

Justice in Business-to-Business Relational Exchanges and Contracts

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Abstract

Industrial marketing researchers have developed sophisticated analyses of interactions among business actors in which their exchanges often feature products and services subject to incremental innovation. Relationships feature strongly in this body of research and it is perhaps surprising that the commercial arrangements, such as contracts and management accounting, have featured to a lesser extent. There has been some interest in Macneil's work on relational exchanges and contracts and we take this as a basis for a comparison of three cases of service innovation in engineering. We are particularly interested in developing the agency implications of Macneil's work, which concentrates on situations, such as the fundamental qualities of contracts. In particular, we assess the practical problem of how actors combine the asymmetry of often known and immediate costs of committing to projects and exchanges in the context of relationships, but where the outcomes, distribution of benefits and any compensation are uncertain in quality, quantity and duration. We find that actors mobilise the concept in practice of relationship or exchange justice, providing motivation for them engaging in exchanges which feature incremental innovation.

Keywords: Justice, Relational Contract, Network Citizenship, Interaction, Veil of Ignorance, Services

1. Introduction

Business-to-business marketing researchers, including those in the IMP tradition, have set out a comprehensive research agenda according to their understandings and observations of exchange activities, processes and contexts. Product and service development, exchange, interaction and collaboration occur regularly as normal and informal events within business relationships as well as being formal, planned and envisaged outcomes. In this paper, we are interested in how actors who take part in, and indeed construct, such complex exchanges also justify to themselves, their particular trading partners and their employing companies the commitment of resources to these multi-faceted projects of innovation, co-development, interaction and exchange (Cova and Salle, 2008). One practical dimension of exchanges undertaken by actors in business-to-business settings, which has yet to have a significant influence on research, is the asymmetry of inputs or resources being devoted to developing exchanges often having accountable qualities and consequences despite the contingent, uncertain and continuing qualities of outcomes. Actors are often accountable for their gathering, capture and deployment of resources including their own time, in different ways, but exchanges have many outcomes, some accruing to individual actors, some being social and relational rather than commercial, and others being uncertain in quality and duration.

Conceptually, we situate this paper in the theoretical contributions of Macneil (2001), as the qualities we identify above seem to fit quite well with his approach to relational contracting (Blois, 2002; Harrison, 2004; Ivens and Blois, 2004). Campbell (2001: 15-20) argues that 'relational contract' creates its own norms over time, which allow exchanges to extend over time as a way of dealing with the complexities that typify many business-to-business exchanges, of fostering the idea and even ideal of norm as a counter to short-term and individual utility maximising behaviours. 'Relational contract' could be interpreted as a hybrid, combining social norms and with an emphasis on relationships as stable and reliable means of entering into and perhaps managing those exchanges, and contracts, which capture the 'managing' element with more precisions. 'Relational

contract' indicates an interest and articulation of the activities that different actors involved will undertake across an exchange (episodes, event or project), including the distribution of costs and benefits associated therein.

Another important dimension of Macneil's explanation of relational contract is its integration with other norms prevalent in society, of some integration or sympathy with a social matrix as well as reference to those norms emerging within a relationship, through the experiences of creating a surplus in the face of technical and organizational complexities. An extension of this literature concerns relationship justice, in part as motivation for actors to engage in an episode, event or project of exchange. However, we note that Macneil's focus is necessarily institutional, concerning the institution of contract, so having less of a focus on action and agency, and it is to this dimension that we turn in this paper.

In analysing our cases, we examine specifically how actors draw upon their practical concerns of justice in order to organize their exchanges over time as part of events, episodes of exchange or projects. We note that the exchanges are characterised by inputs that are fairly easily subject to calculation, and outcomes, which are highly uncertain. In our case study, these characteristics promote concerns of justice among those undertaking exchanges as distinct from trust. We elaborate upon how individuals make a 'relational contract' work in practice and as a process because in addition to the significant uncertainty as to the outcomes of an exchange, and how benefits (and to a lesser extent costs) are allocated as envisaged episode of exchange draw to an end, individuals in our case recognised the benefits of this uncertainty in making their exchanges work. Beyond their veil, where developed successfully, individuals in the case tended to draw upon an overall "system trust" to support an effective collaboration in exchanges and interactions.

