

Working paper submitted to the 21st IMP conference, Rotterdam, September 2005

Market technologies and the configuration of market actors

Per Andersson

Stockholm School of Economics, Department of Marketing and Strategy

Katarina Aspenberg

Stockholm School of Economics, Department of Marketing and Strategy

P.O. Box 6501

S-113 83 Stockholm

katarina.aspenberg@hhs.se

Hans Kjellberg

Stockholm School of Economics, Department of Marketing and Strategy

Abstract

This paper explores how the introduction of a new technical device alters exchange practice and redistributes agential properties among the actors involved in an on-going exchange relationship. We present two empirical scenes from a study of the introduction of an e-procurement system at Chester Sweden, a subsidiary of a large multinational transport and logistics company. The two scenes are used to discuss some of the difficulties related to the conceptualisation of actors and agency when studying market practice. We relate our analysis to discussions and descriptions of actors and agency in sociology and in IMP research. We suggest that practical interaction can be fruitfully regarded as a process of interdefinition involving a sequence of prescriptions and subscriptions between acting entities, or actants. In this way, no restrictions are placed on the configuration of the acting entities. We also suggest that this configuration (of actants) is the result of a process of association and punctualisation, through which many elements are made to act as one. We conclude the paper with a discussion of three issues connected to the variability of actors.

Keywords: market practice; market agency; market actors; actants, actor configuration

Introduction¹

This paper explores how the introduction of a new technical device alters exchange practice and redistributes agential properties among the actors involved in an on-going exchange relationship. Increasing interest in market practices and the detailed study of concrete efforts to realise economic exchanges raises questions about our understanding of market actors (Callon, Méadel, and Rabeharisoa 2002; Helgesson, Kjellberg, and Liljenberg 2004). How are market actors configured and how do they change over time, e.g. by acquiring new agential properties? What is the link between the configuration of market actors and market practice? What types of agency is involved when we speak about market actors?

Within the markets-as-networks tradition, it is recognised in principle that business actors may come in different shapes and that their roles may vary (see e.g. Håkansson and Johanson 1992; Lundgren 1995; Ford et al. 2003). Yet, the issues of varying agential properties and actor configurations have been dealt with largely at the levels of individuals and companies, both in theoretical discussions (cf Håkansson and Snehota 1995, 192-197) and in empirical studies (Kjellberg and Andersson 2003).

The increasing interest in practice within social science over the past two decades (see e.g. Latour 1987; Wenger 1998; Schatzki, Knorr Cetina, and Savigny 2001), has recently spread to the study of markets (Callon 1998) and on to marketing (Araujo 2004; Kjellberg and Helgesson 2004). These efforts offer new tools for addressing central issues within marketing (and economics), particularly for studying the practical workings of markets. *What* possible shapes may economic exchanges and markets assume? *How* are these exchanges and markets shaped? The study of market practice in greater detail also offers opportunities to learn more about market actors. Rather than focusing on what actors are in principle, the study of market practice directs attention to the great variety of practical forms in which market actors may appear. Attending to the concrete actions undertaken by those involved in the buying and selling of goods and services, and the rules and tools employed by them as part of concrete exchange situations, illuminates the practical facet of being a market actor.

Building on the model of market practice suggested by Kjellberg and Helgesson (2004) this paper develops conceptual links between previous work on actors in the IMP-tradition and work on agency within sociology. Inspired by what Pickering (1993) has termed posthumanism in sociology of science and techniques, we do not start out by reserving agency exclusively to humans. Indeed, human agency is not our concern here. Rather, we seek to develop our understanding of (market) actors and their capacities in practical situations. And in this, we acknowledge the potential role of material agency. We propose that actors result from practical interaction and suggest the concepts of *prescription* and *subscription* (Akrich and Latour 1992) as a convenient way of analysing such situations. We further suggest that the configuring of actors can be understood in terms of a three-stage process of: i) associating entities, ii) strengthening selected associations, and iii) punctualising selected entities and associations (confer Callon and Law 1995; 1997; Latour 1999).

The paper builds on an on-going empirical study of the introduction of a system for electronic purchasing (e-procurement) of non-production related goods and services at Chester Sweden, the Swedish subsidiary of a large multinational transport and logistics company. This type of effort to reorganise the exchange of goods and services provides an opportunity to study practical aspects of actor variation and change. In the paper, we present two scenes that are based on interviews, observations, and documents collected from Chester Sweden, from Proceedo the supplier of the e-procurement system, and from two of Chester's suppliers.

To investigate if and how the introduction of this new technical solution affects the agential properties of buyers and sellers in an exchange relationship, we make no *a priori* assumptions as to the character of the involved actors. Rather, we employ a *performative definition* of the object of inquiry (Latour 1987, 1996; Czarniawska 1993), allowing the identity and constitution of actors to be determined empirically by studying how agency is awarded in concrete exchange situations. This

¹ We wish to thank the anonymous reviewer for bringing our attention to several points where our arguments needed to be clarified and for suggesting lines for further development. Unfortunately, not all of the suggestions have been fully attended to in this version.

approach, incidentally, is closely aligned with the principles argued for within the markets-as-networks tradition. “Companies are actors because they are attributed the identity of an actor by those who interact with the company.” (Håkansson and Snehota 1995, 195)

The paper is structured as follows: first we review some theoretical conceptions of actors and agency, introduce a conceptual model of market practice and identify three issues that need to be further elaborated concerning the relation between actors and market practice. Second, we present an empirical scene describing how Chester orders goods through Proceedo.net and introduce some conceptual tools for analysing acting entities involved in concrete practical interactions. Third, we present a scene describing some of the efforts made to implement e-procurement at Chester and propose a three-stage process for analysing the configuration of acting entities. Third, we relate back to our initial theoretical review of conceptualisations of market actors and agency and discuss unresolved issues.

