Collaborative KPIs:

How to turn around a buyer-supplier relationship in co-producing services

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ABSTRACT

This paper describes findings from an action research project in which the question of how to achieve a turn-around in an adversarial buyer-supplier relationship in co-producing services. This paper takes as empirical setting the ups and downs of the buyer-supplier relationship between Atos Origin, one of the main IT-outsourcing companies in Europe, and its customer KPN Telecom, the leading Telco in the Netherlands. The organizational change approach, which is called “Collaborative KPIs”, consists of three steps, consistent with the Unfreeze-Move-Free approach developed by Kurt Lewin.

In this case, the Collaborative KPI approach resulted in significant operational improvements on the shop-floor level by means of true collaboration. The environment of trust and measurable alignment that was created with concrete measurements and rewards for both supplier and customer demonstrated over the past four years its robustness. The paper also contains descriptions of the action research approach employed in this research, where insights gained from direct clinical intervention during the change effort are combined with much longer-term “anthropological” research activities long prior during and long after the intervention period itself.

Keywords: services, telecom, action science, organizational change, IT outsourcing
1. Introduction: stuck in vicious cycles

Even in potentially close relationships, buyers and sellers often have difficult, if not adversarial relations (Mudampti & Helper 1998). Both sizes appear to be stuck in a vicious cycle of mutual distrust, low information transparency on both sides and at best mediocre business performance (Jap & Anderson 2007). As long as supplier A does not trust buyer B, he will not be providing the advance and detailed information that B needs to optimize performance, which will lead B to distrust A further. Buyer B will therefore also not be as transparent as she could be in informing A in advance and in detail on possible problems and opportunities, which will further lower joint performance, and make trust in B with A even lower (Ring and van de Ven 1994, Akkermans et al. 1999, Nooteboom 20002, Sundaramurthy & Lewis 2003, Akkermans et al. 2004). Many buyer-supplier relationships remain stuck in such “spirals of suspicion” (Anderson & Jap 2005), because even when one of the two parties attempts to make a major change, the other side will be inclined to interpret this effort at improvement as yet another trick from “them”, which won’t work anyway (Bell et al. 2002).

In service operations, such relationship gridlock becomes even more stifling. Here, buyer and supplier by definition co-produce value (Vargo & Lusch 2004). As a consequence, responsibilities and dependencies between buyer and supplier become very difficult to delineate. In the absence of objective criteria of performance evaluation, personal perceptions and hence emotions can play an increasingly dominant role in service supply chains. This notion forms the motivation for the research question in this paper:
How can one turn around a buyer-supplier relationship in services where both parties are caught in a vicious cycle of distrust, low transparency and at best mediocre operational performance?

The case setting we draw on to investigate this question is in the telecom industry, which is especially well suited to address this issue for a number of reasons. Firstly, the fragmented nature of the industry leads to a multitude of close relationships that must be maintained. In Telecoms, services are typically no longer provided by integral firms, but by service supply networks (Choi et al. 2001, Dyer & Hatch 2002, Nooteboom 2004, Akkermans & Dellaert 2005) consisting of anywhere between three and twelve independent organizations, who all maintain buyer-supplier relationships with one another. Secondly, there are many settings in telecoms where mediocre performance exists, as is indicated by academics who have rated service performance as “poor” (Gerstner & Libai 2007) and business journals who have even called it “stinking” (Brady 2000). In the Netherlands, where our case is set, two cable companies and one telecom operator in 2007 even led the top three of the “most irritating companies for consumers”, just ahead of the Tax Revenue Service (Consumentenbond 2007). One possible root cause for this mediocre performance is that telecom companies themselves may be caught in a vicious cycle of low customer experience, low service quality, high cost of rework and as a result a strong urge to “cut corners”, which further hurts service quality (Roth & Jackson 1995, Oliva & Sterman 2001, Akkermans & Vos 2003).

The buyer-supplier dyad that we investigate concerns an IT services company that owned and managed the outsourced IT infrastructure for its telecom customer.
Many IT outsourcing arrangements combine antagonistic behavior on both sides with mediocre performance, which makes them interesting to study in the context of our research question. Why? Again, there may be a vicious cycle at play. In the context of IT outsourcing, this vicious cycle is better known as “the winner’s curse” (Kern et al. 2002). This refers to the theory that the IT provider that “wins” the outsourcing deal from its competitors will tend to have paid so much for it that it ends up trying to recover its initial costs, which often leads to dissatisfaction and poor performance on both sides, again a vicious cycle.

The research design that we employ to explore this question is that of action science. At present we have very little academic knowledge on how to design and carry through such an organizational transformation processes successfully. This may seem strange. After all, processes of planned change are certainly not excluded from the research agenda of the field of operations management. The Institute for Operations Research and the Management Sciences (INFORMS) even labels its field as “the science of better” (www.thescienceofbetter.org) The Production and Operations Management society (POM) has as one of its key goals “to promote the improvement of POM” (www.poms.org, italics added). So, why this paucity of research on planned organizational change? Again, there may be vicious cycle at play here. We suggest that there is very little action research on OM because this research method is still unknown to most OM researchers, and not without the doubts about its applicability that go with any new method or approach. As a result, OM researchers remain reluctant to engage in action research, which leads to very little publications using action research, and a vicious cycle is born. This paper boldly attempts to start reversing this vicious cycle, by discussing in some detail the action research design that was employed for this study.
2. Literature

2.1. Services are important, different and difficult

Services have become the largest economic sector in Western economies (Boyer and Metters 2004). Not long ago, innovation was still felt to be strongest in manufacturing, with services lagging considerably behind. These days, many service industries have become strongly innovation-driven, with successive radical product innovations stumbling over one other. One clear example is the telecom industry, with third generation mobile networks, IP telephony and Internet TV, service offerings of today’s telco’s are vastly different from those of the sleeping giants such as the “Ma Bells” of a decade ago. Not only have the types of services changed radically; on an organizational level, telco’s have changed considerably as well. Nowadays, telco’s offer their services through service supply networks (Choi et al. 2001, Hameri & Paatela 2005), where easily up to a dozen independent companies collaborate closely via a host of interrelated IT systems and business processes to serve the needs of end customers.