In this paper, we develop a research design to compare three similar cases of business-to-business

exchange, in which actors with established business relationships entered into projects at, more or less, a proof of concept phase, in the development of a business service, which can be understood broadly as incrementally innovative. The business service is one in which a large transnational engineering company was developing optimized ways of servicing large and complex sets of capital equipment (identifying and monitoring key components within systems, capturing interdependencies between components and parts of systems), aimed at the life of that equipment and at securing longer contact with clients. The company was in many cases the OEM supplier of that equipment too, but this was not essential in development and marketing the service as the service could also include sales of components to fit in with the overall capital equipment. The three cases are projects at proof of concept, two of which were in-house in the sense of the client being another part of the engineering company, with one being a separate customer. In all cases, key actors needed to make decisions about identifying and committing ‘their’ resources, which included some combination of the personal and the corporate, to the extent that a significant proportion of the resources being committed were visible to corporate reporting and attracted a requirement to report costs, benefits, risks and timescales.

We find that impersonal factors have to be supplemented by more personally related justice considerations in research. Postulating “network citizenship behaviour” as a key element for turning regulated co-development into efficient co-creation, we provide an outlook on “value-in-exchange” and “value-in-use” corresponding two types of network justice respectively, thus addressing the gap in the above research agenda.

We organize the paper as follows: first, we review the concept of justice as adapted to business-to-business exchanges. We set out our comparative case study method and introduce describe the research setting. We examine and analyse the cases comparatively, first by unedifying important themes across the cases, and then comparing the emerging findings with themes from the literature

review. The conclusion will contain an outlook of desirable extensions to management research practice.

2. Justice and Research into Business-to-Business Exchanges

Macneil (1985, 2001) has over many publications established the ‘relational contract’ conceptually and to some extent in legal practice, extending the common norm of the legal contract to include the qualities of social relationships, with these allowing specific contracts of exchange to be performed, and indeed to allow the general idea of contract to work in societies. IMP researchers have taken inspiration from Macneil’s work, as comparable arguments can be made as to the role of relationships in facilitating and organizing business-to-business exchanges (Blois, 2002; Harrison, 2004 Blois and Ivens, 2007; Grönroos, 2010).

Business-to-business exchanges can be considered as events or episodes, indicating a duration, a process, and some time-bounded quality, so tending to be complex and interactive among actors, described as a “fluid and reciprocal vehicle” providing a “value-creation space” combining special traits of the provider and detailed needs of the client (Crowther and Donlan, 2011). In a series of reciprocal exchanges typically expanding over several years, distributional and procedural implications cannot easily be fully grasped from the outset (Geiger and Finch, 2009). Rather, actors commence their exchanges and maintain them on the basis of a combination of calculations or assessments between economic requirements, dynamics of the social setting, and beliefs that outcomes will provide more benefit on various levels of personal and group work life (Fetchenhauer et al., 2010).

Kjellberg and Helgesson (2006) and Araujo and Kjellberg (2009) argue that individuals frame their exchanges, and that emergent frames are collective and continuing achievements, with frames often

combining established means of calculation, theories and concepts, practices and other local accomplishments. The framing provides a means of simplifying an activity – here, exchanging – and provides a provisional guide to what counts and why it counts as an entity being exchanged (Callon, 1998; Callon et al. 2002).

Actors seem to make their business-to-business relationships more stable and perpetuated by rich and interactive feedback processes in which the exchanges of knowledge informally between a supplier and their customer are vital (Uzzi, 1996; Grönroos, 2011). While these militate against radical innovation, the ebbs and flows of exchanges seem also to encourage incremental innovation (Vargo, 2009:34). Some have characterised this rich socio-economic interaction as being “co-creation” (Vargo et al., 2008) and enhancing competitiveness (Meier et al., 2010). Established research into relational exchanges indicates that organizations accordingly develop social and economic incentives, tailored in the management of business units to encourage the contributing actor’s enthusiasm and commitment towards rich inter-organisational exchanges.

It is well established in research into relational exchanges, and into incremental innovation, that the costs of inputs are subject to calculation for instance through a company’s normal management accounting processes, and augmented by processes for managing product and service development, but that benefits are uncertain in size, timing and distribution. The respective dyadic exchange of resources like data and expertise but also financial means can be governed and monitored by a so-called “fairness index” (Van den Bos and Lind, 2002) calculated by a situated and subjective “justice heuristics” (Van den Bos, 2003; Falk et al., 2007; Rosen et al., 2009).

Researchers have concentrated on a key concept of individual behaviour and motivation, namely “organisational citizenship behaviour” (Asgari et al., 2008; Rosen et al., 2009; Organ, 1988; Podsakoff et al., 1990; Liu, 2008). Nejati and Nejati (2008) and Asgari et al. (2008) argue that “organizational citizenship behaviour” explains a positive deviation of individual conduct from that expected as being “rational”, depicting actors conscientiously giving priority to corporate interests

over personal inclinations. Moreover, organisational citizenship is linked to the beneficial, altruistic attitude of staff taking into account temporary or even permanent imbalance in work load or information flow (Folger, 2001). This bounding of what might otherwise be seen as an individualist mindset has been found to foster processes such as knowledge sharing (Lin, 2008; Klendauer and Deller, 2009; Fang and Chiu, 2010) and constructive extra-role performance (Cohen-Charash and Spector, 2001).