Conceptualisations of Actors, agency and Market practice

(In this section, a brief review of theoretical ideas will be presented. Work in progress. Only the main points are listed and outlined.)

Actors in the IMP/network approach

Who are the actors? What do they do? A review of IMP ideas on *actors*.

- Håkansson and Johanson (1992) define actors in general as entities that control activities and/or resources. They ascribe five characteristics to actors: 1) they perform and control activities; 2) they develop relationships with other actors; 3) they base their activities on control over resources; 4) they are goal oriented; and 5) they have differential knowledge.
- Actors derive their characteristics and capacities from their position in the network, that is, from their relations to others (Snehota 1990; Johanson and Mattsson 1992).
- There seem to be wide theoretical agreement that such actors may come in different shapes and in different sizes. “Individuals, groups of individuals, parts of firms, firms and groups of firms can be actors.” (Håkansson and Johanson 1992, 28) Among these, the human individual occupies a special position: “It is individuals who endow business networks with life. What happens in a network stems from the behaviour of individuals who bring into the relationships between companies their intentions and interpretations upon which they act. But, the individuals are not acting in isolation, they interact and their action becomes organized. Companies, as all organizations, are units of interlocking behaviours.” (Håkansson and Snehota 1995, 192)
- An important ground for recognising collective actors is linked to the concept of identity and the idea that actors are defined by those with which they interact: “Our argument that companies can be considered actors is based on the notion of identity they acquire in interaction with others, rather than on a claim that companies have clear-cut collective goals (or purpose) to which the individual behaviours of its members are subordinate” (Håkansson and Snehota 1995, 195).
- Araujo and Brito (1998, 27) follow a slightly different logic, arguing that (nonformalized) collective actors exist “since a net of relationships has been set up, developed, and mobilized in order to perform a particular collective action...” The formation of such a (temporary) net, they suggest, is often coupled with the identification of a specific issue.
- To deal with the complexities of *collective actors*, it has been suggested that different “*levels*” of the actors are connected to different “levels” of the interactions that produce stable exchange relationships. (E.g. “individuals” to various types of “relations”; “departments” and “sub units” to various “exchange processes”; and “organizations” to “exchange relationships” (Liljegren 1988).)

- One important theoretical assumption related to the understanding of actors is the distinction between the socio-economic and material aspects of exchange. Two central models in the tradition, the Actor-Resource-Activity framework (Håkansson 1987; Håkansson and Johanson 1992) and the industrial network model (Johanson and Mattsson 1992) both rest on this distinction. The social interactions taking place between actors are separated from the activities performed, and the resources utilised in the production of goods and services. The exchange relationships form the governance structure that controls the activities and resources of the production system.

The received and post-Giddens conceptions of agency in sociology

In sociology more attention has been given to the concept of *agency*. Here we focus mainly on theoretical developments from the 1980s and onwards. What are the central topics on agency?

- Agency has become associated with human individuals, e.g. Giddens definition of agency and action: "I shall define action or agency as the stream of actual or contemplated causal interventions or corporeal beings in the ongoing process of events-in-the-world." (Giddens 1993, 81) As Sztompka (1993) put it, the "agential coefficient" was attended to: "It is no longer the vague tendency of the system, nor the undefined drive of change-oriented collective classes movements, but the everyday conduct of ordinary people...that is found to shape and reshape human societies." (ibid. , 197)
- "Post-Giddens" sociologists emphasize a dynamic view of agents and agency, underscoring that agents themselves change by the very exertion of agency. "[T]he self-same sequence by which agency brings about social transformation is simultaneously responsible for the systematic transforming of social agency itself...Agency leads to structural and cultural elaboration, but is itself elaborated in the process" (Archer 1989)
- Despite the strong association with human individuals, the link between agency and intentionality has gradually weakened. First, there are difficulties in connecting intentions with actions and agency (Schick 1991). "[A]gents may achieve their intentions, what they intended to do, but not through their agency; and ...intentional acts characteristically bring about whole series of consequences, which are quite legitimately to be regarded as doings of the actors but were not actually intended by them." (Giddens 1993, 83) Second, several authors have drawn on the work of Alfred Schutz, arguing that the notion of intention logically implies that of action. E.g.: "[A]n actor cannot 'intend' she or he has to intend to do something." (Giddens 1993, 80) "Action precedes thought." (Weick 1979, 194)
- Giddens has suggested a "softer" interpretation of "purpose" and "intention" connected to agency, using the term monitoring to describe the ongoing, reflective and knowledge based process in everyday practices. "The purposive content of everyday action consists in the continual successful 'monitoring' by the actor of her or his own activity; it is indicative of a casual mastery of the course of day-to-day events that actors normally take for granted." (Giddens 1993, 89)
- The classic sociological idea of collective actors and the understanding of change as promoted by change-oriented collective classes or movements, as opposed to the individual human change agent, has also received some attention. Primarily through work on the constitution of macro-actors (see Knorr Cetina and Cicourel 1981). Still, much work in sociology and organisation research seems to assume rather than show the existence of collective intentions or goals (see e.g. March 1988, 256).
- Giddens links the issue of agency and intention/purposes to a hierarchy of purposes, i.e. the interlocking of different purposes, where an act may be relevant to a number of intentions that an actor has. Likewise, larger sets of acts or actions ("projects") will embody a whole range of intentional modes of activity.
- Finally, the term *agency* has been directly connected to the concept of praxis, and when speaking of regularized types of acts performed, sociologists talk of (human) practices, seen as an ongoing series of "practical activities" (e.g. Giddens 1993).

