# WHO IS THE CUSTOMER?

## On the nature of customer representations in supply chains

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## Abstract

This paper investigates the notion of customer orientation in a supply chain. The analysis draw on the market studies approach (Araujo et al 2010) to look at how multiple customer meanings are (or are not) aligned by a supply chain strategy. By using empirical material of a customer ordered production study (Borgström 2010), we reflect on what constitutes customer knowledge and what processes are involved in making up this knowledge. We show how customer orientation is put into practice, what devices, metrologies and skills bring it to life, and how it is used in attempts to shape relationships in the supply chain.

## Introduction

The notions of "scientific market orientation and customer orientation truths" were problematized in a recent Swedish publication entitled "Market orientation – myths and possibilities" (Mattsson 2008). Many of the positive and normative notions of market and customer orientation that are rightly seen as myths are also an integral part of the process of market-making Customers are central to the functioning of organizations and markets (Cochoy 2005), but little is known about how they are understood and represented in specific contexts. The notion of customer orientation has yet to attract much attention despite its importance in contemporary sales and marketing strategies and a concern with representations as an important aspect of situated practices.

In a study of the implementation of a customer ordered production system within Volvo Cars, an agreement on what constitutes customer orientation was seen as the key to the development of the system (Borgström 2010). But, there was no single definition of what the

customer was across the supply chain, going from Volvo dealership downstream to Volvo Car's upstream suppliers. Instead, multiple representations and objectifications of customer orientation coexisted within the supply chain with implications for how actions were coordinated both within and across organizational boundaries.

Our purpose in this paper is to further investigate what constitutes customer orientation. More specifically, we focus on how the customer is configured in different parts in the supply chain, and how these multiple meanings are (or are not) aligned by what is deemed to be the supply chain's strategy. By using empirical material of a customer ordered production study (Borgström 2010), we will reflect on what constitutes customer knowledge and what processes are involved in making up this knowledge. By focusing on this topic, we will show how customer orientation is put into practice, what devices, metrologies and skills bring it to life, and how it is used in attempts to shape relationships in the supply chain.

**Making up the customer within the firm**

Empirical studies in accounting address how the figure of the customer is objectified and brought to bear on managerial practices inside firms (Cuganesan 2008; Vaivio 1999). Vaivio (1999) illustrates how a customer is de-personalized by a supplier and turned into a calculable space. In this study, this calculable space becomes a site for encounters between rival professional experts. Customer orientation is constructed in two different ways. First, sales personnel viewed the customer as a heterogeneous and dynamic entity with evolving needs. Sales were the interpreter of the customer and his needs: the organization's offer had to be customized to this highly personalized view of the customer. But the customer also came to be recognized as what Vaivio (1999) called a quantified customer, a depersonalized subject identifiable through formal statements concerning specific, measurable outputs. Measures regarding different types of complaints, delivery precision and service fulfillment amongst others, made up a stable picture of a quantified customer around which operational processes could be re-organized. An objectified approach to the customer was made possible and sought to supersede the more traditional, situated, and tacit image of the customer portrayed by sales. The measurements focused attention on the urgency of improvement to all areas of the organization, since the customer could now be interpreted as fitting into a standard and quantified set of aggregate measures. What was not calculable became marginalized. Customer claims with a qualitative and unique character would not become visible in the quantification and customer idiosyncrasies would go unnoticed. But if the quantified customer relied on a distal and objectified view of customers, the sales customer was built on a myriad of mundane knowledge snippets about the particularities of each customer. Vaivio describes how organizational action was shaped by the confrontation of these two alternative logics, one relying on distal and objectified representations whilst the other promoted a proximal, informal and qualitative view of the customer.

Cuganesan (2008) extended Vaivio's study through an ethnographic, actor-network inspired study of how a wholesale financial services firm pursued a strategy of "customer intimacy". The study found rival enactments of "customer intimacy" through what Cuganesan labeled a "numeric calculation" and a "sales calculation" network. In the numeric calculation logic,

customer intimacy was objectified through a series of performance metrics and relied heavily on measures provided by external market research. These resulted in "…aggregated, homogenized and depersonalized representations of customers" (Cuganesan 2008: 92). In the sales calculation logic, the quantified measures were destabilized in favor of more nuanced and qualitative judgments of specific customers, facilitated by regular talk and communication namely through co-location.

