on internal practices (Marchington, 2004; Rogers *et al*, 2006), this study investigates the role of HR practices in the construction and maintenance - and possible decay - of a reciprocally interdependent supply relationship. Our paper has two objectives:

- 1) to investigate in what ways HR practices contribute to the institutionalisation of the supply relationship by acting as carriers for regulative, normative and cognitive processes and

- 2) to use institutional theory as a lens for understanding the evolution of a supply relationship over time.

We have organised our paper into five further sections. First, we develop Scott's (1995, 2001) institutional view as a framework for studying HR practices in interdependent supply relationships; second we explain how institutional theory can contribute to OM; third we present our research methodology; fourth we present our findings on the role of HR practices; finally we present our discussion of the findings and our conclusions.

Institutional theory and supply relationships

As is apparent from our summary above, institutional theory has been sparsely used in OM, yet common themes can be found. Berger & Luckman (1966, p. 82) conceive institutions as *de facto* integrated, relying on primary social control and manifesting themselves in collectivities containing considerable numbers of people (*ibid*, p. 73). Such characteristics echo the OM concerns with the integration of long term, strategic supply relationships (Frohlich and Westbrook, 2001) across multiple channels of interaction (Marchington & Vincent, 2004).

Scott (2001) describes institutions in terms of 'three pillars' - regulative, normative and cultural-cognitive. Characteristics of the three pillars are summarised in table 1 (*ibid*, p. 52):

Table 1: Scott's Three Pillars of Institutions

	<i>Regulative</i>	<i>Normative</i>	<i>Cultural-Cognitive</i>
Basis of Compliance	Expedience	Social obligation	Taken-for-grantedness Shared understanding
Basis of order	Regulative rules	Binding expectations	Constitutive schema
Mechanisms	Coercive	Normative	Mimetic
Logic	Instrumentality	Appropriateness	Orthodoxy
Indicators	Rules Laws Sanctions	Certification Accreditation	Common beliefs Shared logics of action
Basis of legitimacy	Legally sanctioned	Morally governed	Comprehensible Recognisable Culturally supported

While the regulative pillar refers explicitly to the use of monitoring and sanctioning as ways of influencing future behaviour, the normative element imposes constraints on social behaviour through norms and values. This element is closely associated with processes of socialisation, which – in an inter-organisational context - Cousins *et al* (2006) regard as 'creating relational value in supply chains'. The cultural-cognitive pillar refers to the construction and ongoing transformation of common frames of meaning through a repeated process of interaction. Scott argues that the three pillars may be viewed as contributing to the institutionalisation process in interdependent and mutually reinforcing ways. While much can be learned from the pillars separately, in practice they reinforce each other and become interdependent.

Scarborough (2000, p. 6-7) proposes that Scott's institutional view be adopted to characterize and study relationships in the supply chain:

Patterns of interaction, expectations and roles are established which are not explicable in terms of the choices made by individual firms. As a result, supply chain effects look ... like an institutional innovation, producing stability and meaning through novel structures and activities... This view links the development of the supply chain to the creation of new cognitive, normative and regulative structures at an inter-organisational level.

Interdependent supply relationships follow the pattern of institutions in that they are ‘multi-faceted, durable social structures, made up of symbolic elements, social activities and material resources’ (Scott, 2001, p. 49). A characteristic of such relationships is their relative stability (long term relationships), although they are subject to change processes. Our study followed Scott’s view of ‘institutionalisation as a process, as the growth (or decline) over time of cultural-cognitive, normative, or regulative elements capable, to varying degrees, of providing meaning and stability to social behaviour’ (2001, p. 92). The possible erosion or rejection of institutionalisation processes over time is highlighted by Oliver (1992): these processes are by no means unidirectional in nature. Decline can occur because of failure to accept ‘what was once a shared understanding of legitimate organisational conduct or by a discontinuity in the willingness or ability of organisations to take for granted and continually re-create an institutionalised organisational activity’. We were keen to explore this aspect of institutional theory, because it reflects our earlier findings that supply relationships are also neither homogenous nor progressive.

Scott argues that institutions are embedded in various repositories or *carriers*. There is a choice of carriers that may contribute to the institutionalisation of supply relationships. We investigate the effects of HR practices as carriers from both partner organisations at an inter-organisational level. We seek to describe to what extent HR practices contribute to a view of the supply relationship as an ‘entity, as a cultural or social system characterised by one or more features or properties’ (Scott, 2001, p. 92). Thus we explore in what ways HR practices may act as carriers for regulative, normative and cultural-cognitive pillars. Our first research question is *how do HR practices contribute to the institutionalisation of a supply relationship?*

Institutional theory contribution to OM

A central tenet of OM theory on inter-firm relationships - whether it is based on TCT (Grover and Malhotra, 2003; Williamson 1985, 1996) or on arm’s length v obligational contracting (Sako, 1992; Lamming, 1995) - is that firms need to ‘choose the most appropriate methods for managing supply relationships’ (Cousins and Crone, 2003, p. 1448). This view depicts inter-organisational relationships on a continuum from arm’s length to collaborative contracting. But the continuum tends to be reduced to a view of relationships as polar opposites that are entirely cooperative or entirely competitive (Klein et al., 2007).