As a summary, sociological discourse has focused on *human* agency and has stressed intervention or effort as the central core of agency (Emirbayer and Mische 1998). Many recent efforts have sought to

overcome the respective weaknesses of the two dominant views on agency in social thought – those of the rational, purposive, deliberating agent and the habitual, rule following, culturally bound agent (e.g. Granovetter 1985; Emirbayer and Mische 1998). Neither position was developed to understand unfolding practical interaction. Still, the core issue of intervention has largely been neglected.

Having introduced some theoretical ideas on actors and agency, we will now move on to discuss briefly what we mean by market(ing) practice. In a final section, we will then suggest a set of issues concerning actors and agency that become important to address when focusing on the "micro processes" of interaction in day-to-day market practice.

A model for studying market practice

We draw on the conceptual model of market practice proposed by Helgesson et. al. (2004). The model distinguishes between three broad subcategories of market practice: exchange practice, representational practice, and normative practice (see Figure 1). *Exchange practice* refers to the continuous concrete activities that purport to temporarily stabilise certain conditions (the parties to the exchange, the exchange object, the price, the terms of exchange) so that an economic exchange becomes possible. This includes both highly idiosyncratic activities and more general ones that go into creating a specific economic exchange.

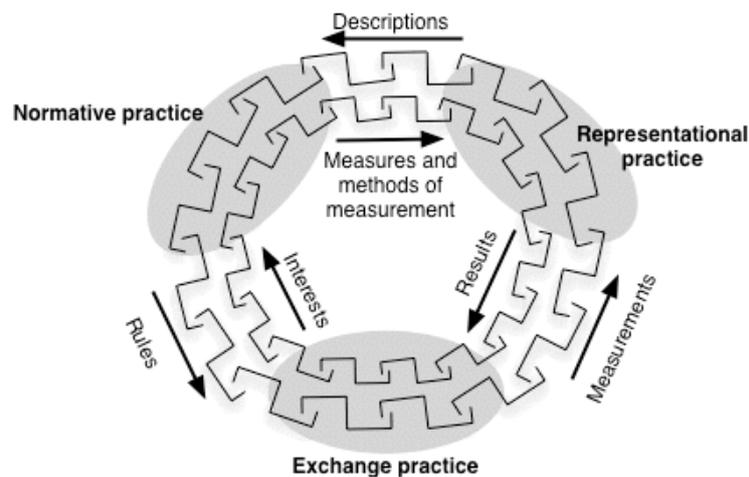


Figure 1. Market practice as exchange, representational and normative practices linked in chains of translations (Kjellberg and Helgesson 2004).

Representational practice refers to activities that contribute to depict markets and/or how they work. In order to speak of *the market* for a certain type of good, it is necessary to bridge temporal and spatial distances between individual exchanges. Representational practice is therefore just as fundamental to making markets as is exchange practice. *Normative practice*, finally, refers to activities that contribute to establish normative objectives for how a market should be (re)shaped or work according to some (group of) actor(s). It reflects the observation that many attempts are made to affect markets in specific directions. Some examples are market reforms, general rules of competition and the strategic planning and establishment of objectives performed by individual firms.

The practices that go in to creating a market are linked to each other through chains of translations involving various intermediaries (Callon 1992). Thus, normative practice may produce rules and tools that become employed in exchange practice, as well as indicate measures and methods of measurement to be used in representational practice. Representational practice will produce both *market descriptions* that can be drawn upon in normative practice, and different types of *results* that feed back into on-going exchange practice. Exchange practice, finally, enter into representational practice through more or less systematic measurements and into normative practice through the interests it creates among (groups of) actor(s).

Actor and agency issues in market practice

To focus on market practice is to attend to the unfolding interactions between actors. The action-reaction sequences that take place in practical situations become our primary concern. Since this has not been a major concern in the IMP-tradition to date, there is a need to develop our conceptualisation of such situations. Primarily, we need to develop ways in which to understand action-reaction sequences without resorting to models based on the cognitive capacities of actors, that is, ways of addressing practical interactions rather than how actors make sense of them. The move away from cognitive models is intimately connected to a concern with practice. Sensemaking, intentionality and other such concepts all direct attention away from practice, implying that the sources of agency lie elsewhere, and indeed, that they are already in place when practice starts to unfold. To take the notion of practice seriously we need tools that allow for real-time accounting (how), rather than retrospective (because) and prospective (in order to) accounts (confer Pickering 1993, 565, 580-583).

Attending to practical situations also means that we need to find ways of dealing with variation in terms actor appearance. Ostensibly the same actor, e.g. a firm, is likely to present itself in a wide variety of ways across different situations. If we hold on to the idea that actors become actors by being recognised by others, then attending to practical situations means that the number of possible actors and actor versions increases dramatically. The miraculous coinciding of such actor recognitions across several situations becomes an interesting topic for empirical research. As suggested by Araujo and Brito (1998) such multivocality of actors is central to the issue of agency.

Attending to how concrete practical micro-situations are interrelated will, finally, highlight an important tension in terms of actors. Although actors become actors by being recognised by others there are many practical attempts made to affect this recognition in future situations, i.e. attempts to shape actors in anticipation of future ordeals. Thus, we need to understand the dynamics of attempts to pre-configure actors and the subsequent practical realisation of those actors.

We will now turn to our empirical case in an effort to address these issues.