These two studies show how within an organization, "the customer" is objectified in a variety of ways with implications for operational processes, what counts as professional expertise and where power resides. Our argument is that in a supply chain, there are good reasons to believe that differences in customer representations may be sharper and have many more ramifications than the ones described by Vaivio (1999) and Cuganesan (2008).

**The practice of customer orientation**

The chapters in Mattsson (2008) discuss at length the limitations of "scientific market-orientation truths". The assumptions underpinning the market orientation concept are discussed in relation to their limitations. Market and customer orientation are reinterpreted through the prism of an interaction, relationships and market-as-networks perspective. But, scientific representations are a part of the market-making whether they can be deemed to be *market myths* or not. Araujo, Finch and Kjellberg (2010), inspired by Callon's (1998) performativity argument, argue that models and representations do not just hold a mirror to the world. They can be "flawed" from a representational logic and yet have a performative character in the sense that they are implicated in the construction of the realities they purportedly describe in mirror-like fashion. Market myths and market-making are, in this sense, interconnected. In short, marketing knowledge is performative. Market myths and other forms of lay or flawed knowledge inspire action not least because they may be linked to incentives. The performative assumption means that markets are practical outcomes; they depend on knowledge, statements and representations that bring about their existence as both objects of knowledge and arenas for intervention. Thus actions taken on behalf of customers, including knowledge statements about customers, play a crucial role in markets. They impact upon the workings of markets, how exchanges are negotiated and what adaptations are carried out.

Callon (2007) refers to the relationships between statements and their worlds as socio-technical assemblages or *agencements*, because of recursive adjustments between statements and action. To give an example, what is known as "the economy" is a series of *agencements* (e.g. rules, models, statements) that qualify themselves as economic. The success or failure of these assemblages relate to its sequence of trial and error, reconfigurations and reformulations (Callon 2007; Knorr Cetina and Bruegger 2000). At the point when the assemblage is represented by definitions, operationalizations and quantifications, these statements could be detached from the world in which they function and become (provisionally) stabilized. In this split, statements may become "true" – at least, until circumstances change. Most importantly, knowledge and representations about the economy are not restricted to those identified with the economics profession. Many different actors take part in producing and circulating

knowledge about the economy both formal, such as regulatory authorities and the management sciences, and informal, such as the situated knowledge of buyers and sellers in particular domains. In short, multiplicity is the key characteristic of these assemblages (Araujo et al. 2010; Law 2008).

The practice of customer orientation (as any other assemblage) has a particular trajectory; ongoing representations, actions and entities are intertwined in making up versions of the customer. Customer statements are based on lived experience, theories and models coming from both academic and lay sources. These statements are actively engaged in constituting the reality that is performed. Statements and their worlds are thus related in socio-technical assemblages, i.e. a combination of heterogeneous elements that have been adjusted one another (Callon 2007). Over time, these intertwined entities might converge or diverge, and their alignment might prove to be problematic (Kjellberg and Helgesson, 2007).

**The customer problem**

The studies of Vaivio (1999) and Cuganesan (2008) illustrate how different representations of the customer have implications for organizational processes, for what counts as professional expertise and where decision powers reside. (Cochoy 2005: S54) supports the notion that what is regarded as "the customer" has evolved over time:

> *'The customer' has multiplied considerably over the century. The industrial customer gave rise to the consumer customer and the rights-endowed customer; these in turn were transformed into standardized or consumer activist customers, these into quality orderplacer customers and ultimately, quality citizen-customers. Over these generations, the family of customers has penetrated downward (into the organization) and upward (into policy), all the while circulating continuously from one space to another via the market. The figure of the customer is clearly that of central agent in 'marketizing' organization (via quality) and organizing the market (via traceability).*

The figure of the customer is complex and attempts to rationalize it are always incomplete and fragile (Cochoy 2005). Customers might 'let themselves be supported' by calculative instruments, by attempts to attract them, and by other ways of structuring the buying process.