The polarised view fails to depict the reality of the buyer-supplier integration process - as stated by Cousins and Menguc (2006, p. 617):

Our findings show a gap in the logic of the literature, which is that the assumption is that integration is either 1 or 0, i.e. you either have it or you do not. It would appear from our findings that it has much more of a staged effect.

Other authors have contributed to a richer picture of integration as composed of a mix of power and trust (Ireland and Webb, 2007; Zhao *et al.*, 2007).

Scott’s institutional framework does not attempt to categorise relationships in terms of a spectrum - but provides a framework that can be used to analyse relationships in terms of the

‘three pillars’. We argue that the institutional view offers the potential for developing this richer picture of integration by encouraging the study of the mix of elements that comprise *both* arm’s length and collaborative poles.

Several authors have recognised that a mix of elements is at work, and we can propose how their ideas fit with institutional theory. Table 2 shows a correspondence between the institutional theory framework and concepts important in OM.

Table 2 Correspondence between institutional theory and OM Concepts

Institutional theory concepts	Operations management concepts
Regulative	<ul style="list-style-type: none"> - Power as integration mechanism; coercive power and punishment; justice and authority (Ireland and Webb, 2007; Zhao <i>et al</i>, 2007); coordination by standardisation (Crook and Combs, 2007) - Contracts and enforcement (Sako, 1992) - Authoritative management style, power culture help implementation phase of performance measurement (Bititci <i>et al</i>, 2006) - Calculative view of trust (Cousins and Crone, 2003) - Knowledge flow is highly explicit, fast (Nissen, 2007)
Normative	<ul style="list-style-type: none"> - Information sharing and integration (Holweg and Pil, 2007) - Trust and commitment as integration mechanisms (Sako, 1992; Ireland and Webb, 2007; Zhao <i>et al</i>, 2007) - Shared values (Spekman, 1998) and identity (Ireland and Webb, 2006) - Coordination by planning and scheduling (Crook and Combs, 2007) - Socialisation (Cousins and Menjuc, 2006) - Value or norm based view of trust (Cousins and Crone, 2003) - Relational practices to cope with reduced supply base (González-Benito, 2002)
Cultural-cognitive	<ul style="list-style-type: none"> - Problem solving and knowledge exchange (Cousins and Menjuc, 2006) - Knowledge flow is highly tacit, very slow (Nissen, 2007) - Coordination by mutual adjustment, relational gains shared (Crook and Combs, 2007) - Culture of competitiveness (Hult <i>et al</i>, 2007) - ‘Habitual (ongoing) phase’ of performance measurement benefits from <i>laissez faire</i>, participative management (Bititci, 2006) - Cognitive-based view of trust (Cousins and Crone, 2003)

We argue that institutional theory provides a useful framework to encompass the multifaceted perspectives of different OM concepts - the three pillars are considered to be mutually reinforcing (Scott, 2001). Here are some examples:

- Cousins and Crone (2003) discuss trust in terms of calculative (regulative), normative and cognitive views - which fits nicely with the mutually reinforcing ‘pillars’ of the institutional framework.
- Crook and Combs (2007) relate use of bargaining power by stronger members in supply relationships to Thompson’s (1967) task interdependencies - highest in pooled, lowest in reciprocal.

- Ireland and Webb (2006) provide a rich picture of the inter-relationships and mutual reinforcement between justice and authority (regulative pillar) and identity and boundary spanning (normative and cultural-cognitive pillars).
- Zhao *et al* (2007) distinguish the coercive and reward power types from the relational type, which draws on expert or legitimate power.

There have been calls in the OM literature for a more dynamic perspective on supply relationships. Supply chain integration is very different at an early or a later stage (Ring and Van de Ven, 1994; Stuart and McCutcheon, 1996). This means that a life cycle approach may be useful to depict the evolution processes that take place over time (Spekman *et al*, 1998). The institutional view (Scott, 1995, 2001) explains the creation, maintenance and possible decay of institutions. Over time, it describes the emergence and transformation of specific governance mechanisms (regulative), coupled with a rise of moral imperatives (normative) and of a shared understanding (cultural-cognitive). Although the concept of institutions implies stability, this does not preclude that ‘things – structures, rules, routines – (may) fall apart’ (Scott, 2001: 110). This can involve *de-institutionalisation* - the processes by which institutions weaken and disappear (*ibid*, p. 182). Stuart and McCutcheon (1996) argue for a dynamic rather than static view of supply relationships. So our second research question is *how does institutional theory explain the evolution of a supply relationship over time?*

METHODS

Case studies can be used for different types of research purposes, including theory building, which identify and describe key variables and their linkages, and theory testing. Voss *et al* (2002: 201) argue that research questions may evolve over time with a change of focus from theory building to theory testing. Our study reflects such an evolution. It draws on the Wheatco-Chemco case study, whose initial focus described in Koulikoff-Souvion and Harrison (2007) was exploration and inductive theory building. This paper analyses the same qualitative dataset, using a deductive approach in order to test the relevance and explanatory power of institutional theory constructs (see table 1) in supply relationships. Amundson (1998) argues that the use of a different theoretical lens can ‘cause identical situations to be viewed differently, suggesting different course of actions for observers’ (p. 347) and provide a different interpretation of the same situation. This form of theoretical triangulation (Jick, 1979; Yin, 2003) helps avoid potential blind spots linked to the theoretical lens.