Scene 1: Buyer-Seller interaction

- Welcome to Proceedo.net. Who am I speaking to?*
-Hi, it's Bridget from Chester.
-Oh, hi Bridget, what can I do for you?
-I want to place an order for some items.
5 *-All right. Do you have a customer-number?*
-Yes, I know I have it somewhere. Oh, here it is: 042311567.
-Yes, Bridget at Chester Ltd. So, what do you need?
-I need some pens...
-We can offer several types: regular blue, red, black. There are
10 *also two suppliers to choose from: Writco and Scriptus & Co.*
And how many do you need? You know, it can be cheaper to buy
larger packages.
-Yes, I see. Hmm, I think I want four dozens of regular blue pens
from Writco.
15 *-Ok, that's fine, they have them in stock.*
-I also need copy paper. We are all out so I need a lot.
-We can offer several qualities of copy paper. What grammage do
you want? Which size? Which colour? From which supplier do you
want to buy it? Which amount do you need? You know, it can be
20 *cheaper to buy larger packages. The price also differs between*
the suppliers.
-Yes. I definitely need A4 size, white, 80 g/m², 10 boxes from
Writco and then some coloured paper as well. I'll have 1 box
each of light blue, light yellow and light green.
25 *-The coloured paper is cheaper at Scriptus & Co.*

-Oh, I see. I order the coloured paper from Scriptus, then. I also want 1 box of regular white A3 and three boxes of white 120 g/m2 A4. I order that from Scriptus as well.

-Ok, I have entered the items.

30 -I also need some rubber bands.

-I'm afraid I don't know what that is.

-You know, rubber bands, elastic ribbons, so to speak. Do you have anything made of rubber?

-Yes, you can order raw rubber. Which size, how much and from which supplier?

35 -Oh, you call rubber bands, raw rubber [mutter: that's strange]. I will take three packages of raw rubber, length 150 mm and width 10 mm, from Writco.

-Ok.

40 -Then, we really need a new printer down the hall.

-Which brand, which size, from which supplier?

-I think we have a Canon now so perhaps I should order a new one from the same brand.

-Do you want an LBP-1760, LBP-1760E, LBP-2000, LBP-3260..

45 -I haven't got a clue as to what those codes mean! I really wish I could see them and compare with the one we have. Wait, I have a catalogue here... I think we paid around 12.000 SEK for the old one so I guess that an LBP-1760E for 13.500 SEK would be similar. I order it from Writco.

50 -I'm afraid that you've now reached a sum that exceeds your purchasing limit per order. To be able to process the order, I have to get an authorisation from your manager.

-Oh, ok. Let's put the printer on a separate order, then.

-Ok. Your first order includes: blue pens, 4 dozens; copy paper, 10 boxes, white, A4, 80 g/m2; raw rubber, 3 packages, size 150x10, all from Writco; and copy paper, 1 box, light blue, A4; copy paper, 1 box, light yellow, A4; copy paper, 1 box, light green, A4; copy paper, 1 box, white, A3; copy paper, 3 boxes, white, A4, 120 g/m2, all from Scriptus & Co. Your second order

60 includes a Canon LBP-1760E printer from Writco. If you are all right, then, I will contact the suppliers.

-Yes, that was all for now. Thank you!

Unfolding exchange practice

What is happening here? In the scene, we follow the interaction between Bridget and someone at Proceedo.net, as the former is placing an order – or two, as it turns out. In the terminology we adopted, the scene is about exchange practice. It tells of one of the many situations that go into the realisation of an economic exchange. Within Chester, the company Bridget works for, the activities in the scene sort under the label “procurement of non-production related goods and services”.

We can easily picture Bridget before us, sitting by her desk, talking over the phone. The scene also tells us that Bridget is but part of the actor placing the order. She is, in effect, the (inter)face of Chester towards an actor called Proceedo.net. However, despite appearances, the latter party is not represented by a person in the scene. Bridget is interacting with a software application on her computer, through which she can place her orders with selected suppliers.

The introductory phrases (lines 1-7) is about Bridget logging in to the system. She has to enter her username and password to access the order-entry system. What this does is to confirm to Proceedo.net a link between the person at the computer and Chester, the company paying for the procurement services. Further, it also establishes a limit as to what Proceedo.net will allow Bridget to do. In lines 50-53 the system detects that Bridget is about to exceed that limit. She is not authorised to make such a large purchase. Bridget responds by setting up a separate order for the printer, in this way surpassing the problem posed by her purchasing limit.

Proceedo.net acts as an intermediary between Chester and a selected group of suppliers, among which we find Writco and Scriptus & Co. The database connected to the application works as a goods catalogue re-presenting offers made by the suppliers. The catalogue is the result of a process of negotiation between the central purchasing department at Chester and representatives of the various suppliers. After having reached a principle agreement with a supplier, central purchasing has selected an assortment of products from the ones offered by the supplier. The supplier has then sent a file listing these products to the system maintenance department at the company called Proceedo. Finally, the files have been compiled into a database on which the application draws when Bridget is placing her orders.

Consequences of shifting from principles to practice – actors and actants

The point we wish to make in connection to this first scene is that if we are to take an interest in exchange practice, we need to re-evaluate our conception of actors. It is no longer possible to rely on a conceptualisation of what actors are *in principle*. In practice, that is, in the situations through which economic exchanges are realised, actors may present themselves in many, and at times surprising, shapes. In effect, we need to discard the assumption, often made implicitly, that those who act exclusively are to be found among humans or human collectives.