In this constant redefinition and requalification of customers lies the possibility of recovering a lost customer or cross-selling to an existing customer, since customers can hardly be captured once and for all (Dubuisson-Quellier 2010). In product development and marketing activities, Dubuisson-Quellier illustrates how a plurality of customer definitions may be pursued by a variety of professionals within the same firm (e.g. R&D engineer, marketing manager, sales manager) engaged in qualifying both a product and the customer. Nothing predisposes these actors to share the same definition of the customer and his or her tastes and wants– there will be a plurality of definitions in play and ongoing adjustments amongst different definitions.

Vaivio (1999) and Cuganesan (2008) lay emphasis on the intra-organizational processes of how customers gain multiple and temporary qualifications, assisted by external market research data. In a supply chain context, involving multiple actors and activities, a proliferation of different representations of "the customer" is to be expected.

**The customer as an ambivalent object**

The empirical study reported in this paper is a longitudinal process study of an automotive supply chain with 60-70 interviews of various actors such as dealers, sales agencies, assembler, producer, transport firms, suppliers, etc., starting in 1993/94. The first part of the study was undertaken over a period of three to four years involving more than 40 interviews. The study addressed the premises and the effects on the firm and its supply chain, of shifting from a focus on economies of scale and cost efficiency to a market-responsive strategy, by introducing a model of customer ordered production. The latter study 2003-2008 involved more than 20 interviews and concerned the development and performance of customer ordered production over time. The main data source is personal interviews; other sources are informal discussions, formal meetings, internal presentation materials, internal statistics and reports, press releases, and observations.

The basis of the empirical study is thus the initiative to implement customer ordered production by the focal automotive firm. The actors in the supply chain that were affected by this shift were interviewed. People in key positions were interviewed; a CEO and managers of production, planning, sales, purchasing, logistics, IT of the OEM, dealers and national sales agents in Europe, suppliers' key account people, and logistics firms. Interviewees were selected through a snowball sampling method assisted by increased learning about the circumstances case as the study progressed.

The narrative that follows is a purposeful synthesis of the empirical material of a doctoral thesis ( Borgström 2010), in order to provide a deeper understanding of customer orientation. The analysis of the material in the thesis used a temporal bracketing strategy (Langley 1999). It is called bracketing in reference to structuration theory (Giddens 1984), which is a classic example of a perspective involving mutual shaping (actions are constrained by structures of, for example, routines, and the actions influence the structures over time). The temporal bracketing analysis is used to transform process data into more discrete but connected blocks, i.e., two phases of customer order based production. The temporal bracketing analysis was effective in order to analyze differences in development because of the possibility to compare critical phases. For the purpose of this paper, we are concerned with actions that transform customers into marketing collectives, such as general statements about the customers and their worlds.

Some of the methodological advice on how to do a study a socio-technical assemblage include following actors, sticking to empirical evidence, and focusing on controversies (Araujo et al. 2010; Callon et al. 2007; MacKenzie et al. 2007). This advice was used in order to make representations of customers explicit in a chain of Volvo Cars' relationship related to the order-to-delivery process.

In Volvo Cars' customer ordered production model there was controversy, as might have been expected. Several strategic themes were interconnected in the implementation and use of a customer ordered production model. What stood out was a debate on customer-orientation and cost/volume-orientation. The bracketing analysis described differences over time of the strategy interacting with supply chain actors. For the purpose of this paper, the actors' *common* problem is more important (in line with the affiliative-objects analysis of Suchman 2005) than other aspects of the strategy. Each of the actors in the supply chain enacted customer ordered production but action in the name of customers could point towards multiple and often conflicting directions. This debate was fuelled by scientific literature pointing to the incommensurability of customer-orientation and cost/volume-orientation. These arguments became an unstable part of the controversy enacted by different parties in different phases of the process. Human actors play a role in the order-to-delivery process; end-customer buys a car, the dealer and sales company provide the car and associated services, the assembler and supplier develop and put together the car. An important non-human actor in this process is the material clearing procedure, the so-called chimney model that coordinates orders and suppliers' deliveries. The assumption of the material clearing procedure is that customer orders will deviate from forecast and the model regulates the effects of these deviations. The chimney model described what changes in demand should be accepted and defined flexibility at a component level.The chimney model aimed to secure flexible deliveries when demand changed. For example, a low-volume component was in greater need of flexibility than a high-volume item. The model came into use almost immediately after the implementation of customer order production. It regulated demand variability rather than demand uncertainty. We will depart from the controversy, in order to learn more about `who is the customer´, paying attention to different actors' representations of customers throughout.