As described in our earlier paper, the case involved a closed-loop supply relationship between two industrial partners, who were both customer of and supplier to each other. Our unit of analysis was the relationship (the inter-firm level), rather than the single organisation. We selected the dyad because of the highly interdependent nature of the supply relationship, details of which are provided in the next section. A feature of the research design was 48 semi-structured interviews (from 36 informants) with a wide cross-section of employees and managers from both sides of the dyad. The aim was to collect data, which was ‘pluralist’ in nature, hence providing competing versions of reality (Pettigrew, 1990). The researcher should ‘be seeking multiple viewpoints, particularly where there is likely to be subjectivity and bias’ (Voss *et al*, 2002). We sought to collect data on the perspectives of informants at different but complementary levels in both institutions. These levels included operators, process engineers, local and corporate management.

The length and protocol for conducting interviews evolved over the course of our research. To begin with, interviews tended to be relatively informal and lasted from 1 to 3 hours. These

introductory interviews were aimed at providing an in-depth understanding of the research context. At a later stage, interviews were more focused and structured, and were aimed at providing specific additional evidence, or to verify earlier research findings (Pitman and Maxwell, 1992). Dealing with time in the course of this research required taking into account the historical perspective (see next section) and accounting for the change process that took place over the period of the research. This involved interviewing the same people throughout the research or at the beginning and at the end of the research to be able to capture how their view of the relationship evolved over time.

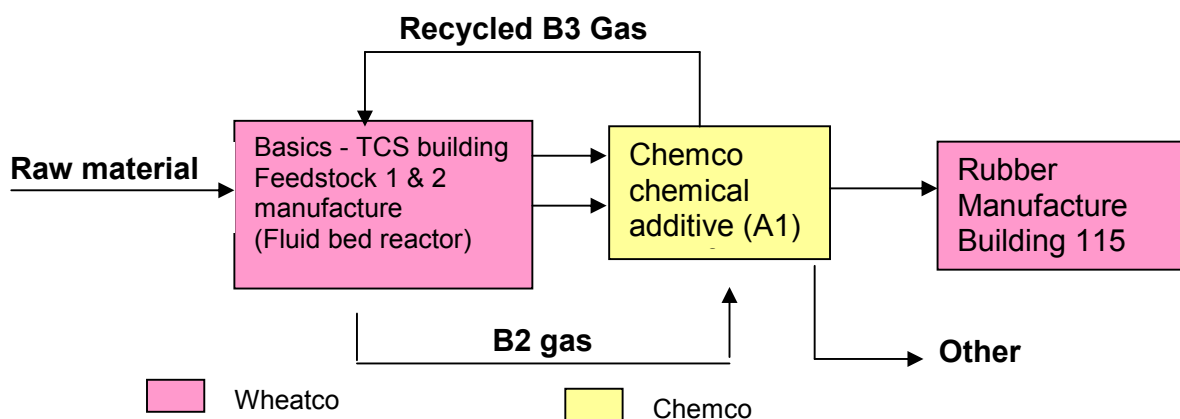
The study drew on other sources of evidence, such as documentation and observation. Some documents - such as joint meeting minutes, contract agreements, job descriptions and HR procedures - were directly relevant. Others, such as company brochures and organisation charts, pertained to the context at company or site level. As a complement to real-time data collection, historical data was also collected, using triangulation of methods and sources in order to carefully cross-check the chronology of the process.

THE WHEATCO - CHEMCO RELATIONSHIP

Wheatco and Chemco are two US chemical corporations, both leaders in their fields and with similar sales (around \$2bn). Eight years prior to our study, the two companies formed a partnership with the strategic objective of gaining competitive advantage through mutual access to low-cost raw materials. One outcome was the establishment in the UK of a small Chemco facility (70 employees) which was sandwiched between two units within a large Wheatco plant (700 employees). The two Wheatco units were feedstock manufacture ('TCS') and rubber manufacture.

The two firms thereby formed a 'closed loop' supply chain (see Figure 1), whereby they were both customer of and supplier to each other. The production processes operated on a round-the-clock basis and there was very little buffer stock within the supply loop: *'if we have a problem, then Chemco has a problem 10 seconds later'*. This close interdependency of the processes meant that the operating teams were in contact on a 24-hour basis. There was a direct telephone link between Wheatco and Chemco operators to allow easy communication and instant warning of changes in either of the processes, or to inform of production stoppages.

Figure 1 Wheatco Chemco process



The supply relationship was multifaceted, with interactions taking place at many levels. Locally it included plant management, engineers and operators. In the USA, an executive contact was appointed by each firm to manage the relationship at a strategic level. This applied in particular to the global contract agreement, which provided the commercial terms for the relationship. A joint Steering Committee determined the local operational strategy for the relationship and provided guidelines to two other joint teams: quality improvement (QIT) and Technical. We record further details in our earlier paper.

Historical perspective on the relationship

A historical perspective was gained from interviews with former or current members of the supply relationship (at operator, engineer and management level) as well as from the study of historical documents, such as meeting minutes. These were used to establish the chronology of the process, to identify key individuals as well as transitions points (Pettigrew, 1997: 345).