However, these organisations are commonly integrated into a wider network of industrial actors with dispersed capabilities and constant exchange of information (Mouzas et al., 2008: 172). This embeddedness facilitates the transfer of such an altruistic contributor's knowledge, mostly without it being easily tracked and audited, towards business units and organisations beyond the co-creating parties. This realm in the residual network is typically unknown to a particular actor, and is where competitors, other customers, partners, or yet unknown organisations are located, hidden behind the “veil of ignorance” (Rawls, 1971; Traub et al., 2005; Kroggel, 2007). In Table 1, we set out a range of views of justice, drawn from marketing and management research.

[Table 1 about here]

Therefore, the researcher view of there being actors who are particularly involved in developing and carrying organisational citizenship behaviour in business networks, is highly conditional upon their researcher assumptions of the likelihood of exploitation in that unknown realm. The degree of “system trust” (Adler, 2001) – derived from past experience of fair dealings with dedicated contribution – additionally govern the individual's socio-economic behaviour (Irlenbusch, 2003; Falk et al., 2007). We envisage a business setting where members of distinct business units make exchanges in connection with projects that are in themselves somewhat uncertain, in the sense of incremental innovation. While the costs of participating in the project, in making the exchanges,

can be calculated using normal management accounting methods, the benefits and distribution of these benefits remain highly uncertain. So we assess how individuals frame these projects, so that they mobilise and commit resources in the expectation of some benefits, however diffused and uncertain.

3. Research Design

Relationship justice is a concept that draws on a number of theoretical approaches, which in themselves are not necessarily compatible. The cognitive and heuristic approaches are inherently mentalist, of individuals making judgements, whereas others focus on frames, embeddedness and networking, which can all in different ways be seen as challenges to the cognitivist and mentalist approaches. These questions are deep-seated and beyond the confines of an empirical study. Hence, we developed a comparative case study approach in order to examine how actors went about reconciling their commitments and expected benefits from engaging in a collaborative exchange, given the common setting of a project aiming at proof of concept in the development of a business-to-business service.

We adopted qualitative approach to undertaking fieldwork in order to examining and compare three similar projects in which the proof of concept was implemented and assessed. We drew upon a broadly pragmatist and interpretative method, paying particular attention to following an abduction cycle. The abduction as the “first step of scientific reasoning” (Peirce, CP 7.128) herein follows a subsequence of observation of a novel “percept”, categorisation into a “percipuum” and thereby removal of surprise, and verbalisation of a “hypothesis”, by Piekkari et al. (2010) labelled “theory building case studies”. The subsequent “detection” (Peirce, CP 2.430) necessitating deductive and inductive steps (Peirce, CP 8.209) seeks to verify or disconfirm the new type, thus resulting at least in one subsequent loop starting with observation. Checkland’s (1991) abductive cycles in action research following the pragmatist tradition (Joham et al., 2009). At least, these iterations will lead

to continuous refinement of the initial coarse assumption (Weick, 1989) in what Andersen and Kragh (2010: 39) term “in vivo” approach; in the extreme, science will iteratively generate and test hypotheses as long as no confirmable theory has been put to the proof (Peirce, CP 5.181). Particularly in action research, these cycles require appropriate reciprocal action between theoretical, methodological, and empirical steps (Dubois and Gibbert, 2010).

Drawing on established ethnographers, we are influenced by the idea of ‘ethnography at home’ in following projects close at hand within companies, and in reflecting on one of the researcher’s previous experience as an engineer and salesperson in the industry we now research.

Following Van de Ven's (2007) concept of “Engaged Scholarship”, we undertook a number of iterations of ethnographic participant observation, analysis, negotiation of intermediate findings and conclusions with those researched. Going back to the literature, we refined in terms of the expectations established therein, and carried back the intermediate insight into the cycle starting with the next participant observation.

The cross-case study research was carried through at a large, industry-leading, multinational company with a strong technological tradition in the power and automation industries, between November 2009 and May 2012. Three cases of incremental innovation in industrial services were examined and analysed in-depth. Following our interviews with the business unit manager, we were stratified that the three cases were equivalent in terms of an equal potential for success and embedded in similar settings but with different levels of success.