To successfully study market practice we will have to attend to all activities that contribute to shape economic exchange. Many of these activities can be characterised as intermediation (confer Alderson 1966; Spulber 1996). As was noted already by Shaw (1912), some of the agencies involved in this process are neither humans nor human collectives. A prominent type of non-human intermediaries is the presentation of offers through advertising and catalogues. Others include retail store interiors, packaging, shopping carts, coupons, order forms, etc. The list soon becomes a very long one.

But humans or human collectives produce these things, don't they? To be sure, the realisation of any social entity involves humans or human collectives. But also a host of non-humans such as tools for cutting, welding or carpentry, packaging machines, printing presses, etc. But these are also made, you say. Yes. But as we move on in search of the *true actors*, we also move away from the very actions that interested us. Our point is, and this might seem ironic, that if we want to study *social* practice of any kind, we need to include *nonhumans*. Why? Because they are too many and too involved to be wished away. To avoid conceptual confusion, we follow Latour and adopt the term *actant* to denote whatever acts in a practical situation (Latour 1987, 1994).

The first question then is how to deal conceptually with the practical interactions between actants in such situations. We suggest that the concepts of *prescription* and *subscription* may be useful for this (Akrich and Latour 1992). In practical interactions entities can be seen as *prescribing* certain performances from others while *subscribing* to some of the prescriptions made by these others. In the scene above, Proceedo.net prescribes that Bridget identify herself by submitting a username and password (lines 1 and 5), a prescription that Bridget subscribes to (lines 2 and 6). If Bridget had not, it would have been difficult to place an order though Proceedo.net. Similarly, by entering the search term "pen" (line 8), Bridget prescribes that Proceedo.net list the pens available in the goods catalogue. Had Proceedo.net not subscribed – i.e. if Proceedo.net had not known what "pens" were - it would have been difficult to receive an order for pens. We will refer to the sequence of prescribing and subscribing, which is characteristic of practical situations, as a *process of interdefinition* (Law 1994).² This process allows us to understand how actants come to recognise each other and how the limits to their abilities are negotiated.

Having proposed the conceptual tools for dealing with practical interaction, we now turn to the issues of actor configurations and the link between efforts to organise exchange and the practical realisation of such exchanges. Let us return to our case.

² The reasoning is similar to the "mangle of practice", or dialectic of accommodation and resistance, suggested by Andrew Pickering (1993).

Scene 2: Introducing a new procurement system

In this scene, we follow some of the efforts of the central purchasing department at Chester in connection to the introduction of the e-procurement system. In time, these events precede the first scene.

Robert, the central purchasing manager at Chester Ltd, says he "inherited" the Proceedo-project when he succeeded John in 2002. He tells us how he followed John around on his "Proceedo-crusade" with the task of informing and convincing the users-to-be about the benefits of using Proceedo.net. The intention had been to have representatives from the head office present during their presentations. In the end, however, only middle managers showed up. In fact, he feels that their intention of discussing why Chester needed to use e-procurement got lost and that the discussions instead came to focus on comparing prices for pencils.

-The head office wants to reduce the number of suppliers by 50%, from 22 000 to 11 000, John says.

-But the reason we choose other suppliers is that the central agreements often are much worse and because we want the service to be in the vicinity. I mean: You buy to get quality! The central agreement on clothes is just scandalous, says Daniel, one of the participants at this Proceedo.net introduction seminar.

But John defends the agreement arguing that the clothes are specially made. Then John asks if anyone has any questions.

-There are a lot of things that I would like to say, but I choose not to, Bridget says after having muttered quite a lot.

John takes no notice of her and continues his presentation.

-We aim for fewer suppliers for office material. Today, we have 150 suppliers and that is a lot.

-150 suppliers in 28 offices - that is not a lot, says one participant. There are many special things that the offices need!

-Why should I buy paper from company X at SEK 1300 when I can get it for 700 from my local supplier? And what about our special adhesive tape, you know, with the Chester logo and the special width? If we break the agreement with Plasto, how are we to get it? There is only one supplier of it and that's Plasto.

-Well, we have spoken to another supplier and they say that it will work out fine, says John.

In January 2001, the new CEO at Chester Ltd, Henry Bush, presented the L50 project, which aimed to reduce the number of suppliers by 50%. Prior to the L50 project, John had written his master's thesis on potential gains of introducing e-procurement within Chester Ltd. John's conclusion was that Proceedo was the best supplier for Chester with regard to their specific situation. After a pilot-project with Proceedo in the spring of 2001, central management decided on a full-scale implementation in the autumn of 2001. The implementation was temporarily interrupted when Robert succeeded John as purchasing manager. One of the problems he had to handle was to convince the local offices to give up their local suppliers and use the ones that were included in Proceedo.net. This was not very popular and Robert has a feeling that this prompted the users to put a lot of effort into finding small errors in the system.

John continues his presentation by describing Proceedo.net, the web-interface through which goods are to be procured from now on. He instructs the participants on how to log on to the system and, as an example, he shows them how to do an advanced search for batteries.

-It would have been quicker to look in the catalogue, says Bridget.

Concerning the way in which the system has affected Chester's supplier relations, Robert says that nobody is calling the suppliers anymore. In Proceedo.net there is a possibility to leave a message to the supplier. This feature was used sparsely in the beginning but is becoming more popular, especially in the larger offices where the buyers have to specify exactly who is to receive the goods. For instance, one person might order the goods, while another is to receive it and a third should have the invoice.

-Since there has been so much trouble with deliveries on orders placed through Proceedo.net, I have called the suppliers directly so now I have contact persons that I can call whenever there is a problem with the system, says Bridget. Of course, then the order will not go through Proceedo.net and I will not have to confirm it to the accounting department...