This historical view is called for by the literature arguing for a dynamic view of supply relationships (Spekman *et al* 1998) and by tenets of processual analysis. History is viewed as ‘crucial’ (Pettigrew, 1997, p. 341) because it explains the current situation of the relationship:

antecedent conditions shape the present and the emerging future... the past is alive in the present

Four main stages could be identified in the evolution of the relationship between its start up in 1992, when the joint production process became operational, until we began our on-site research in mid August 2000. Each of these stages will be briefly reviewed.

Stage 1: Early days (1992-1994)

I remember in the early days when we first started it was hard work, because we were training and they were training and we were both under pressure to get the jobs done and get the plant running right and it was a few fuses as you can imagine between the operators but again that was on the learning curve. (Chemco operator)

Chemco was a greenfield site and it was necessary to set up the whole infrastructure, including the HR system. Wheatco’s feedstock manufacturing facility (‘TCS’) could draw quality, safety, environment and HR infrastructure from the larger Wheatco site - and had to master a new fluid bed reactor technology. Both Chemco and Wheatco operators had to learn to deal with the interdependence of their production processes. A technical team with members from TCS and Chemco had been meeting from the start. A few social events, such as pigeon clay shooting and skittles, were organised. Overall, the situation was rather tense:

Whenever there were problems, there was conflict.

Stage 2: Progress (1995-1996)

By 1995, the learning curve at local level had taken place, and the Chemco plant capacity had been expanded. Although processes were still unreliable (especially TCS), the relationship itself had improved. A common language had been developed at operator level, through interaction: *we may spend a day there, they spend a day here*. This period was characterised by a higher interaction and more collaboration at local management level. QIT meetings included local members from Wheatco’s TCS and Rubber facilities, and the Chemco plant.

Stage 3: Stabilisation (1997-1998)

Both companies were very busy internally, with implementation of technical and quality programmes, which took up many resources. The process side of the relationship seemed to show ‘improvement in combined on-line-time’. Within one year, rather unobtrusively, four out of the five TCS operators, who had been there since the start up of the plants, were promoted to shift manager positions in a new Wheatco expansion. It seemed, during that period, that there was less interaction at management level, and the Technical and QIT teams were less active. At the end of 1998, the interaction started to deteriorate:

We had a frosty relationship; it was a set of hidden agendas (Wheatco management).

Stage 4: Worsening (1999-2000)

In January 1999, Chemco replaced four out of the five shift managers. Therefore, at control room level, there were a lot of new faces in both Wheatco and Chemco. The level of interaction was reduced dramatically, as no formal socialisation was organised. Operators started to feel that they could not ‘put a face to a name’.

The situation at technical level was marred by unreliability of Wheatco’s TCS fluid bed reactor, as well as by quality problems with Chemco’s chemical additive. A new facility manager was appointed at Chemco in June 2000. He was faced with the challenge of meeting a new business opportunity for Chemco - provided the site could show that it was capable of meeting both the process and quality requirements of the new business.

At the start of our work on site in August 2000, the supply relationship was relatively long established, but not in a robust state. To compound the recurrent technical and quality issues, years of lack of socialisation at operator level expressed itself in terms of low levels of trust and a tendency towards adversarial relationships. The recurring issues between TCS and Chemco put a strain on the overall relationship - diagnosed as a ‘*blame culture*’ (Chemco engineer). Our research project was proposed and agreed by both firms in June 2000: both firms agreed to have an external view of the role of HR practices within the relationship.

HR PRACTICES AS CARRIERS

We collected evidence of institutionalisation of the supply relationship by analysing the evidence collected from seven HR practices: staffing, job design, appraisal, rewards, training, socialisation and communication. Each of these practices is summarised in our earlier paper (Koulikoff-Souviron and Harrison, 2007, p. 13).

Staffing

An informal assessment was performed across the two firms, to gauge the quality of the people who worked within the relationship. Indeed a direct link was established between the level of competence of the people and performance:

I see more of an urgency from Chemco to make results and put good people in place of poor people (Wheatco manager).

It was taken for granted that the quality of the people assigned to the relationship was reflecting the level of priority allocated to it:

They obviously see their other business as more important than Wheatco because the two people that they’ve put on that other team are people who have really delivered results and made improvements for us in the past (Wheatco engineer)

At management level, the 'calibre' was gauged:

I think that the calibre of individuals that we have needs to be as good as the calibre of individuals that Wheatco has (Chemco manager).

One implication was that the individual did not feel legitimate in his job, when there was a difference in qualification with the corresponding position in the other firm. This was acknowledged by the Chemco Quality person, who compared his own background:

I came from the maintenance department into the quality role

to the background of his Wheatco counterparts:

the people that I deal with and I've spoken to are highly qualified, they're chemists or they've got a doctorate and all that kind of stuff.

Thus chemical engineering was viewed as the legitimate background at management level. At operator level, 'experience' was viewed as the determinant of relationship performance. This referred to prolonged exposure to the other firm that allowed building up of an 'understanding', not only of the technical process, but also of the relationship functioning.

A normative view emerged of the specific behaviours and skill-sets required to work on the relationship, beyond the technical realm. Different requirements emerged at different levels in the relationship:

You have to know when to say no and when to compromise (Wheatco corporate). It demands a calibre of individual that are more mature. I think broader skills, technical skills of running our plant as well as the interpersonal skills, when they speak on the telephone to people at Wheatco (Chemco manager).