Detailed notes and memos of the participant researcher's observational notes and comments together with transcripts of face-to-face interviews and tertiary materials – several hundred pages in total – were coded into a meaningful system. We were particularly interested in situated pragmatics, which we understand to be the exchange of knowledge – in our cases as integral to the business-to-business exchanges we were studying – across boundaries of various interacting meaning systems

(Carlile, 2004: 558). The three cases featured mainly the sales, engineering, industrial operations, and computer science domains. By thus revealing actors' exchanges and transformations of knowledge in situ, we captured singular instances of negotiation and ordered those into micro-sequences. Moreover, we carried through the idea of perspectival triangulation with respondents – mostly engineers and computer scientists by formation – in the feedback stages with the help of an epochal self-developed co-creation scorecard and the translation of findings into mathematical representations. The development of a meta-framework for the research methodology and triangulation with ideographic semi-quantitative techniques strengthened our argument.

4. Research Findings

Complex equipment in high technology industrial operations is increasingly monitored and elaboratively maintained using the latest knowledge in computer technology, like the (SNMP-) signal integration of single machines and “intelligent” (RFID tagged) goods into electronic enterprise asset management systems (Kumar and Balraj, 2006). Basic electronic signals of production and transportation machinery and scanned information on the movement of assets and goods are collected in a variety of computing and database systems. Middleware systems try to make optimum use of these data by capturing, storing, monitoring, and processing them in a consistent way for business and industrial processes.

For intelligent sense making of those signals collected, like sophisticated automated prioritisation of maintenance and repair by service impact management (Karimi et al., 2001), such industrial middleware modules are increasingly sought to be mutually integrated. Due to the plethora of proprietary data and processing standards, including a heritage of mainframe systems, and the non-standardisation between various information and engineering technology domains, this integration constitutes one of the current challenges in industrial advancement. What for the technician in the

plant may look like an incremental development, often requires radical innovation and bears high risk of data loss, production outages, or malfunction. As artificial decision making technologies – in isolation – become reliable, industrial strategists moreover seek to leverage technological efficiency potential and eliminate the human bias in decision making, especially in crisis situations, artificial decision making technologies (Nemati et al., 2002), thus adding an additional complication to the extant information technology process integration gap.

We were looking at the multinational engineering company's service division is a world-wide organisation managing entire customer plant operations by means of these advanced technological capabilities, and tailored processes. To sustain the organisation's claim for specialist prevention and repair capabilities, they need to evaluate and self-develop innovative tools keeping them ahead of competitors' skills and knowledge.

4.1 Background to the three cases

Three similarly innovative and challenging projects aiming at differentiating innovation, all within the company's research and development department, were observed over a period of more than two years. Case 1 and Case 2, each with a duration of about two years, were internal where less formal agreements led to a tight cooperation with scientists and operational divisions, whereas Case 3, taking three years, was settled by a formal contract. The funding in each case was strategically granted from innovation funds overlooked by steering committees.

The first case, attempting a computer aided prediction of complex machine parks' downtime and optimum repair intervals, had been induced by “full service” sales managers responsible for stabilising revenues in high level maintenance business. The company's full service division at the time was very successful, with high managed services volumes worldwide, but needed to keep up with competitors' claims that an effective product life cycle prediction was already feasible. Initial specifications came from sales and maintenance specialists working on-site at full service plants. The modelling was then carried through by a computer scientist, steadily advised by technical

“champions” in the field world-wide. For the final proof of concept, real life data of complex timber plant machinery was taken to calculate the viability of such a maintenance and outage prediction.

The project, which was carried out with the highest technical standards, proved that with extant electronic equipment, programming, and production signals, such a claim could not be maintained.

Quite similarly, the second case was also induced by sales and maintenance and aimed at developing an integrated hand held based diagnosing, dispatching, and billing system for on-site engineers. Such a technology was increasingly seen as state-of-the-art and aimed at eliminating manual steps in ERP integration and delays in billing. A German and an Egypt team volunteered as model service organisations, specifying processes, providing information, and testing the pilot application. Unless the first case, the integration into the corporate planning system turned out to be feasible and the project successful. Consequently, the system is now sold to further units and customers and new functionalities continuously implemented.

Case 3 was carried through in an industrial consortium, with the goal to seamlessly move and monitor “intelligent” RFID tagged objects throughout generic processes. Supervised by a strategic sponsor from a scientific institution, this development was to integrate the partnering information technology companies' respective core programmes into the trade processes of participating businesses in logistics, service, and wholesale. Managed by the same company as in the first two cases, this was the most comprehensive and intricate project. At a time, about five organisations would attend the regular meetings needed for technical and processual coordination. Some of the goals were reached, as technical understanding of data interfaces and complex event processing. Also, some scientific publications emerged from the proceedings. The desired prototype to be exhibited at trade fairs and marketed for industrial application was however not finalised and the perception on “success” accordingly mixed across project partners.