Translating new norms into altered exchange practice

How can we understand this scene in terms of market practice? Clearly, John is trying to teach the purchasers how to use the new system. Hence he is trying to alter exchange practice. The old ways of procuring goods are to be supplanted by new procedures. In fact, the introduction of the new system is coupled with a set of new rules for procurement. These include central control over supplier and assortment selection coupled with de-centralised ordering of goods and services. Hence, the scene describes an effort to translate the outcome of normative practice into altered exchange practice.

The new rules are the result of a series of interactions between Proceedo and central purchasing at Chester, as well as between central purchasing and management at Chester. One important resource in this process has been the re-presentation of Chester's purchasing process as an administratively cumbersome and costly one. A few years ago, the management at Chester asked a graduate student in logistics to evaluate different purchasing solutions. John, the student, was subsequently hired to head a project on e-procurement. Since his conclusions clearly favoured the solution offered by Proceedo, a pilot project was set up. Based on figures delivered by central purchasing at Chester, Proceedo went on to estimate the potential savings that Chester could make by implementing its procurement solution. This provided central purchasing with arguments when approaching management for a go ahead on the project. These initial events concerned normative market practice and resulted in the formulation of new rules for the procurement of goods at Chester.

Configuring actants in practice

In connection to the first scene, we introduced the concepts of prescription and subscription as a way of analysing the practical interaction between acting entities. We also argued that the study of market practice would require a new conceptualisation of acting entities, proposing the term actant for those involved in practical interaction. What insights can be had from the scene above concerning the process through which actants are configured?

The efforts to educate the purchasers in how to interact with the new procurement system provide a first clue. In order to become recognised as actants in the new exchange situation including Proceedo.net – making appropriate prescriptions and subscriptions – purchasers needed to be equipped. In practice, this meant that certain things had to be added to them. This process of trying, in advance, to add properties to acting entities, we will term *inscription* (Akrich and Latour 1992). In the scene, then, John sought to *inscribe* a control mechanism into what was to become Chester-as-a-buyer in the future. By adding a username and a password to the individual purchasers they would be able to access the system. But by the same token, their capacities to act could be circumscribed. John or someone else can now monitor their access at a later stage and also alter their rights to use the system, e.g. their purchasing limits. John further sought to inscribe certain routines for interacting with the system into the participants – a manual for interacting with Proceedo.net.

This suggests that Bridget, one of the actants in the first scene, is the result of a process of association into which various attempts at inscription may enter. If this process is successful, then Bridget will front a network of entities, which will be difficult to detect as long as the practical interaction between Bridget and Proceedo.net is working. Needless to say, Proceedo.net is no different in this respect. It fronts a network including the order departments of the suppliers, the database compiled by the system maintenance department at Proceedo, which in turn is linked to the suppliers' sales departments, etc. Figure 2 is a stylised illustration of the process.

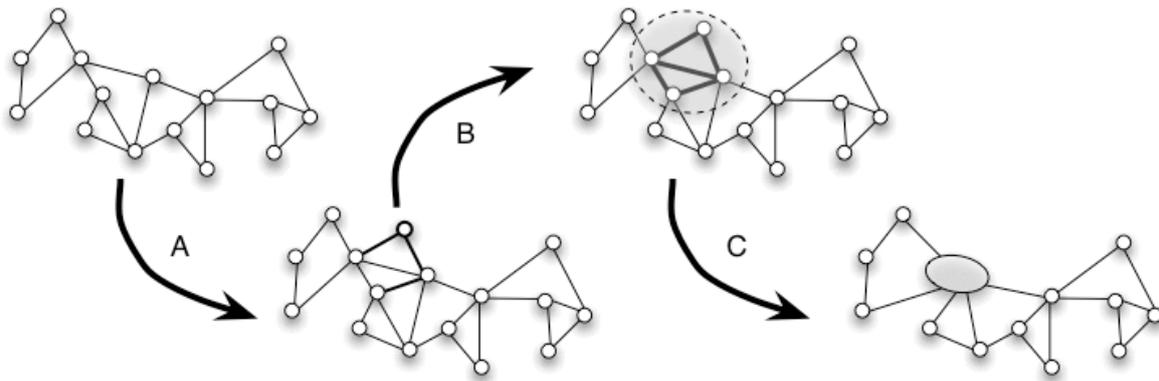


Figure 2. Three movements to configure an actant. A. (Re-)Associating entities. B. Strengthening selected associations. C. Punctualising (part of) the network.

Behind the fronts of actants Bridget and Proceedo.net in the first scene, then, there is a whole host of prescriptions and subscriptions being performed. However, as long as these interactions come off as expected, both Bridget and Proceedo.net act as one and the networks fronted by them remain invisible. In the second scene, part of the network that went into the making of Bridget was visible since it was still being configured. Once the associations between the entities have been aligned, so that prescriptions and subscriptions match, this particular part of the network is punctualised – those who interact with it no longer recognise that it consists of several entities. If we are studying market practice, there is no longer any point in arguing that it is *really* a network. The reason being that since the associated entities act as if they were one, the process of interdefinition now takes place between the punctualised entity and others.

It is important to note that the final realisation of the actant takes place in concrete interaction. However meticulous the efforts to inscribe properties into an actant-to-be have been, the final call still rests with those others with which it is to interact. Unless they recognise the network as one entity (successful punctualisation), the network of associations remains visible. Furthermore, having successfully become recognised as an actant once does not necessarily imply that this will happen again. Indeed, the networks that make up actants may once again become visible, and the process set in motion, should there be a problem in the interaction between Bridget and Proceedo.net. Perhaps the Bridget's manual gets lost, perhaps her password expires, or perhaps central purchasing detects that she systematically places "multiple orders" to surpass her purchasing limit. Then the situation will be back to movement A or movement B, depending on the problem and the efforts of those involved.