You want to make sure you don't have too many live wires, who get upset easily (Chemco engineer)

Stability was a desired way of building good relationships with the partner: this is why people turnover was disruptive:

You lose your association between a name and a face (Chemco operator)

As people move into different jobs, and areas, you've got different people and you've got to build it all up again, really, from scratch (Wheatco manager).

Indeed, people turnover was a barrier to the construction of a common frame of meaning in that it disrupted the established interpersonal links, as well as the shared language developed over time, which made communication over process coordination more difficult:

I suppose we have abbreviations for certain things which we've developed over eight years of running the plant of which we did originally with the original Wheatco plant operators. Now we've got these new people coming in, we might try and explain things, which they don't understand. (Chemco operator)

Overall, staffing was viewed as an HR practice, which was driven by internal priorities.

Job design

Different norms applied to work organisation across both plants. Thus the same job title could cover different roles in both companies. For example, Wheatco being a unionized site, the job design there was more structured and less flexible than at Chemco's:

If the plant was running today and broke down tomorrow we would be able to call people from all over the place, get them in there and sort of do the review and get on with the job. Whereas they would seem to have to follow a much more rigorous process (Chemco manager).

Differences in 'ways of working' were a source of frustration as they pointed to different frames of reference. Thus, the shift manager had a different job content at Wheatco where the supervision was less close than at Chemco, primarily due to the size of the operation:

Their shift manager will say he'll get back to me on a problem and all he will do is go to his operator, get some advice and then ring me back (Chemco engineer).

We have a bigger area to look after, more plants if you like. We spend less time looking after our TCS plant than they spend looking after Chemco's because it's one plant. (Wheatco Engineer)

Therefore, specific communication needed to take place to avoid misinterpretation by the other firm. Thus normative statements referred to the necessity to inform, train people about the other firm's job design:

If you don't understand, you assume that the other company does things the same way as you do and it may not be the case (Wheatco management).

New roles emerged at the level of the relationship that required a broader perspective than would have been needed in an internal context. This was quite unique and challenging:

I was quite surprised that an operator or lead operator down here would be dealing one on one with the outside company. I was slightly fazed by it at the start, a little intimidated, only at the start. Once you're on the phone to people a couple of times it's fine (Wheatco operator).

It's the first time I've dealt with an external company in such depth. It's something new which is a challenge. (Wheatco engineer)

I need to be focused on, conscious of and be aware of, much more than just this facility (Chemco manager).

Appraisal

Distinct value systems appeared in the informal assessments of the quality of the individual assigned to work on the relationship. There were no formal mechanisms for giving feedback; this took place through informal discussions.

We don't have a formal mechanism for giving feedback; we don't do it in a structured way. I will ask how is X doing or how is Y doing. What do you think of those? I get feedback on our people from some of the Chemco people (Wheatco manager)

In one specific instance, the assessment from the partner was used as influencing factor in the outcome of the appraisal. A negative feedback expressed by Wheatco managers contributed to the decision to move a Chemco Quality manager out of the relationship. This meant to some extent, that the sanction was carried over to the inter-organisational level.

I asked them if I could be blunt (about my opinion of the Quality Manager) and they said OK. So that's what I did. And they made changes and that's good (Wheatco manager).

He has expressed concerns about the capability of some of the people in our quality organisations. He's right, but it's nice to feel that he can say that and for us not to be defensive about that. The change we made on quality was happening anyway. All his comment did was reinforcing that this was the right thing to do. (Chemco manager).

Most of the comments were normative assessments or expectations that did not involve disciplinary measures and did not have a major influence on the outcome of the appraisal:

There's been the odd complaint in the early days about people's attitudes and behaviours but that wasn't taken as far as disciplinary, that was maybe even an off the cuff comment that someone wasn't as friendly or helpful as he could be (Chemco manager)

Rewards

Bonus schemes were a source of conflict in that one of the partners (Chemco) aligned its rewards on the relationship results - output from the joint production process - while the other (Wheatco) had performance indicators (productivity, production rates, reliability) at overall site rather than specific unit level. In the past, it was possible for Chemco operations to discount the downtime caused by Wheatco process breakdowns for the bonus calculation. However, upon the arrival of the Chemco new facility manager, he decided that this discounting would no longer be done. Indeed, Chemco operators needed to feel accountable for downtime caused by their Wheatco counterparts, inasmuch as they could influence such downtime through better cooperation:

When you have an issue with Wheatco and you speak to the operator on the phone you don't regard them as the opposition where you just want to find out and be critical of what they've done, you want to offer help, you want to offer support (Chemco manager)

This was interpreted as an attempt to leverage the internal Chemco HR practice to indirectly coerce the partner's operators.

They have Chemco operators with this carrot, which is this bonus, the reliable operation, very frustrated because a lot of the problems lie in our plant and they can't do anything about it and that leaves them to put an awful lot of pressure on our operators (Wheatco manager).

Attempts by Chemco management to influence the Wheatco reward system remained unsuccessful. Thus rewards remained an internal work organisation issue, and failed to serve as joint control mechanism at supply relationship level. The main reason was the prevalence of Wheatco's site-wide logic for HR practices, underpinned by union negotiations, over the local relationship with Chemco.