4.2 Setting up the projects, alignment

As depicted in Table 2 (below), all three innovation projects started with a kick-off stage with a thorough specification of what would later be the value-in-use for the recipient.

The project leader of Case 2 recalls: *“Well, from outside there is naturally always the necessity to work more profitably, to increase turnover, so this is how in any other business unit, these targets. And then well you have to see how you can realise those, how you can secure your future accordingly, and this was precisely a project meant to optimise processes, so these were simply the grounds”*.

At times, the skills and capabilities were difficult to effectively mobilise towards the agreed goal.

One scientist, at a time project leader in Case 1, recalls that he couldn't make sense of the initial ideas at once:

“I went through all the documentation which had already existed for this project, and then, well, I worked out a plan what I imagine as next steps and, well, the project plan as is has to be reworked as well, I processed this accordingly’. And then I introduced my ideas to them.”

“First they said ok, then one month later they came back and indicated that we might have to talk over the requirements once again.”

In such situations, a thorough weighing of the supplier's capabilities on the one side against the value desired for the (partly internal) customer on the other side was again needed:

“And the business units were involved from the outset. [...] The project's aim had been to have a pilot and they [the business units, ann.] had ultimately become users, of the result, which then were the user configurations. And those [users] were of course interested in seeing their issues realised, by us as a research unit. [...] We had the business unit as a whole for two months, and then you have the possibility to meet two or three times a months and this has been very sophisticated. We built up a peer-to-peer chat and another person would come here, from their IT department for example.”

Partly by different technical pragmatics, partly by different emphasis on research on the supplier side and application on the other side, thorough discussions with technical and organisational mediators with a more comprehensive view in Cases 1 and 2 brought quite effective alignment:

“Well these are both factors, with having to imagine in such a business unit, that there are rather problems becoming acute then, and not always the innovation friendliness. With [the attitude] currently being a healthy mix of the two. On the one hand, you want to be more innovative, on the other hand you want to address problems and these were the two issues.”

In Case 3, with the more formal setting, I also came to observe long hours of alignment activities:

“Dr. A insisted to know everything about the work of the service personnel. Of course they had talked a lot about “is”(actual) processes, rather than the to-be-modelled “to be” (target) processes. But, they needed to know what the service person did, whether they went into the basement to get a document, where do they get it from, and why at all”.

“A paper Dr. B had provided before Dr. A found very helpful “This is already very close”, and suggested to project it on the wall and work on the specific use case “Do you think we should project this onto the wall now and smirch our hands with it?”

The formal effort spent on alignment was even higher in Case 3 than in the two other cases. As I noted,

“He mentioned that Dr. A had spent the past two days visiting here anyway, discussing with Dr. B. and him, and composing today’s presentation about company Y specific requirements. C: ‘He could bring his own bed’, something he repeated later to introduce Dr. A when he finally appeared.”

The much more formal alignment effort in Case 3 had however limitations. Many opportunities to escape the rigid formalism of co-creation, which is not explicitly sanctioned in such meetings in general, were actually taken:

“Even though the table was laid continuously, occupying the first third of the long table with cups and glasses, the later arriving participants had chosen seats in the back where there were no dishes, in order to establish space between them and to be able to place coat and bag on the intermediate chairs. One reason might also have been that they all took out their laptops and seemingly worked on other things than the meeting at some occasions; they did not want to let others see their screen.”

4.3 Making the exchanges

We observed that the effectiveness and mutual appreciation of the exchange differed across cases, in direct consequence of their project partners' conscientiousness and genuine engagement. As the project leader of case 1 recalls, *“In other projects, the ties hadn't been so strong, and [...] if people [...] thought they would not benefit or that the benefit would not justify the effort, they would jump off the boat very quickly.”*

Also in Case 2, the overall tenor was highly nurturing and encouraging: *“There were aha experiences, clearly, because the feedback was constructive and we learnt something out of it consequently.”* One of the project's divisional co-creator, a service team leader across Germany, points out that this constructive atmosphere required of him and his personnel a high level of entrepreneurship:

“I'm simply responsible for the members of staff regionally, and all the preliminary work I did I was short of in my regular work time. I also did this with pleasure, because it is good for the team, but what I missed at the end of the day was that the [wider] organisation offered no support.”

However, in the team leader's conviction, such a dedication is a prerequisite for successful co-creation and makes him feel better as well:

“Well, I clearly saw the benefit I have now in my business as well, I saw that it was what we needed. Therefore it is a personal interest. I am very keen on simplifying processes by IT, in this regard I do proceed really strongly. Everything I can economise in administration, I'm rigorous with that, because these are things no customer pays us, and accordingly it was very beneficial that I could administer there. And I'm not cross with [my company] either. I would just have felt better if such a pilot project; if I had received an offsetting I would have felt more comfortable. But for all that, doesn't matter, nonetheless I enjoyed doing this”.