In the past, in the field of OM by far the most attention has been given to production operations. In the last decade this has been changing rapidly (e.g., Heskett et al. 1997, Johnson 1999, Rust and Chase 1999, Hill et al. 2002) A great deal of the knowledge on how to coordinate production operations is applicable to service operations, but the service industry remains unique on some very critical points as well, including the high level of customer contact and influence, simultaneity of production and consumption, intangibility, nonstorability, perishability, and labor intensity (Nie and Kellogg 1999; Slack, Chambers, and Johnston 2001). Recently, in the fields of marketing (Vargo & Lusch 2004), IT (Spohrer and Maglio 2008) and
operations (Scott et al. 2006), appeals have been made to position services as a separate field of science, as “a science of services” (Chesborough, 2005). In all these new visions, a central place is allocated to the notion that, buyer and supplier are always co-producing value in services (Bettencourt et al. 2002, Bendapudi & Leone 2003), which fundamentally changes the nature of the relation between a buyer and a supplier.

2.2. Buyer-supplier relationship dynamics

Relationship dynamics between buyer and supplier can be very complex, and can result in both virtuous and vicious cycles. One description of the causal structure that can generate such complex dynamics is provided in Figure 1. This Figure was generated to explain the remarkable success of a project aimed at synchronizing supply chain performance between two product divisions of Philips Electronics and several contract manufacturers. This project saved Philips many millions during the downturn in worldwide electronics in 2000-2001 (de Kok et al. 2005)
At the core of this diagram lies a reinforcing feedback loop (Sterman 2000) between trust, behavior and performance (R1). The existence of the causal links in this loop have been confirmed in various fields. Supply chain management literature suggests that the closer the collaboration with buyers and suppliers is, the better the business performance becomes (Spina and Zotteri 2000, Frohlich and Westbrook 2001, Fynes et al. 2005). In the field of marketing, Palmatier et al. (2007): find commitment-trust as immediate precursors to and key drivers of exchange performance, as do Narayandas & Rangan (2007). Organizational literature on trust supports the notion of upward and downward spirals of trust and information transparency. Nooteboom (2002), in his standard work on trust writes: “When offered trust, people may reciprocate (…) and there is a possibility of an upward spiral of trust. However, the converse may also apply, where trust engenders mistrust, and then there may be a downward spiral of suspicion. Which is the case can depend on minor events or misunderstandings. Thus, with such non-linear feedbacks, the trust process can
assume the properties of a chaotic system. (Nootboomen 2002, p.94). Bell et al. (2002) note that performance first has to pass a certain threshold before “the relationship becomes “sensitive” and the trustor observes more frequent trust violations” (Bell et al. 2002, p.68.). The three other loops reinforce these cycles. There is the two-sided relation between opportunism, or “gaming” and information transparency in loop R3, which lies at the core of most work in information sharing in supply chains (e.g. Lee et al. 1997). There is also the axiom in R3 that better information will lead to better decisions.

Finally, there is notion of “habituation” between partners in loop R4, as developed by Nootboomen et al. (1997). It is here that the concept of “travail” kicks in, the hard and ongoing work done by all parties in many collaborative meetings that increases communication intensity. Step by step, these meetings make sure that operational performance improves, which is seen as a key lever to change the direction of all loops from vicious to virtuous cycles.

2.3. IT Outsourcing

One special form of a buyer supplier relationship is outsourcing, where a third-party provider is made responsible for the execution of certain activities or even complete business processes. When companies located in other countries perform the outsourced activities, the term often used is offshoring, although offshoring also refers to situations where the activities performed abroad are still executed by the same company. Several kinds of outsourcing exist, of these IT outsourcing is probably the most popular one, which has steadily been rising in popularity over the past ten years, with a correspondingly large number of academic articles dedicated to it (Gonzalez et al. 2006). We know that an outsourcing relation can grow into a strategic partnership (Zviran et al. 2001) but this is by no means an automatic development. For this
reason, many firms are reluctant to outsource fully, especially when the IT activities in question are high-risk (Aubert et al. 2004) or highly asset-specific (Barthelemy & Geyer 2005). Rather, firms will outsource the assets but bind the activities to their own firm through contracts, in what Barthelemy and Geyer (2005) call “quasi-outsourcing”.

Whether or not outsourcing actually really improves business performance is at this point still unclear (Bhalla et al. 2007, Stringfellow et al. 2007, Ellram et. al. 2008). At any rate, IT Outsourcing relationships can become as “adversarial” as any other buyer-supplier relationship. Kern et al. (2002) even warn for “relational trauma” in these settings, as an indirect result of the bidding process that usually forms the start of an outsourcing relationship. This bidding process brings the company that places the highest offer, who becomes the buyer of the assets annex the provider of future IT support, in a position where costs need to be recovered from the so direly paid-for investments. Through this cost-drive, the supplier inadvertently may start off a vicious cycle of mistrust and suboptimal performance (Kern et al., 2002). Such a vicious cycle can often only be stopped by ending the relationship. An alternative to ending the relations is reversing such a vicious cycle of mistrust and mediocre performance through a successful effort of planned organizational change.

2.4. Planned organizational change

How does one change the attitudes of large groups of people towards each other? Working with prejudiced groups of different races and religions in the U.S. in the 1930s, this was the question that intrigued Kurt Lewin, the father of the field of group dynamics and planned organizational change. Lewin made extensive use of workshops with leaders of different communities. His observations regarding the
outcomes of these workshops sound as relevant today as in 1946: "Even a good and successful workshop, however, seems seldom to have the chance to lead to long-range improvements in the group of inter-group relations. The individual who comes home from the workshop full of enthusiasm and new insights will again have to face the community (...). We are facing a question which is of prime importance for any social change, which is the problem of its permanence" (Lewin 1948, p.148). This experience made Lewin develop the notion of improving group performance by a three-stage process of “unfreeze-move-freeze” (Lewin 1951, p.330). This concept has formed the basis of much subsequent research into organizational development (e.g. French & Bell 1973, Schein 1987, Argyris 1990, 1993, 2000). However, these concepts from group psychology have had relatively little impact in the field of operations management. Naturally, practitioner-led movements such as lean manufacturing have stressed the need for a different type of employee and management attitude, even for a “learning” manufacturing organization (Hayes et al. 1988). However, published research on how such a change is to be achieved has been rare in the academic OM community. Part of the answer why may lie in the nature of the research method required to investigate planned organizational change.