As we indicated earlier, customer representations play a role in the constitution of the reality rather than simply holding a mirror to it. The actors involved in the order-to-delivery process act in different organizations or functions with objectives of their own. Customer ordered production is the programmatic statement that mobilizes an assemblage of devices and actions to perform "customer orientation". These performations include adjustments, as actors in a supply chain alternate between different framings, passing from one assemblages to another. Callon (2007) proposes there is a symmetry between agencements as both involve material, textual, procedural and other investments. Actors that partake in multiple assemblage change equipment as they move assemblage. Assemblages that appear to be opposing each other are often mutually interwoven and share constituent elements. Customer-orientation and cost-orientation are two such assemblages that are found to be interwoven in customer ordered production.

*Customer ordered production's notion of the customer*

Volvo Cars' customer ordered production aims to postpone assembly of cars until the customer order arrives. The customer configures the final car out of a large number of options and Volvo Cars is able to respond to the order in about 20 days in markets closer to the manufacturing plants and about 35 days in more distant markets. Lead times to build the

specific car are pressed and detailed organizational and inter-organizational procedures are needed to coordinate the material for the order. The close coordination amongst supply chain actors makes the complexity involved in this process manageable. The short lead times reduce costs of inventories, for example. Customer ordered production not only postpones the assembly of cars, but it also changes the selling situation. Dealer stocks would be abolished together with clearance sales. Dealer showrooms exhibited cars and salespeople should act as facilitators and product experts, helping the customer configure the chosen car.

Customer ordered production also relates to the positioning of the car assembler. In the automotive industry, Volvo Cars has a market share of less than two per cent. Volvo is seen as premium brand that yield higher margins than higher volume competitors, justified by the emphasis on quality, customer experience and the pleasure of driving dynamics. Customer orientation means that the cars need to attract customers who prize a degree of individuality rather than settle for a pre-produced model. Research and development strive to keep the unique features of the brand, to develop novelty that attracts different types of customers and leads to volume growth, as well as develop cost-efficient solutions.

Supply chain coordination was both planned and emergent with dedicated managerial, cross-functional and inter-organizational teams. Shorter lead times, quality assurance, delivery precision and common understanding of production were some results obtained through this tight coordination. However, this work seldom included customers. The customer was seen as a premium product user and as an order initiator. In the bigger picture, among top management, the customer was also important in terms of volume. Volume growth was hardly satisfactory and questions arose as to whether the dealers had changed into passive order-takers. Customer orientation was undisputed as a principle but volume growth and the associated economies of scale became a controversial subject. The accuracy of forecasts grew in importance and became loaded with incentives. Customer and forecast orders were now used interchangeably in the production system. More and more cars were sold as pre-produced models, or at least pre-ordered bundles of options. Package prices and weekend promotion events at dealers acted as baits to attract customers.

The order-to delivery process continued with a renewed interest in customer orientation and economies of scales (volume growth). The same procedures and coordination were used for volume growth actions as for customer ordered production. In addition, the volume growth objective was accompanied by new cost cutting rules that hit the order-to-delivery process disproportionately because these impacted on functional and organizational cost centers. The adapted way to enact customer ordered production gave rise to new offerings in which cars were only partially customized, and which boosted sales. The former customer oriented sales model now targeted *number of cars* sold in a certain time period. Incentives were attached to volume, which now performed a model of the customer as a bargain hunter who prized access to package of innovative features sold at a lower price. The customers who preferred to configure their own cars, had to accept a higher price for sometimes less features as well as wait longer for delivery.