At the same time, rewards contributed to a blame culture and the question of their appropriateness was raised between the two firms.

Training and socialisation

The contractual agreement that governed the relationship prescribed the formation of three joint teams to monitor the relationship: a 'joint steering committee' to resolve operational issues that may arise and to set plans and strategies, a Quality Improvement Team and a technical team. Through these teams, interaction – at least at management and engineering level – was a formal part of the regulation of the relationship.

At shop floor level, the need for shared understanding and common frames of meaning was specifically referred to in the context of recurrent technical problems that affected the two organisations. Indeed, the joint transformation process (fluidized bed reactor) was characterised by a complex technology which was hard to control and by incomprehensible failures. This had implications in terms of operator approach to their work: they were eager to gain a better understanding of the other site's production processes, as a way to unveil the vagaries of their own process operations (*'learning how the two plants affect each other'*). This involved a call for extended work socialisation involving face to face interaction to allow transfer of knowledge that drew on tacit rather than codified modes of learning. Thus routine coordination could take place:

with the old operators, we didn't need to communicate where if something did go wrong they would automatically take care of it (Chemco operator)

Such cooperation could only result from intensive face-to-face work interaction:

I think the more interaction you can get at that level the better, because the people here know immediately what the impact would be at Wheatco of one of their actions and likewise (Chemco operator)

To get a better idea of the process they do so that when we phone them we know the questions to ask, we may be able to say, oh see that pipeline that goes onto the hopper, maybe it's that (Wheatco operator)

In view of the technical uncertainties that surrounded process performance, there was no consensus within the management as to the benefit that could be drawn from joint work at operative level. Following a worsening of the relationship however, weekly operator meetings were organised. These became an opportunity for developing a common understanding of the process issues through deep probing and exchange of tacit, individual knowledge. This involved a questioning of the existing practices and an emergence of new practices:

The Chemco operator asked a lot of questions and said why do you do this, why do you do that, and our guy explained it and had a bit of dialogue about it. But also our operators asked the Chemco operator, this gives us problems why do you do this, and why do you do that and they got some explanations and people have actually gone away and started thinking about these things and questioning whether they have to be done that way or whether they can be changed. (Wheatco manager)

If you understand why you're doing it that way, if something then goes wrong you can immediately make a decision rather than it being like a random choice (Chemco engineer).

Thus the operators attempted to understand and diagnose the problems and propose various *ad hoc* solutions. That resulted in mutual awareness of the joint process functioning. Understanding the problems faced by the counterpart also contributed to developing an emotional bond:

He walked away thinking I cannot believe you have that many problems. So he could sympathise. That was good (Wheatco operator).

Visits from one manufacturing plant to another were not set up as part of a formal training plan. However informants argued that a formal programme would ensure persistence of socialisation practices across both firms.

You've probably got to make your external interactions a bit more structured to ensure that communication and interaction takes place otherwise there's a risk that it won't happen as much as it needs to (Wheatco engineer).

Common language could be a by-product of shared training ('everyone talked the same sort of SPC language') or a result of common engineering culture:

So when they talk to you about the technicalities of their process and when you talk to them about the technicalities of our process when they see that we're reaching an understanding with one another, that builds a relationship (Chemco manager).

To some extent, learning about the unique features of this intricate reciprocal relationship required a counterintuitive approach as it meant drawing on a different value system from the straightforward concern for "own company". Hence, the induction process for new hires involved a sense-making that required acquisition of tacit rather than explicit knowledge:

I had to allow him to get educated. And there is only so much I can tell him. There are things that he needs to learn on his own, which I'm very glad he is learning on his own now, how this across the fence relationship is so special, so different that you can't think that Wheatco is just a customer and a supplier (Chemco corporate).

I had to find out by practicing, by finding out how the relationship worked (Chemco manager)

Communication

Local management from Wheatco and Chemco felt they were closer to the actual issues and therefore better able to make the right decisions than 'people sitting in America'. Their reaction was to legitimate collusion at local level, as a way to ensure that local priorities were met:

We have this Wheatco corporate link and then we have this local link and I think basically what I'm going to do in the future is make decisions and then ask them afterwards because it's quicker (Chemco manager)

What we tend to do is that we will talk to Chemco locally and decide to do something and once we've done it, we tell the corporate people we've done it and that way they can't stop us (Wheatco manager).

Internal communication was seen as having an effect on the relationship, in that it supported the multifaceted interaction. Such communication took place locally at the level of the Steering Committee, where the Chemco and Wheatco managers in charge of the three manufacturing units sat. At the beginning of 2001, towards the end of the research project, a 'Steering committee charter' was written to provide a prescriptive guidance about the local relationship's purpose and mode of interaction:

To set the direction and tone for the Wheatco Chemco UK strategic partnership, continuous improvement plans, and working interfaces (Steering team charter).

Another purpose of this charter was to elicit better communications with corporate hierarchy:

To ensure that local issues, agreements and commitments are shared, discussed and reviewed with corporate functions.

DISCUSSION

We have organised this section to address the two research questions raised earlier.

1) How do HR practices contribute to the institutionalisation of a supply relationship?