Discussion

(Note: Work in progress! Below, we outline the main points/findings from analysing the two scenes and indicate how we want to proceed.)

In our concluding discussion we relate to the question of how actants are linked to (market) actors. We believe that the dual concepts of actors and actants can assist us in addressing issues related to the variability of actors – the fact that actors may appear in varying guises across situations. First, what is recognised as an actant in a given situation is a configuration of entities and some of these entities, e.g., human individuals, take part in performing several configurations. Second, we suggest that *actors* can be fruitfully regarded as aggregations of actants. The greater the number of practical situations in which an actor is recognised – that is, the greater the number of actants that is subsumed under a common actor-label – the greater the variability of the actor becomes.

1. Consequences for our understanding of actors and agency when studying market practice

- Empirical inquiries in the markets-as-networks tradition tend to aggregate typical situations and concrete economic exchange episodes. (To some extent, this constitutes the basis for the concept of an "*exchange relationship*.") The justification for such aggregations is that the identities of the involved actors in important respects are the same across a number of situations and episodes. Still, such aggregations will obscure the multiplicity and instability of actors and agency in individual instances of market practice. The term actant and the notion of a process of interdefinition involving prescriptions and subscriptions, affords us with a vocabulary for analysing such concrete practical interactions.
- Together with these tools an increased interest in market practice prompts questions about what we mean by *market* actors. What is specific about them? In this respect our work points to the need for further empirical studies on acting entities connected to the normative, representational and exchange practices involved in shaping markets.

2. The role of reflexivity and ascription in market practice

- Actors who wish to give direction to an exchange process can seek to stabilise certain aspects of it. We proposed the term *inscription* as shorthand for various active attempts to equip entities with new characteristics that are conducive to realising an envisaged situation. An important part of this process is to forge new associations between entities.
- Another possibility available to actors who wish to give direction to an exchange process is to develop measures and set up a system of monitors, producing images of the situation in which a potential actant is to be involved. Such efforts may allow the actor to direct *the actant's* monitoring to certain aspects when involved in a future process of interdefinition.
- Monitoring efforts are also important for an actor's ability at self-reflection. How is it possible for actors to reflect on what is happening/has happened in a specific economic exchange situation? How do actors establish a preferred direction in which their attempts at inscription aim? Of course, these questions relate directly to the categories of normative and representational practice. Actors employ models and theories to represent situations, themselves and others. The resulting images contribute to shape the normative goals of actors in relation to exchange practice. By engaging in monitoring actors can produce images of the various situations in which they are recognised as actants. In this way, the generation of representations allows for self-reflection and allows actors to ascribe properties to themselves and others. This may have a stabilising effect on both the actors and the economic exchange process. How actors produce representations, retrospectively reflect on them, and use them as a basis for *ascriptions* warrants further studies of the concrete interactions in practical exchange situations.

3. Multiple actants, variable actors and agency in market practice

- Actors are both networks and points. The conceptual model we propose suggests that all acting entities are the result of a process of association and that they consequently are collectives. At the same time, it posits that such collectives may become punctualised in practical situations by being recognised by others to act as if they were one. Two important processes are at work here: First, the process of inscription through which various attempts can be made to pre-configure actants – having them perform in certain ways rather than others. Second, the process of inter-definition through which punctualised actants are realised in concrete practical situations.

- There is a third process that needs to be dealt with, namely the process through which a number of such practical realisations of actants are subsumed under a common actor-label. Here, we would like to indicate two ideas that we wish to pursue further:
 1. The degree to which various configurations of actants overlap is likely to be one important facet of this process. First, a high degree of overlap between configurations renders difficult the simultaneous realisation of several actants thus restricting the actor's abilities; second, a high degree of overlap between configurations is likely to facilitate their identification with a common actor.
 2. The import of a "nervous system" connecting the practically realised actants with a central location, allowing the translation of both information concerning peripheral situations to the centre and central inscriptions to the periphery.
- Finally, we would like to address the issue of agency. How can we explain the differential agency that seems to characterise actors? Araujo and Brito (1998) has suggested that the agency of actors is connected to their multivocality, the number of games in which they are involved. The dual concepts of actors and actants allow us to analyse precisely this facet of actors. Being recognised as an acting entity in many concrete situations, that is, having successfully subsumed a great number of actants under a common actor-label, affords an actor with considerable alternatives with respect to future ordeals, or in a word, agency. At the same time, the process through which it is possible to subsume actants under a common label is likely to become increasingly demanding as the number of actants grows.