As the respective pilots were programmed and ready for demonstration and test runs, the prior effectiveness of co-creation became evident. Case 1 carried through a comprehensive test of the suite at a large plant which the company's service division managed. That it brought useful insight had to be attributed to the operational persons, as the scientific project leader states:

“Without the pilot team, I clearly have to say, it is all worthless. I mean you developed something and you have to verify and implement improvements based on the pilot's insight. If they had been reluctant or not been keen on it, you would have had to forget it.”

In Case 2, a technician on-site had to devote considerable extra effort in the project to make the

pilot run: *“As [our business] is a customer support around the clock, during the start-up I had to be involved personally to solve some technical issues, over the night, during holidays and weekends”.*

The inherent dilemma of being a pioneering team risking exploitation by the wider network is well perceived by individuals. As the service team leader in case 2 further explains the project situation:

“Well here we are four groups, mine being the smallest one. And in large enterprises it is like this, the smallest group is engaged to be the pilot which of course generates even more work. And on the other hand, as the smallest team we naturally have the highest need for introducing such a tool like Mobile Service Assist in order to even better face the competition. It's a quagmire. The small group is strained doubly and the large groups then jumping on the bandwagon place themselves thereto and virtually get everything done very quickly.”

At a time, our respondent pointed to the operational divisions' conscientiousness even in periods of frictional following the collaboration:

“I would just have felt better if such a pilot project; if I had received an offsetting I would have felt more comfortable. But for all that, doesn't matter, nonetheless I enjoyed doing this”.

In Case 1, the altruistic behaviour of single departments was described quite similarly by the scientific project leader:

“You had the feeling they support you even though as a reference group they will at best have a secondary benefit and it was basically extra work for them. [...] They supported me extremely well, and it made me embarrassed having to call them on the phone at night literally”.

Only by means of the effective co-creation in specification, feedback on development, and piloting, a valuable “product” (a package of innovative processes backed by suitable IT tools) could be enabled. Even though in case 1 this was not attained, due to the poor quality of real-life operational raw data, the engaged collaboration had made a product related value as probable as possible. This is confirmed by the managers of the service division – also part of the sponsoring steering committee - who see the maximum potential had been raised and there is indeed a development service related “success” - a “value in exchange”:

“I think it was a successful research, even though the results were more or less negative. But the fact that we now know: what is possible and what is not at this stage and the fact that we were having an open mind, to look at it from different angles, that makes me believe that people are trying to deal with this efficiently here. [...] it gave us insights that we didn't have. We used a lot of time and effort.”

For Case 2, the balance became even more positive. As the “product” - a process suite integrating mobilisation for on-site service engineers with process support for in-house technicians and dispatchers, became finally accepted by the piloting organisations, and further marketed to the field, the “classical” notion of success – value-in-use – had been attained. This was expressed by an Egyptian service manager who had received one of the pilot applications:

“The planning for the business unit has become simpler, they have a better overview on where their technicians are.” But also the technicians were praising the new tool: *“The platform we introduced is now integrated into other systems, which means there is less [data transfer] work as well and the feedback was accordingly also positive and the field staff can work better as well.”*

Moreover, the collaboration, alignment, distribution of benefit and burden, was perceived as

extremely positive by all contributors in the small project network. One service team leader expressed why he was highly content with his empowerment during the whole innovation cycle:

“We had somebody in form of my person, where there quickly was a one-to-one relationship to address such a subject. Everyone had a full grasp on their organisation, as an example I had direct access to ERP customising, you had little way, 'Mister L' [his last name] had direct access on ERP information within the group, you were able to communicate on a technical level directly and solve problems quickly. And so you accomplished things quickly, this I consider a success.”

In Case 3, underpinned with a formal contract, people were not personally involved to the extent as in the other two projects. Moreover, due to strategic changes in departments every now and then, there was a constant fluctuation of contributors which made effective alignment very tedious. As I noted immediately after a project meeting of Case 3:

“Also, the second SAP computer scientist, Dr. A, [...] knew little about the project status which is already 2 of three projected years under way and which he is now to inherit from the first one. He tried to be a hardliner but was always fought back by the much older Mr E who said that everything was already known, and that everything was due to the late entry of Dr. A. After many hours, both converged in their perception what was missing.”