We found evidence that HR practices contribute to the institutionalisation process of the supply relationship through both formal and informal mechanisms. As shown in Table 3, we found it possible to classify our selected HR practices as a mix of regulative, normative and cultural-cognitive dimensions.

Table 3: Evidence of HR practices as carriers of regulative, normative and cultural-cognitive ‘pillars’ within the supply relationship

HR Practice	Regulative	Normative	Cultural-Cognitive
Staffing	No evidence of interfirm regulative elements	Calibre of the people assigned to the relationship Stability as a desired way of building good relationships. High people turnover as disruptive.	Common chemical Engineering culture/language With people turnover, loss of joint shared meaning; disrupts shared language developed over time.
Job design	No evidence of interfirm regulative elements	Normative expectation about the need to understand roles in partner’s organisation	Cultural differences in interpretation of job content
Appraisal	Sanction (loosely) associated with partner’s feedback	Informal evaluation as normative dimension in the relationship	No evidence of interfirm cultural-cognitive elements
Rewards	Use of rewards to indirectly coerce partner. Bonus schemes as monitoring activity create conflict.	Emphasis on negative effects of bonus schemes on relationship	Blame culture as an effect of bonus schemes
Training Socialisation	Joint coordinating committee & teams specified in the contract	Need for a formal programme of interaction as enabler for relationship	- Tacit processes of induction in the relationship. - Deep probing and processes of shared tacit knowledge.
Communication	Formal steering committee charter as regulative mechanism	Formal steering committee charter as prescriptive mechanism	Collusion at local management level against corporate managers as a result of a shared understanding of local situation

Our observations regarding the regulative dimension showed the disruptive effects of bonus schemes, because they displayed a logic that encouraged conflict. Sanctioning of a Chemco

manager as a result of feedback from Wheatco was an informal, indirect process. The Chemco site manager's instrumentalisation of the internal reward system to control the behaviour of the partner's operators was also an attempt to indirectly regulate at relationship level.

The limited evidence of regulative influences and the prevalence of normative and cognitive influences were striking. If the three 'pillars' do indeed form a continuum, then perhaps regulatory influences form a foundation from which the other two evolve into more interdependent supply relationships. For example, bonus schemes did not address inter-firm regulation from the start - so both normative and cultural-cognitive dimensions evolved into negative aspects of the supply relationship.

Normative processes associated with HR practices introduce prescriptive, evaluative and obligatory dimensions (Scott, 2001, p. 54) in the supply relationship. Within Chemco, there was reference to the necessary induction of new managers who had to internalise the specificities of the relationship, drawing on tacit rather than explicit learning modes. The need for more understanding of each other's processes through extended visits that had been expressed by operators from the Wheatco and Chemco control rooms seemed to draw on a similar need to better appreciate the overall functioning of the relationship. In a similar vein, the informal evaluation and feedback process across the two firms signalled an implicit reference to common standards. This highlighted the central role of the normative process for the functioning of the supply relationship, and is reminiscent of Lamming's (1993) 'quasi-firm' framework, which shows that employees would develop a concern for the relationship in its own right.

The normative facet was tightly related to the cultural-cognitive element, in that extended socialisation allowed the move from a relational effect to a cognitive one through shared understanding and generation of tacit knowledge (Nahapiet and Ghoshal, 1997). Equally, negative effects on inter-organisational relationships were evident in this dimension - such as cultural differences, people turnover and collusion.

2) How does institutional theory explain the evolution of a supply relationship over time?

Scott (2001, p. 122) argues that 'persistence of institutions is not to be taken for granted'. The history of the Wheatco-Chemco supply relationship illustrates this: after the initial difficult learning period (stage 1), institutionalised practices were strengthened at inter-firm level (stage 2) as a result of more interaction and resource flows. However, after a stabilisation stage, there was a gradual deterioration (stage 3), with joint practices being neglected or simply abandoned as a result of a lower priority given to the relationship by both partners. The result was a decay, or de-institutionalisation, of the relationship (stage 4).

In the course of our research, a process of re-institutionalisation was apparent. Requirements for the functioning of the supply relationship, and contingencies such as product quality and process failures, forced the emergence over time of new processes at the inter-firm level. New routines were designed such as weekly operator meetings and the changes to operational practices that resulted. Sense-making among operators helped them cope with vagaries of high technology processes (Weick, 1990; Hatch, 1995). Induction in the relationship involved a cultural shift from a focus on the own company payback to a concern for the shared benefit at relationship level. This meant that new approaches were also required to deal with jobs and roles. Innovative practices emerged at all levels of the relationship (management, engineering and operators).

A distinct characteristic of HR practices within Wheatco-Chemco was that they were elicited either within or outside of the boundaries of the joint relationship. Thus socialisation, broader roles, joint communication or informal assessment across plants could be viewed as practices that were institutionalised at the inter-firm level. Other practices such as rewards or job design remained insulated from the relationship, in that they were solely focused on the priorities of the internal site work organisation (Koulikoff-Souvion and Harrison, 2007). Hence, a tension emerged between two kinds of institutional pressures: at inter- and intra-organisational levels. One example was the dynamics of the local/corporate communication, with some instances of collusion of management at local site level (inter-firm) that counteracted the internal hierarchical communication (intra-firm). The steering team charter aimed to reconcile the two by ensuring that communication took place both at inter- and intra-organisational levels. This tension was also particularly explicit in discussions about the quality of the people assigned to the relationship and the inference that low competence of counterparts meant that precedence was given to internal priorities. An over-arching belief in the benefits of the relationship emerged, but the need to support it often conflicted with the reality of the daily practices that were rooted in the rationale of the internal work organisation. This mirrors the findings of Rogers *et al* (2007) concerning the potential conflicts between imposed institutional demands and internal operating efficiency constraints.