3. Research method: action research

It is difficult to learn how companies go through periods of organizational change because most conventional research tools are ineffective in such times. Surveys, laboratory experiments and mathematical models remain at a great distance from what is really happening during these periods of intense and sometimes apparently chaotic behavior. Case studies come closer but many of them are not longitudinal, and
change is by definition something that evolves over time (Narayandas & Rangan 2007). Research methods that will allow the researcher to observe the organization from very close, even during the times of greatest turmoil, appear better suited to learn about change processes. Such research methods require that the researchers adopt a participative stance during certain stages of the research process. The researcher’s goal is always twofold: to develop general scientific knowledge regarding the process involved and to help develop concrete solutions for the problems the parties involved are experiencing. Such research is called action research (The research method employed in this study has been that of action research (Lewin 1946, 1951, Argyris 1990, 1993, 2000, Schein 1969, 1987, Westbrook 1995, Coughlan & Coghlan 2002).

Although there has been an often-repeated call to increase “all types of empirical research” in the field of operations management for almost two decades (Flynn et al. 1990), for a long time there have only been incidental explicit calls for action research in OM (Westbrook 1995, Coughlan and Coglan, 2002). More recently, there have been strong pleas for more collaborative research with industry, which usually takes the form of action research (Guide and van Wassenhove 2007, Lee 2007). For instance, in his President’s Message in the 2007 Newsletter of the POM Society, Hau Lee argues that “we should rigorously promote the research paradigm that is based on an interactive approach with industry”. (Lee 2007, p.3).

As indicated, action research is especially appropriate as research design when the object of study is organizational change. This change orientation has been inherent to action research from its beginnings, which go back to the work done in the 1930s and 1940s by Kurt Lewin (Lewin 1946, 1951). In action research, the researcher is actively involved in a clinical capacity (Schein 1987). Action research
goes a great deal further than longitudinal case study research designs do. There, the researcher remains acts as an *ethnographer* (Schein 1987), where he remains as much as possible in the role of an unobtrusive (participant) observer. In action research, the starting assumption of the researcher is that often-quoted saying by Kurt Lewin that “if you want truly to understand something, try to change it.” When a situation is stable, you cannot infer the underlying structure and its resulting dynamics. Only when change occurs can one learn about this underlying structure. By taking up a “clinical” role, the researcher has the organizational justification to intervene, and thereby induce change, and observe the response to his interventions. According to Schein (1987), “the nature of the that response then becomes primary diagnostic data for determining what may really be going on” (Schein 1987, p.29).

Schein (1987) contrasts the clinical and the ethnographic model for field work in various ways. One final observation he makes is that “the ethnographer’s job is not finished when the fieldwork is finished. The problem of analyzing the data, deciding what has been learned and how to present it are integral to the ethnographic task and may require a great deal of time and effort after the relationship with the field site has been severed. (...) If the clinician then spends years mulling over what he or she has learned from the case, this is typically not thought of as part of the clinical work”. (Schein 1987, p.35). This distinction between clinical and ethnographic work becomes directly relevant for the current research if we look at the timeline of research activity as shown in Figure 2.
Figure 2 illustrates that, we would be presenting a very limited picture of the actual research process if one only focus on the insights that we, the authors, gained during the time we were directly involved in the transformation of the buyer-supplier relationship in the case setting, broadly speaking from Q3 2003 to Q1 2005. We distinguish three phases here.

First, there is the ex ante work we did. Our theories of why buyer-supplier relationships in general go bad goes back several years and had even been published in academic journals prior to our work in the case (Akkermans et al. 1999, Akkermans et al. 2004). Our ideas on how a successful transformation could be achieved was tried and tested in several earlier efforts. The 2nd author had redefined a buyer-supplier relationship through KPIs defined in customer terms during his management career at DSM, a chemical company, in 1999-2000. The 1st author had run workshops with...
representatives of multiple organizations in a supply network for, amongst others, ASML (Akkermans 2001), Boeing and Philips Electronics (Akkermans et al. 2004) prior to the current case. So, rather than a one-year involvement with the case setting, we ourselves see this particular case as one manifestation of a research programme (Lakatos 1976, Lee 2009). Our use of prior theory to design our intervention can be seen as yet another example of another well-know quote by Kurt Lewin: “Nothing is quite so practical as a good theory”. Secondly, there is knowledge we generated during, during our work with the client company. The next section will contain much more detail on this, but here it suffices to say that our interventions generated many revealing insights into the underlying structure in the relationship under study. However, on top of that we did collect information of a more “anthropological” nature, in particular by sending out a questionnaires to key staff on both sides that measured scores on the key aspects of “travail, transparency and trust”, in line with our prior theory on the key drivers of the relationship as laid out in Akkermans et al. (2004). Also, significant learning did grow out of the reflective discussions we, the authors, had amongst ourselves regarding the status of the planned stage, how our last interventions had worked out and what would be best to do next. Van Aken (2004) labels this the “reflective cycle”, through which so-called “technological rules” are developed.

Thirdly, there are the ex post activities we conducted to arrive at a better understanding of what had happened and why. These include additional “anthropological” data collection activities such as an additional questionnaire round in January 2006 similar to the one conducted in 2004, and in-depth interviews with key staff from both the supplier and buyer company on agency-theory aspects of the case in November 2007. These activities also include various attempts at peer review,
at benefiting from the feedback from other professionals, be they academics or practitioners, on our work. For the 2nd author, this directly led to his election as “CPO of the Year 2006” in The Netherlands, granted for his description of the “Collaborative KPI concept”. Moreover, his presentations on this subject also led to his company winning in the U.S. the Gene Rigter award for process innovation in 2008. In short, we have strived to achieve a synergy between the clinical and the anthropological aspects of our research design, in the sense as intended by Romme (2003) in his description of how in management research, the so-called “design mode” and “science mode” should be combined.