4.4 Settling up the contributions and benefits

Over and over again, I came to observe considerable discrepancies in perception of the project partners' respective role and contribution. This is illustrated by situations like the following:

“C stated, 'Within the project consortium which Dr. B called network, the company [researched

upon, ann.] view themselves as being the idea provider, company Y [Dr. A's company, ann.] inventing something by themselves joyfully.' Dr. A admitted that his company, Y, had some more homework to do and offered to approach each contributing party in the upcoming weeks. Dr. B again insisted in a broader view "What is the result of two years of work, if at all?" and Mr. D enumerated 'Execution environment, rule engine, eventbus, event processing'".

The effectiveness of co-creation was doubted repeatedly by some or all of the parties in Case 3. This is illustrated in the conflict I came to observe quite frequently: did the information provided fulfil the co-creators' needs?

"Sometimes the 'input' debate would take excited or even emotional traits. [The company] would feel they had provided overly rich and thorough data, whereas one or more of the project contributors claimed there had basically nothing (usable) been delivered so far altogether. Thus, once in a while, C. induced an ordered brainstorming for reconciliation of expectations and diverging aims."

In the end, the lack of formal specification of the value-in-use in the third project under scrutiny became obvious. As I noted in one of the final presentations,

"It also became clear that "success" was defined quite differently among the presenting parties. Some would enumerate the doctoral dissertations generated out of the project, others how many of their existing technologies they had managed to put into a module, and still others which industry they thought of selling the solution to and for how much. As there was no overall key performance indicator defined for [Case 3], they all seemed valid in their own right."

Moreover, every participating party had tried to implement as much of their own technologies and

re-usable modules already developed, that a conscientious contribution towards the whole project in Case 3 – especially towards the modules they had only indirect influence on - was not discernible.

What was even worse, if one collaborator had tried to show such a commitment, it would have breached by the selfishness of the immediate and, even more, wider network automatically.

Accordingly, it was case three with the only project leaving the strategic sponsors dissatisfied:

“This “customer” feedback could include quite harsh statements. One of those addressed the lagging behind the three-year schedule, indicating a further extension would be needed. Another rebuke always included financials, pointing at the millions of Euros spent on the innovation project by their [strategic, ann.] money.

The most acrimonious critique would however be made at the failure to coordinate developments across sub-projects. By the presentations made throughout the days, it had become clear that there was no common technological platform, almost no data interchange and integration, and the most diverse approaches for processes and industrial sectors. In his critique, the [sponsor] used the little flattering expression “patchwork rug of projects”.

Thus, also a joint presentation of the project on a major stand at prestigious computer trade fair Cebit, was denied to the consortium. But it was equally clear that this would have to remain the only formal sanction that could be imposed on the participating organisations.”

Contrasting our findings across the three cases, we could draw a differentiated picture of input, situations, attitude, and respective outcome as follows:

Table 2 summarises the characteristics of the respective cases as mainly experienced by the respective participants and steering committees. In Case 1, the highly iterative negotiation on the assumed value-in-use alongside with comprehensive alignment, facilitated by a fundamental mutual

trust and conscientiousness, led to a perceived success even of a technically not viable project. Case 2 emphasises that a formal contract is not necessary where technical details and the atmosphere in the collaboration refute the fear of exploitation. Conversely, in the third project considered, value and success were not achieved, mobilisation towards the joint goals – which moreover do not include the presumed value in use – occurring only on an intermittent level, and the legalistic nature of the collaboration not requiring extraordinary dedication.

[Table 2 around here]

5. Analysis

Hakansson and Snehota (1995) have set out the research agenda towards relationship building as the key driver for an overall positive organisational development. As depicted in the introduction, the three cases of complex industrial innovation co-creation commanded the formal mechanisms for mobilising specialist skills, knowledge, and capabilities into a joint domain for alignment and harmonisation of goals to take place. All three projects were carried through in almost identical socio-technological environments, relieved of immediate financial pressure through strategic funding from a 3rd party steering committee. We compare the main points emerging from our analysis in Table 3, below.

[Table 3 around here]

Despite the paradigmatic similarities, we found significant deviations in the execution, outcome, and the, respectively perceived, “success” of the innovation ventures. Reconciling these findings with the justice concepts identified in the literature review, we obtained a comprehensive indicative picture of their respective relevance in business-to-business research:

The synopsis in the above table shows that network citizenship behaviour as postulated at the outset of this paper was practically only possible in the projects of Cases 1 and 2. Therefore we suggest an extended research agenda as depicted in the introduction, taking into account the people related elements in business-to-business industrial exchanges for innovation and co-creation.

Similarly, managers and steering committees in industrial networks have to step out of the mechanistic administration of joint projects and obtain a comprehensive picture of the network citizenship atmosphere, eventually seeking dialogue and corrective action. The justice related factors in such intricate, strategically funded, projects are however hard to assess, especially as there is no regular “hard” exchange like monetary selling price or other measurable transfers of resources. For managers to reflect the co-creating party's perception of the innovation process, we suggest a qualitative review from time to time, contrasting mutual perceptions of events and thus providing a synopsis of the accumulated exchange and illustrating the degree of social contract.