Oliver (1992) identified three reasons for ‘deinstitutionalization’, which are processes by which institutions weaken and disappear: political, functional and social pressures. We believe this case provides an illustration of such processes. Thus, conflict over poor process performance or disruptive bonus schemes were at the origin of a deviation from the norms of reciprocity (political pressure). Competition for scarce resources meant that inter-firm practices were abandoned in favour of internal projects (functional pressures). Weak socialisation and high turnover meant impairing shared understanding at both technical and relational levels (social pressures).

Contribution

This paper builds on our earlier paper (Koulikoff-Souvion and Harrison, 2007) by proposing that conflicting institutionalisation processes at intra- and inter-firm levels can explain the ‘insulation/adaptation’ behaviours of the partners. Our earlier paper identified these behaviours but did not explain them theoretically, other than in terms of ‘separate’ (ACR) – ‘together’ (OCR).

Institutional theory proposes a strong framework that can categorize the OM literature (see table 2) and provides a richer and more dynamic picture of the supply relationship. This ‘alien’ (Amundson, 1998: 353) theoretical perspective challenges the traditional OM poles, ACR and OCR. It explains the coexistence of collaboration and conflict and provides a framework for viewing different concepts as interdependent rather than independent.

This paper proposes an explanation for the evolution of the relationship, whilst also providing a predictive angle. If partners fail to continue to put resources in place to nurture the institutionalisation of the relationship, institutional theory predicts that they will grow apart again and will resort to conflict and adversarial leverage. This results in reduction in the benefits of integration, and economic loss for both partners.

OM’s fine-grained perspective and detailed operationalisation of constructs enriches Institutional theory, which tends to lack empirical indicators of institutional processes (Scott, 2001: 211), which our study was able to provide. Moreover, this study has operationalised institutional theory in an inter-firm context (Rogers *et al* 2007).

CONCLUSION

This research has illustrated ways in which HR practices contribute to the institutionalisation of a supply relationship by probing the influences they had on providing stability and meaning to social life within the relationship. HR practices were broadly viewed here as routines or organisational activity bundles (Delery, 1998) that build up relationship-specific capabilities. They pertained to decisions about internal HR processes as well as to inter-organisational practices and routines.

The study highlights a reluctance to promote the institutionalisation process because of potential conflicts with the requirements of the internal work organisation. We explained this as a conflict between organisational and inter-organisational processes of institutionalisation. Priority alternated between the individual organisation's interest and possible benefits at supply relationship level. Thus the two organisations tended to be reluctant to make changes in their internal HR practices to satisfy the needs of their supply partner. This highlighted the difficulty of mutual adjustment that has to take place as part of the institutionalization process.

We noted that the process of institutionalisation of the supply relationship was more the result of emergent, informal behaviour of the actors who worked in the relationship rather than resulting from a strategic intent from the two firms involved. Thus, cultural-cognitive behaviour was developed at an operational rather than at a strategic level. Training and socialisation appeared to be the one HR practice where a continuous, positive series of transitions were made. This resulted in an enhanced sharing of tacit knowledge. We considered that table 3 could be used as the basis for a tool for diagnosing the relative health of HR practices as they impact supply relationships.

A challenge for OM is to 'provide an intimate understanding of the problems faced by practicing managers' (Amundson, 1998, p. 354). Our study indicates that management of an interdependent supply relationship is best formed by consistent choices within the three scenarios proposed in table 1. Our results suggest that aspects of all three 'pillars' are present in such a relationship, but that regulative influences were less prevalent. Instead, normative influences – formed by mutual adaptation – become the driver of change. After that, the cultural-cognitive influences evolve more spontaneously. As table 3, indicates, however, normative influences are the product of the context of their formation, and can have either positive or negative impacts on the developing supply relationship. The implications are that managers must guide and monitor the process of evolution of normative influences to maximise the positive effects in later stages of relationship formation. Negative aspects (such as conflicting pressures created by non-aligned bonus schemes) become leveraged in the cultural-cognitive phase by negative meanings (such as 'blame culture'). Instead of mutual reinforcement, the three 'pillars' represent discord between what was intended (regulative), what was constructed (normative) and the meaning that resulted (cultural-cognitive). Avoiding such discord demands what the first principle of Deming (1986, p. 23) would term 'constancy of purpose', and consistency during the phases of evolution of a supply relationship over time.

We have addressed Scott's (2001, p. 211) call for 'more empirical indicators of institutional processes'. Our paper contributes, with a novel institutional perspective, to the emergent literature on the role of HR practices in inter-organisational settings. The limitations are that our findings are confined to a single case, that they are context-specific (interdependent

relationships evolve over time) and that our methodology is resource intensive. However, we have found evidence that HR practices can be used to explore the difficult and messy area of supply relationships in combination with institutional theory.

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