4. Case setting: IT outsourcing in telecom services

4.1. Company introductions

Royal KPN Telecom is the former state owned incumbent telephone services provider in the Netherlands. Today, KPN is market leader in main segments of the Dutch telecom and ICT markets. KPN recently acquired Getronics, a major international IT service provider, thereby solidifying its position in the IT market. KPN has growing market shares in wireless services in Germany and Belgium with 5.4 million fixed-line customers, 2.4 million internet customers, and 27 million mobile customers.

In the Netherlands, KPN is still the market leader in the existing market segments and a dominant player in the “new world” of IP and DSL. Furthermore it has recently transformed its brand image from a telephony - towards a customer focused multi-media company, with a staff of 25,500 FTE (43,500 FTE including...
Getronics). KPN was privatized in 1989. KPN’s shares are listed on the stock exchanges in Amsterdam, London and Frankfurt.

Atos Origin is a leading European IT company, headquartered in France with a strong presence in the Netherlands as a result of acquiring Origin in 2000. Origin in turn was formed by the merger of Philips Electronics’ former IT subsidiary and Dutch software house BSO in 1995. Today, it has more than 47,000 employees in 40 countries.

4.2. Case background: IT outsourcing during a financial crisis

The Internet Bubble and investments in third generation UMTS licences drove almost all European operators into near bankruptcy in 2001, including KPN. This called for drastic measures. In the fall of 2001, KPN initiated a massive turnaround process, cutting costs and divesting non-profitable and non-essential assets and using the proceeds to reduce the massive debts. One of the major elements of the latter was a company-wide outsourcing program whereby a/o IT, Call Centres, Research, Logistics, Training and Educational Services were outsourced. Aside from the exit of hard assets, about 7500 employees thus left the company.

One part of KPN’s assets that was outsourced was its IT infrastructure, i.e. the IT systems that supported the business processes of the company. At this time, KPN had a legacy structure of over 1000 internally and externally developed applications with stove-pipe solutions, and more than 1700 point-to-point connections between them. Not surprisingly, performance left much to be desired. Data were inconsistent, customer satisfaction was poor and operating costs were high. Also, the IT demand organization was very disparate.
The main objectives of this outsourcing deal were not long-term; “Assets out, Cost out and Cash in” were its main drivers. This led to the outsourcing of non-optimized processes, systems and organizations. Moreover, in many instances explicit subject matter expertise - a key requirement to be able to manage the outsourcing partner - was transferred as well.

Within a period of 18 months, KPN’s data centre, its end user services and its software house were outsourced by KPN to Atos. For KPN management, the main criteria in selecting its outsourcing partner were foremost financial, next to the ability to take over personnel professionally and the ability to provide continuity of services. However, the main criteria, in light of the prevailing crisis, were purchasing price and cost reductions. For Atos, the main drivers in this deal were twofold: making a serious entry into the Telco industry and expanding and entering the Dutch and German market respectively.

During, but more prevalently shortly after the outsourcing process, the Telecom business further collapsed, and the corresponding IT business followed suit. This meant that Atos’ intention to use KPN’s assets as springboard to the market was no longer realistic in light of the new market situation. Now, it had to rely heavily on the returns from the outsourcing deal with KPN rather than on external revenue growth. As such, KPN's cost-down drive came into direct conflict with Atos’ revenue aspirations.

During the outsourcing, Atos secured two safeguards regarding revenues:

- **A revenue guarantee**: In case KPN demand would be less than a certain threshold, KPN would compensate Atos by paying penalties ranging between 25 and 50% of the gap between guaranteed- and actual revenues. This
effectively means that the higher the level of guarantees offered, the higher the purchase obtained.

- A First-Call-Last-Bid clause that on the one hand ensured KPN confidence with regard to market conformity, and on the other hand, ensured that Atos would have a chance to match any competitive offer from the market.

4.3. Changing markets and unchanging contracts

In 2003, almost two years after the outsourcing had contract had taken effect, the relationship between KPN and Atos was deteriorating rapidly. In hindsight, it was also clear why: in the new market setting, the original set-up of the outsourcing deal was counterproductive against improved performance and partnership. KPN’s aggressive cost-down drive led to lower than expected IT expenditures. This, in turn, invoked penalties under the Revenue Guarantees. To counter these, KPN occasionally would enter into ill-founded projects with AO, not for competence-based reasons, but mainly financial ones, i.e. only to avoid penalty costs, which in turn led to imploding customer satisfaction within KPN’s BU’s. This situation was aggravated because KPN’s IT in-sourcing capabilities had been out-sourced, and supplier relationship management remained under-developed and shaky.

On the other side, the revenue guarantee inevitably led to complacency at AO. This business set-up gave Atos the incentive to utilize its current assets as much as possible and not spend energy on developing major innovative, cost cutting ideas. Atos was perceived by KPN as “leaning against the fence” and not the risk-taking innovative partner that KPN was eagerly looking for on its way back to business prosperity.
At the end of 2003, both KPN and Atos suffered from the “shadow of the past” (Nooteboom 2004): To KPN, Atos was partly still the former internal supplier whose performance was not especially loved, and who could finally be treated as an external party and expected to deliver the same level of performance as any other external party. To Atos, KPN was the company that had it paid good money to and helped get its balance sheet cleaned up of excess assets and staff, in exchange for a solid future revenue growth. To both organizations, the performance of the other party so far had been disappointing.

Meanwhile, the IT system landscape between Atos and KPN was still characterized (a) by dozen of bespoke systems, (b) with many, many customized interfaces and (c) literally thousands of service level agreements (SLAs) monitoring their performance. At the same time, KPN’s rapid product introduction process meant that these systems had to support new functionality every month.