6. Concluding Remarks

As Ritter and Gemünden (2003; see also Walter, 1999), pointing to the IMP research agenda, state, managerial tasks in initiating and sustaining a B2B network do not only pertain to isolated dyads within. Such a network has to be managed systemically, as a whole organism. We have shown in our three cases that the dyads may well be carrying through best-practice alignment activities, including procedural and distributive efforts. Failure to align the wider network and address its

anticipated fairness deliberations will however negatively affect conscientiousness, altruism, and the overall network citizenship behaviour illustrated in this paper. It is a stable climate of a comprehensive relational contract and effective managerial reconciliation beyond the various “veils of ignorance” which most encourages successful co-creation.

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Table 1: Justice Related Concepts in the Literature

Justice (General)	Authors	Explanation	Potential empirical indication
Justice Heuristics	Van den Bos, 2003; Falk et al., 2007; Rosen et al., 2009	Subjective mechanism guiding situated fairness deliberations	Deliberations whether or not to continue collaboration in a given socio-economic setting
Relational Contract	Macneil, 1985; Harrison, 2004	Unitarist goals and socio-economic behaviour among exchange partners	Renouncement of exploitation of a new, unilaterally favourable situation
Veil of Ignorance	Rawls, 1971; Traub et al., 2005; Kroggel, 2007	Limitation of judgement relevant information to personal realm	The “wider justice” in a collaborative network, unknown beyond a point
Justice (Types)			
Distributive Justice	Brockner and Siegel, 1996; Traub et al., 2005; Fetchenhauer et al., 2010	An even allocation of means and risk; for example allocated by mechanisms of desert, need, equality, or equity.	Equal distribution of means, effort, risk, and outcome
Procedural Justice	Brockner and Siegel, 1996; Adler, 2001; Cropanzano et al., 2001; Colquitt, 2001; Neves and Caetano, 2006; Fang and Chiu, 2010	Interpersonal justice, interactional justice, informational justice.	Dignity and courtesy, transparent processes, voice to everyone, flow of information

Table 2: Cross-Case Characteristics of Innovation Project Studies

	Case 1	Case 2	Case 3
Formal specification of value-in-use	Iterative	Yes	No
Mobilisation of skills and capabilities	Continuous	Continuous	Intermittent
Alignment	Comprehensive	Comprehensive	Partial
Effective co-creation, value-in-exchange	Confirmed	Confirmed	Negated
Formal contract	Loose	Loose	Strict
Sponsorship	Strategic	Strategic	Strategic
Observed relational contract	Strong	Strong	No
Network citizenship behaviour	Exemplary	Exemplary	Intermittent
Product related value-in-use	Negated	Confirmed	Negated
Service related value-in-use	Confirmed	Confirmed	Negated
Success	Confirmed	Confirmed	Negated

Table 3: Justice related concepts in the underlying case studies

Justice (General)	Case 1	Case 2	Case 3
Justice Heuristics	Due to prior experience of overall distributive and procedural justice in the environment, the participants' own genuine contribution was encouraged	Contribution did not have to be completely altruistic, as a tailor-made solution seemed feasible from an early stage of the project	Even though the distributive justice was influenced quite favourably by strategic funding, lack of procedural justice annihilated altruism
Relational Contract	It was clear from the outset that goals were aligned and no one would take advantage of others' temporal weaknesses	Bilateral goals and a wider comprehensive mission effectively fostered goodwill behaviour	Absence of joint goal and temporary exploitation of others' weaknesses hindered the relational contract
Veil of Ignorance	Even though all contributors towards the project leader could not see beyond their respective dyad, they could be sure of a stable ethos and thus a resulting long-term equilibrium in overall justice	The contributors towards the project leader could see part of the wider success and assumed stable network conditions outwith	The veil of ignorance was ubiquitous, as also dyadic collaborations' dynamics and agendas were not transparent. There was no prior experience with the network either
Justice (Types)			
Distributive Justice	Due to the strategic funding, the missing value-in-use and thus unfavourable distributive justice was partly compensated	Strategic funding and high value-in-use rendered the distributive justice highly favourable for all participants	Even though there was equal distribution of means, effort and risk among parties, the poor outcome bore no distributive justice for either of them
Procedural Justice	All participants confirmed that there was optimal interaction and information and high value-in-exchange	Exemplary value-in-exchange was confirmed by all respondents	Dignity and courtesy, transparent processes, voice to everyone, flow of information – according to feedback, all of this was missing