References

- Akrich, Madeleine, and Bruno Latour. 1992. "A Summary of a Convenient Vocabulary for the Semiotics of Human and Nonhuman Assemblies." In *Shaping Technology/Building Society, Studies in Technological Change*, edited by W. E. Bijker and J. Law. Cambridge, Mass.: MIT Press. 259-264.
- Alderson, Wroe. 1966. "Factors Governing the Development of Marketing Channels." In *The Marketing Channel: A conceptual viewpoint*, edited by B. E. Malen. New York: John Wiley & sons. 35-40.
- Araujo, Luis. 2004. Market-making and Marketing. Paper read at 20th IMP conference, Sept. 2-4, at Copenhagen.
- Araujo, Luis, and Carlos Brito. 1998. "Agency and Constitutional Ordering in Networks - A Case Study of the Port Wine Industry." *International Studies of Management & Organization* 27 (4):22-46.
- Archer, M. 1989. The morphogenesis of social agency. Uppsala: SCASSS.
- Callon, Michel. 1992. "The Dynamics of Techno-Economic Networks." In *Technical Change and Company Strategies*, edited by R. Coombs, P. Saviotti and V. Walsh. London: Academic Press. 72-102.
- , ed. 1998. *The Laws of the Markets*. Oxford: Blackwell Publishers / The Sociological Review.
- Callon, Michel, and John Law. 1997. "After the Individual in Society: Lessons on Collectivity from Science, Technology and Society." *Canadian Journal of Sociology* 22 (2):165-182.
- Callon, Michel, and John Law. 1995. "Agency and the Hybrid Collectif." *South Atlantic Quarterly* 94 (2):481-507.
- Callon, Michel, Cécile Méadel, and Vololona Rabearisoa. 2002. "The Economy of Qualities." *Economy and Society* 31 (2):194-217.
- Czarniawska, Barbara. 1993. *The Three-Dimensional Organization*. Lund: Studentlitteratur Chartwell Bratt.
- Emirbayer, Mustafa, and Ann Mische. 1998. "What Is Agency?" *The American Journal of Sociology* 103 (4):962-1023.
- Ford, David, Lars-Erik Gadde, Håkan Håkansson, and Ivan Snehota. 2003. *Managing Business Relationships*. 2 ed. Chichester: John Wiley & Sons.
- Giddens, Anthony. 1993. *New Rules of Sociological Method*. 2 ed. Cambridge: Polity Press.
- Granovetter, Mark. 1985. "Economic Action and Social Structure: The Problem of Embeddedness." *American Journal of Sociology* 91 (3):481-510.
- Helgesson, Claes-Fredrik, Hans Kjellberg, and Anders Liljenberg, eds. 2004. *Den där marknaden*. Lund: Studentlitteratur.

- Håkansson, Håkan, ed. 1987. *Industrial Technological Development: A Network Approach*. Kent: Croom Helm.
- Håkansson, Håkan , and Ivan Snehota. 1995. *Developing Relationships in Business Networks*. London: Routledge.
- Håkansson, Håkan, and Jan Johanson. 1992. "A model of industrial networks." In *Industrial Networks: A New View of Reality*, edited by B. Axelsson and G. Easton. London: Routledge. 28-36.
- Johanson, Jan, and Lars-Gunnar Mattsson. 1992. "Network Positions and Strategic Action: An Analytical Framework." In *Industrial Networks: A New View of Reality*, edited by B. Axelsson and G. Easton. London: Routledge. 205-217.
- Kjellberg, Hans, and Per Andersson. 2003. "Where is the action?" In *Evaluating Market Actions and Outcomes*, edited by A. G. Woodside. Stamford, Conn.: Elsevier Science. 13-58.
- Kjellberg, Hans, and Claes-Fredrik Helgesson. 2004. On the Nature of Markets and their Practices. Paper read at 20th IMP conference, Sept. 2-4, at Copenhagen.
- Knorr Cetina, Karin , and Aron V. Cicourel, eds. 1981. *Advances in Social Theory and Methodology: Toward an Integration of Micro- and Macro-Sociologies*. London: Routledge & Kegan Paul.
- Latour, Bruno. 1987. *Science in Action: How to Follow Scientists and Engineers Through Society*. Cambridge: Harvard University Press.
- . 1994. On Technical Mediation, Three talks prepared for "The Messenger Lectures On the Evolution of Civilization", Cornell University, April 1993. Lund: Lund University.
- . 1996. *Aramis, or the love of technology*. Translated by C. Porter. Cambridge, Mass.: Harvard University Press.
- . 1999. *Pandora's Hope, Essays on the Reality of Science Studies*. Cambridge, Mass.: Harvard University Press.
- Law, John. 1994. *Organizing Modernity*. Oxford: Blackwell Publishers.
- Liljegren, Göran. 1988. "Interdependens och Dynamik i Långsiktiga Kundrelationer: Industriell försäljning i ett Nätverksperspektiv." PhD, Department of Marketing, Stockholm School of Economics, Stockholm.
- Lundgren, Anders. 1995. *Technological innovation and network evolution*. London: Routledge.
- March, James G., ed. 1988. *Decisions and Organisations*. Oxford: Basil Blackwell.
- Pickering, Andrew. 1993. "The Mangle of Practice: Agency and Emergence in the Sociology of Science." *The American Journal of Sociology* 99 (3):559-589.
- Schatzki, Theodore R., Karin Knorr Cetina, and Eike von Savigny. 2001. *The practice turn in contemporary theory*. London: Routledge.
- Schick, Frederic. 1991. *Understanding Action, An Essay on Reasons*. Cambridge: Cambridge University Press.
- Shaw, Arch W. 1912. "Some Problems in Market Distribution." *The Quarterly Journal of Economics* 26 (4):703-765.
- Snehota, Ivan. 1990. "Notes on a theory of business enterprise." PhD, Företagsekonomiska Institutionen (Dept. of Business Studies), Uppsala University, Uppsala.
- Spulber, Daniel F. 1996. "Market Microstructure and Intermediation." *The Journal of Economic Perspectives* 10 (3):135-152.
- Sztompka, Piotr. 1993. *The Sociology of Social Change*. Oxford: Blackwell Publishers.
- Weick, Karl E. 1979. *The Social Psychology of Organizing*. 2 ed. New York: Random House.
- Wenger, E. 1998. *Communities of Practice. Learning, Meaning and Identity*. Cambridge: Cambridge University Press.