5. The change process: The Collaborative KPI approach

The overall timeline of the relationships between KPN and its outsourcing partner Atos Origin is visualized in Figure 3.
5.2. Phase 1: “Putting a pot of gold under the CFO’s seat”

The second author of this article joined KPN as its new Chief Procurement Officer (CPO) in August 2003. How to salvage the relationship between KPN and Atos, and have it evolve towards a strategic partnership, was the first major issue to be dealt with in his new job. Clearly, some major “unfreezing” had to be done, to use Lewin’s terminology of change management (Lewin 1946, 1951). In October 2003, the turnaround started. The CPO and CFO proposed to Atos top management a redefinition of the contractual relationship. KPN proposed to abolish the notion of the stifling Revenue Guarantee and suggested to do this by:

a) Consolidating the revenue guarantee exposure;

b) Putting the Net Present Value (NPV) of the exposure in escrow, and “placing this pot of gold under the CFO’s seat”, as it was called at the time;
c) Start measuring Atos’ performance from there on against new, to-be-defined KPIs, linked to what KPN considered business value and
d) Reward Atos for how it performed against these KPIs out of this escrow money.

This was the first stage of the Collaborative KPI approach. The second stage was entered when he first author joined this process. This was when this new concept of managing the relationship had been accepted in general, but the specifics had to be detailed out.

5.3. Phase 2: Mapping out “offensive” performance metrics

Together, the authors designed a collaborative process for this purpose that was based upon the first author’s earlier experience with inter-organizational collaboration (e.g., Akkermans 2001, Akkermans et al. 2004). It would start with presentations from either side followed by a brainstorming session on opportunities and next steps.

The first meeting in this specification process took place during an evening in November 2003. When the session participants entered the room this meeting was to be held in, it became immediately obvious that things were not going well at that time. Both parties entered in close group formation, settled on opposite sides of the table and waited for things to happen. The presentations were fine enough, although understandably not directed at the heart of the dispute, i.e., the joint relationship. One of the top managers of KPN explained the challenges his business was facing, the competitive pressures KPN was under and the market imperative to cut costs drastically. The top account manager of Atos presented on Atos’ position in the European market, its value proposition to the market and endorsements from various customers.
Both sides remained polite and business-like. A glimpse of the underlying emotions became visible to the first author when the top executive from KPN stepped out of the room. The top executive from KPN bent over to him, in his position as facilitator, and whispered in his ear: “If he is leaving, I’m out of here too!”. Fortunately for the process at this stage, the KPN top executive reappeared shortly, notifying the room that he had just made a telephone call to one of his fellow managers, to secure backing for a favorable business deal he wanted to propose to Atos, as a sign of good faith from the KPN side. In reflection, this was one of these moments where Lewin’s saying “if you truly want to understand something, try to change it”...

From the beginning, there was the clear aspiration of the CPO and CFO to transform this classic buyer-supplier relationship into a performance-driven one: from buying to contracting performance, as the CPO described this turnaround.. What was needed for this was a better understanding of what drove performance of both Atos’ systems and KPN’s business processes and how these were interrelated. The only way in which these interrelationships could be identified was by mapping them out jointly.

There was a series of preparatory meetings of employees and middle managers that led up to a major two-day off-site workshop, where some twenty-odd people from both organisations came together. This was a memorable event. In this meeting of two long-time partners, there were many personal introductions and handshakes, between Atos and KPN employees, but also amongst unacquainted colleagues. In a plenary meeting, where the first author facilitated a so-called group-model-building session, the question: “what happens when something goes wrong?” was explored. A causal loop diagram was developed with the group to get to the root of this question. Figure
Figure 4: A causal loop diagram of propagation of errors in the network

This diagram reads as follows. At the top-left one can see a central element in “what can go wrong and corresponding results”: some interface between IT systems during the day breaks down. Consequently, the order entry systems are not, or only partially available. This makes that new customer orders cannot be (fully) entered, that systems cannot be updated and that pending queries cannot be resolved.

There are many potential reasons for such a breakdown of an interface. Some of them are technical, others are human. The top-right part of the diagram explains why this happens so often. Most importantly, when a change is made to one of the
40+ critical systems in the delivery process, the effect on any of the other systems is unclear, because of the large number of systems involved, complex interdependencies, and lack of control over their interfaces.

When errors are made people will try to correct them. This is described in the lower-middle part of the diagram. Doing so is a complex undertaking, requiring considerable skill. Much of that skill had either left the companies or was becoming obsolete as a result of the ongoing changes in all these systems. Budgets were too low to keep technical expertise up to standard. As a result, actual service deliveries were not “right the first time” far too often.

The bottom-left of the diagram illustrates the vicious cycle the delivery process went into when such errors occurred. Mistakes in service deliveries could be caused by the wrong kind of confirmation letter to the customer because of system errors, or because of data pollution in the systems as a result of inadequate error corrections. In all cases, mistakes lead to customer confusion, customer queries and therefore greater time pressure for the agents to sort out these queries, leaving even less time for dealing with the list of known errors to be resolved.

Such a delivery process evidently leads to low customer satisfaction, lower future revenues and further pressure on budgets necessary to improve performance; thus creating yet another vicious cycle of low performance leading to low revenues leading to low investments leading to even lower performance. This is shown in the bottom of the diagram. Upon reflection, these are precisely the kinds of vicious cycles that Oliva & Sterman (2001) point at, which according to them keep service quality lower than it would need to be.

Let us return to this notion of SLAs one more time, as this is essential to understand the nature of the mental turnaround that took place during this day. It is
important to appreciate that the operational cooperation between the parties in managing the delivery and installation process and its supporting IT was based on SLAs per server. If the server was performing according to SLA, Atos could not be penalized even if complaint levels would be sky-high. These SLAs were input oriented. This was a clear example of why conventional performance contracts do not work. The supplier delivers according to hardware related requirements completely under his control, and yet the performance of the delivery process as a whole was disastrous. At the time, the complaint level of customers was 15%, the rate of first-time-right installation at 82% of all service deliveries.

The technical reasons are obvious, with some 40 critical application programs in the total process, all with their point-to-point interfaces that were not being managed. But organizationally the situation was no better. At KPN, server SLAs were managed by at least four to five KPN managers, each “involved” solely from their own functional perspective. At the other side of the table, Atos managers controlled only parts of the system landscape. Communication between all these individuals was preferably by e-mail. Most operational managers were hardly acquainted with one another nor did they understand their process-interdependencies. Furthermore, this organizational set up had implications for working relationships. At the beginning of the workshop a slightly hostile atmosphere of “us against them” could still be felt.

As a result of this group-model-building process, the process managers from both KPN and Atos discovered not only what went wrong, but also why things went wrong. More importantly, they saw how they could cooperate and mend the flaws. Indeed, managers who at the beginning of the session were at arms length later could be found in the bar well beyond bed time discussing ways to enhance the delivery process. The enthusiasm this generated made participants step across company
borders. The clear joint objective led the operational managers to embrace the idea of aiming for the business result of the process: driving the complaint level down. This KPI directly drove customer satisfaction in KPN’s consumer market. A major turnaround to Output oriented process SLAs thus was achieved.

Upon reflection, it was the combination of the redefinition of the relationship at senior management level in combination with this workshop at the operational level that was effective in “unfreezing” the mindset of the people involved in this relationship. This brings us to our first proposition in response to our original research question: how can one turn around a relationship caught in a vicious cycle in co-producing services’

P1. In order to achieve the “unfreezing” necessary to initiate a turnaround, it is effective to combine a redefinition of the buyer-supplier relationship into a more partnership oriented one at the top management level with an in-depth workshop diagnosing root causes for operational issues in the buyer-supplier processes at the middle-management level.

5.4. Phase 3: Defining two-way performance targets

Following this initial workshop a series of workshops were organized to detail out the KPIs, the sub-KPIs, their measurement, normalization and determining the relevant data sources. Within about two months, the Operational and Enabling KPIs were specified and agreed upon. In the process of detailing out, we “discovered” that in order to truly succeed both parties needed KPIs.

In the months ensuing this breakthrough at the operational level, many meetings at higher and middle management of both companies took place. A major
step in redefining the contractual relationship between both parties was the identification of eight main KPIs. As had been recognized from the beginning, the supplier side was also affected by the performance and attitude of KPN towards them in their own performance. Hence, two-way performance targets were developed, as is shown in Table 1.

**Table 1: Two-way KPI with their weights over time**

<table>
<thead>
<tr>
<th>KPIs</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation &amp; Redesign</td>
<td>3%</td>
<td>2%</td>
<td>2%</td>
<td>0%</td>
<td>6%</td>
</tr>
<tr>
<td>Operational and Enabling KPIs</td>
<td>6%</td>
<td>6%</td>
<td>5%</td>
<td>3%</td>
<td>20%</td>
</tr>
<tr>
<td>Total Cost of Ownership</td>
<td>8%</td>
<td>6%</td>
<td>0%</td>
<td>0%</td>
<td>14%</td>
</tr>
<tr>
<td>KPN BU Client Satisfaction</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>Sell to and with Atos</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
<td>2%</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Total of Atos-directed KPIs</strong></td>
<td>21%</td>
<td>18%</td>
<td>9%</td>
<td>6%</td>
<td><strong>55%</strong></td>
</tr>
<tr>
<td>Atos wallet share at KPN BUs</td>
<td>6%</td>
<td>12%</td>
<td>6%</td>
<td>3%</td>
<td>27%</td>
</tr>
<tr>
<td>IT Governance</td>
<td>3%</td>
<td>6%</td>
<td>2%</td>
<td>0%</td>
<td>11%</td>
</tr>
<tr>
<td>Operational &amp; Enabling KPIs</td>
<td>3%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Total of KPN-directed KPIs</strong></td>
<td>12%</td>
<td>20%</td>
<td>9%</td>
<td>5%</td>
<td><strong>45%</strong></td>
</tr>
</tbody>
</table>

Five KPIs (with a host of supporting KPIs via the so-called KPI Tree) applied to Atos’ performance, and three KPIs applied to KPN’s performance. Meeting the Atos Origin KPIs would lead to “drawing rights” for Atos and, in fact, payment in cash by KPN. Partial satisfaction of KPIs would lead to a lower amount being paid out. Payment would take place on a year-by-year basis. The size of the “pot of gold” to be allocated according to this scheme was substantial, as this pot was directly related to the annual IT budget of KPN, so in the order of millions of Euros.
The structure of the KPN KPIs was such that lest KPN would not be able to achieve these performance targets, it would have to remit cash to Atos. A joint KPI Office was set up that managed and monitored the main KPIs and their supportive KPI Trees.

5.5. Phase 4: Achieving operational improvements

The Atos Origin KPIs

Of the four KPIs that Atos was measured against, the area of Operational & Enabling KPIs was most affected by this turnaround. This KPI saw drastic improvements of the complaint level, as evidenced by Figure 2. Within five months, the complaint level came down from 14% to around 8%. Certainly, this was key for customer satisfaction. However, one should not underestimate the cost impact that such improved operational performance had. After all, hundreds of people are involved with fixing problems in a company the size of KPN. If the error level halves, so shall the number of FTE required to deal with quality issues.

![Figure 5: Development of operational performance as a result of joint improvements](image-url)
The KPN KPIs

KPN also had clear performance targets towards Atos. One KPI was the Atos “wallet share” at KPN. This KPI was to ensure that Atos’ business volume with the KPN group would minimally stay in line with the overall trend in IT spending. As a spin-off of the collaborative KPI workshops, Atos and KPN could collaborate so that this KPI was met in 2004 and 2005.

The KPI for IT Governance was a real test for KPN’s internal IT organization. Was KPN capable of getting a grip on its own IT demand? Here, one of the most defective processes was: “payment on time”. The KPI Office that the CPO established to monitor the development of all KPIs was tasked to challenge and haunt the KPN organizations to pay their monies due in time in this quarter.

“Operational and Enabling” KPIs. For KPN’s processes to run better it was essential not to limit the challenge to Atos only, but to extend it to the KPN colleagues in the process. Thus, this KPI was in every aspect, linked to those of Atos Origin, as can be distilled from Table 1.

5.6. Phase 5: Payment time!

In the Autumn of 2004, it became clear that significant improvements had been made, both in the actual operational performance as in the quality of the buyer-supplier relationship. Not solely in terms of operational performance, but also in terms of the quality of the relationship, with clear improvements in terms of trust and transparency. Next to operational changes, improvements that had been achieved to the “soft” aspects of the relationship also became undeniably clear. An outside
researcher surveyed regarding this topic amongst the key players on both sides, in October 2004. The respondent group totaled nine people, four from Atos Origin and five from KPN. These respondents were the managers most closely involved in the change effort, and represented both the operational and the managerial levels of the organizations. The results are summarized in Table 2. Obviously, the sample size of respondents is too low to produce statistically reliable results, but that was not the point of the exercise. The point was to see if we were indeed making progress in terms of the key constructs in our theory on the root causes of the relationships crisis, the concepts of “travail” (i.e., “hard work”), transparency and trust as introduced by Akkermans et al. (2004) in the context of improving buyer-supplier relations. Survey questions were taken from existing questionnaire sets in the relevant literature (De Jong and Nooteboom 2001, Johnson et al. 2004, Humphreys et. al. 2004).

These data, however limited the sample size, suggest a major improvement from the nature of the relation at the peak of the crisis. On a five-point scale, personal trust scores of 4.0 and 3.9 are fairly high. KPN is seen by Atos as a party that keeps its promises and that provides trustworthy information. Nevertheless, these remain two very large organizations, so it should not come as a surprise that interorganizational trust is only just above average.

In terms of transparency, notable improvements were also made. For two parties that previously did not share expectations about their joint future business, the scores on “exchange of information” and “informing each other of changes” are very reasonable indeed. Both parties also perceived the relationship as relatively transparent, with an exception for Atos’ perception of how clearly KPN specified its IT requirements (which remains, one might add to put this score into perspective, invariably a difficult issue with IT requirements). From this table it can be distilled
that both parties recognized the value of developing joint KPI’s and, in general, the value of putting time and effort (“travail”) into the collaborative process, despite the haggling that was apparently required.

Table 2: Scores on perceived quality of buyer-supplier relationship, Oct 2004

<table>
<thead>
<tr>
<th>All answers on a 1-5 scale</th>
<th>Atos 2004 (n=4)</th>
<th>KPN 2004 (n=5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;TRAVAIL&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• In dealing with this firm, we spend a lot of time haggling unproductively over such issues as price and responsibility for problems.</td>
<td>4.4</td>
<td>3.8</td>
</tr>
<tr>
<td>• Both our customer/supplier and we are very willing to modify our agreements if unexpected events occur.</td>
<td>3.4</td>
<td>3.0</td>
</tr>
<tr>
<td>• Sharing each other’s business processes has helped us better understand our counterpart.</td>
<td>3.0</td>
<td>3.8</td>
</tr>
<tr>
<td>• The development of joint KPI’s is a useful exercise</td>
<td>4.3</td>
<td>4.3</td>
</tr>
<tr>
<td>• Devoting valuable time and high-level staff to ‘KPI-tree’ sessions does not pay off.</td>
<td>3.1</td>
<td>3.0</td>
</tr>
<tr>
<td>TRANSPARENCY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Our customer provides us with any information that might help us to plan for their needs.</td>
<td>3.6</td>
<td>3.5</td>
</tr>
<tr>
<td>• Our customer provides us with feedback about how we are performing periodically.</td>
<td>4.1</td>
<td>4.3</td>
</tr>
<tr>
<td>• Our customer communicates the specifications and quality requirements clearly and accurately to us.</td>
<td>2.9</td>
<td>3.6</td>
</tr>
<tr>
<td>• The exchange of information between this customer/supplier and our firm takes place timely and frequently.</td>
<td>3.6</td>
<td>3.8</td>
</tr>
<tr>
<td>• It is expected that we keep each other informed about events or changes that may affect the other party.</td>
<td>3.9</td>
<td>4.8</td>
</tr>
<tr>
<td>TRUST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• We have strong personal confidence in one another</td>
<td>3.9</td>
<td>4.0</td>
</tr>
<tr>
<td>• We have strong business confidence in one another</td>
<td>3.3</td>
<td>2.8</td>
</tr>
<tr>
<td>• This customer/supplier keeps promises it makes to our company.</td>
<td>3.6</td>
<td>3.0</td>
</tr>
<tr>
<td>• We believe the information that our partner provides us.</td>
<td>4.3</td>
<td>3.3</td>
</tr>
<tr>
<td>• This customer/supplier is genuinely concerned that our business succeeds.</td>
<td>3.3</td>
<td>3.5</td>
</tr>
</tbody>
</table>

It is also of interest to note that this closer collaboration did not entail that parties were enjoying a level playing field. Atos Origin, as the supplier, was still seen as being in a more subordinate role towards the customer KPN. Once more, one might add that this is a fact of life in buyer-supplier relations such as these, and not so much a score that is indicative of the nature of the collaborative climate at this time.
However positive these scores are to be interpreted, there were nevertheless clear differences in maturity levels in the collaboration in other parts of both organizations. One particular telling incident in this respect was the “Colored Caps session” in November of 2004. In this session, there was a clear disagreement between the operational managers representing both sides (the ones wearing green hats, indicating that they were free to speak in the meeting), and the senior managers responsible for the overall process on both sides (wearing orange caps, indicating that they were there to observe, not to speak). Quite early in the meeting it became clear that the Green Caps, the operational professionals, were wondering: “Why are we here?” For them, there were no issues to be sorted out as the process was running fine and the results were worthy of celebration, as Figure 5 already suggested. Not so, however, for the Orange Caps. They took over the meeting and started, each from their own vantage point of view, attacking the mere roots, structure and agreements reached with regard to the Operational and Enabling KPI.

Why? From KPN side it became clear that KPN wanted to pay as little as possible whereas from the Atos side it became clear that Atos wanted to delay and loosen this risky concept of collaborative KPIs by allowing some traditional KPIs into the framework. After one hour of haggling, the first author who acted as the referee had to ask the Orange caps to continue their discussion outside, and the Green Caps to stay and finally spell out their opinion with respect to the result for 2004. Inside, the meeting was quickly settled and so the operational basis for payment time was agreed upon. Outside, the discussion continued for some time. Once more, our “clinical” orientation in this session provided an insight into the underlying sentiments of the players involved that a mere “anthropological” observer attitude could not have yielded (Schein 1987).
And so, first payment of the “drawing rights” took place in February 2005, as agreed. Over 2004, Atos was awarded 79% of its potential under the Atos Origin KPIs and KPN had to remit 7.5% to Atos of its potential 2004 exposure. We had successfully changed the rules of the game, the operational performance and, indeed, the nature of the relation. In terms of Lewin’s organizational change model, we had “moved” the relationship to a new level. This brings us to our next proposition:

**P2. In order to achieve the “move” necessary to effectuate a turnaround in a buyer-supplier relationship, it is effective to identify two-way performance targets for both buyer and supplier, and translate these carefully in a series of sessions with middle management and higher management, into financial rewards for often non-financial performance targets.**

In the years that followed, this system of two-way KPIs was maintained. The KPI office remained in place. One year later, operational performance in the PSTN/ISDN process had improved further, with fallout percentages down to 5-6%. In 2007, the final payment scheme of the two-way KPI scheme looked as shown in Table 3:
Table 3: Final payment results for Two-way KPI scheme

<table>
<thead>
<tr>
<th>KPI’s</th>
<th>2004 – 2007 Rewards Potential</th>
<th>Ultimate Rewards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation &amp; Redesign</td>
<td>6%</td>
<td>3%</td>
</tr>
<tr>
<td>Operational and Enabling KPIs</td>
<td>20%</td>
<td>17%</td>
</tr>
<tr>
<td>Total Cost of Ownership</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>KPN BU Client Satisfaction</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Sell to and with Atos</td>
<td>9%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Total of Atos-directed KPIs</strong></td>
<td><strong>55%</strong></td>
<td><strong>45%</strong></td>
</tr>
<tr>
<td>Atos wallet share at KPN BUs</td>
<td>27%</td>
<td>21%</td>
</tr>
<tr>
<td>IT Governance</td>
<td>11%</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Total of KPN-directed KPIs</strong></td>
<td><strong>45%</strong></td>
<td><strong>35%</strong></td>
</tr>
</tbody>
</table>

From 2004 to 2007, customer satisfaction with KPN BU management, one of the five Atos Origin KPIs, improved from 4.2 at the time of the crisis in 2004 to 5.6, 5.9 and 6.2 in the following years. However, perhaps the strongest evidence that the turnaround had indeed been achieved can be drawn from the following two testimonials from senior managers from the AO and KPN organization, collected late 2007:

"The collaborative KPIs were instrumental in building trust for the cooperation between KPN and ATOS in an innovative business area where both parties could benefit only if they were willing to invest and change their mode of operations. The success was safeguarded by setting attainable goals with a healthy balance in ambition and practical measurement of progress. The workforce at both ATOS and KPN was empowered on operational management level to drive the collaborative KPIs. Not boardroom deal-making but better understanding of each other’s processes, creating value together."

“The collaborative KPIs have been the lever for Atos Origin to change its standard behavior towards its customers. It has opened our vision in towards a more customer focused attitude. It has regained trust in cooperation between KPN and ATOS in conjunction with innovations to the benefit of both parties. SMART objectives were set with the mutual focus on the R (Realistic) goals, rather than the standard way of beating each other on the Measurability. Finally, success was safeguarded by mutual incentives for both Customer and vendor. “

(Jos Blejie, Executive Vice President Managed Operations Atos Origin)

This brings us to our third proposition, which treats the third stage of Lewin’s Unfreeze-Move-Freeze model of organizational change:

\textit{P3. In order to achieve the “freezing” necessary to consolidate a turnaround, it is effective to maintain a two-way KPI measurement \\& reward system over a period of multiple years, thereby ensuring that the “new” behavior becomes an established way of working within the relationship.}

6. Conclusions

In the past decades, we have seen in industrialized economies a shift from “manufacturing” to “services”. Today’s services typically are service “supply networks”, with multiple independent companies contributing to the service delivered to the end customer. In such settings, collaboration with the supply base is essential. This certainly holds in a service-to-service environment as the telecom setting that we have described in this paper. In this article, we have looked at how to turn around a relationship between buyer and supplier in such a service supply network, i.e. IT
outsourcing in telecom services. We have followed the ups and downs of the outsourcing relationship between two European firms, KPN as the leading Dutch Telco and Atos Origin as a leading European IT services provider. In an action research design, we have followed the relationship dynamics and the evolution of their contractual arrangements were followed from the original outsourcing deal in 2001, into a relationship crisis in 2003, and the subsequent resurrection from this crisis in 2004. In our research design, we have combined direct “clinical” work on the improvement of the relation with more passive, “anthropological” data collection and analysis.

In our clinical roles as lead manager and external consultant in this change effort, the authors developed and applied, the Collaborative KPI approach, which proved to be highly effective in turning this relationship around during this crisis. This approach contains of three phases, consistent with the three-stage organizational change approach originally developed by Kurt Lewin: Unfreeze-Move-Freeze.

In the Unfreeze phase approach, a certain amount of money is set aside in escrow. This money is paid to the supplier if the supplier meets certain jointly defined (“collaborative”) KPIs, and if the buyer fails to meet certain jointly defined KPIs for her as well. The development of these joint two-way KPIs is initiated in a series of root cause mapping workshops in which operational experts from both sides participate.

In the “Move” phase, these KPIs are further refined in a KPI tree, involving different management layers from both sides. The KPIs for the supplier link as much as possible to the performance of the end customer, and are therefore not fully under control of the supplier. This requires a partnership attitude and a certain amount of risk-taking, on both sides.
In the Freeze phase, these two-ways KPIs become the standard way of measuring and rewarding performance on both sides, over a number of years, so that the new nature of the relationship and the procedures securing it become institutionalized.

In our “anthropological” role as observant researchers, we have supplemented the insights gained from our direct involvement as change agents with the companies involved with additional insights prior, during and after our direct clinical involvement. *Ex ante*, we have used prior theory and methods we as authors had developed several years before our interventions to guide our change approach. *Durante*, we have collected data via questionnaires on attitude changes and have conducted several rounds of reflection and peer review on diagnosis of the setting at the time and best steps going forward. *Ex post*, we have continued our interviewing and have sought feedback from both practitioners and academics on our preliminary findings to further sharpen our insights.

In total, these research activities span more than a decade, while the direct change effort lasted just over a year. The present article presents our current level of understanding. However, we firmly intend to keep our virtuous cycle between insights from theory and practice going on for a long time, because *nothing remains quite so practical as a good theory*…

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