*The dealer's notion of the customer*

In some situations, customers and sales personnel co-create value. Customer ordered production strengthened dealers, transforming them into service-providers, characterized by higher levels of professionalism and expert legitimacy. The sales process was changed into an encounter where the car was configured by the customer assisted by the dealer. The process was facilitated by information technology that simulated actual car choices and guided the process of selecting options. Sales personnel claimed that customers are rather good sales people themselves because they volunteer to add on extras in this type of situation. The version of the customer prescribed in the customer ordered production model is being actively performed in these situations.

The problematic notion of volume growth relates to dealer-customer relationships. Volume growth incentives made up a large proportion of dealers' incomes and customer orders were needed in order to reach sales quotas in any one period. In this case, the customer was placed outside the dealer's value creation process; instead, customers represented orders. The sales process became a head counting recruitment exercise that worked well in the short term, especially for private customers. However, despite increasing sales, the customer who wanted a customized car but bought a pre-defined car, was dissatisfied and expressed this view through the compulsory dealer survey with a low customer satisfaction score. In short, they became dissatisfied customers.

The dealer played an important role in the quest for customer orientation. In their role as a service-provider, the dealer attempts to understand specific conditions associated with a particular order. If conditions change, then it is still possible to change the order as long as inbound supply can be organized. For example, after placing an order the customer might discuss the choices further (e.g. with his/ her family) and express an interest in changing a few choices. At this point, the dealer changes the order and reconfigures the car, because the service begins – not ends – when the sales contract is signed. When pre-produced cars are sold, the dealer cannot engage in the same way in the customer relationship. Instead, they need to assess the customer as a set of variables, such as payment options and where there is enough purchase interest on the customer's part.

*The sales company's notion of the customer*

Sales companies were regional (most often, also national) automobile trading companies for marketing activities, and the Swedish dealers worked with the Nordic sales company managed from Gothenburg, Volvo Personbilar Sverige (VPS), a subsidiary of Volvo Cars. In the order-to-delivery process VPS facilitated dealers' operations. They argue that the sales model of customer ordered production was needed in a premium-brand business model in which the cars and accessories involve advanced product development. The operations of VPS involved interaction with dealers, in order to improve knowledge of future sales and quality of forecasts. VPS acted as a market specialist that interpreted patterns in the choices made by customers. VPS interpreted sales figures and looked for the *customer commonality* across customer choices that did not vary much and were influenced by broader societal trends. In

short, VPS enacts trends, interacts with its influencers, and carries out promotion and marketing activities based on what it identifies as customer commonalities.

In customer ordered production, VPS supported the dealers. A problematic notion of volume growth relates to VPS-dealer relationship with consequences for the dealer-customer relationship. VPS accepted volume growth challenges and constructed volume growth incentives for the dealers. In this situation, it was rewarding for the dealers to accept these changes. The interaction with dealers in order to improve knowledge of future sales and quality of forecasts was moved to the background, while forecasts based on volume growth challenges came into the foreground. The customer-sensitized dealer was overshadowed by volume growth challenges. These sales challenges are quite common as tools to incentivize sales people efforts and thus they did not feel strange in this context.

The volume growth objective with accompanied incentives was managed by VPS who negotiated and monitored dealers' sales figures. The incentive system was aimed at increasing volumes, stimulating demand and increasing capacity utilization. VPS argued that dealers needed to be pushed in order to actively sell. On the other hand, the consequences of incentives in terms of vehicle stocks was a great risk to the dealer's financial situation, the preferred business model would be damaged, and the tension between VPS' dual role as a facilitator and an incentive calculator, strained their relationships with dealers.

*Manufacturing's notion of the customer*

An increased customer orientation was also a product development objective. The customer was, however, difficult to involve in the development work. Successful customer involvement occurred in a few cases, (see, for example, the XC90 project described in Dahlsten, 2004). The ambition was to objectify what constitutes use value for important customers but most often, a summary measure of customer value was added to the development work (Dahlsten 2004; Setterberg 2008).

In the customer ordered production model, every car is ordered by a customer while supply chain planning and purchasing is based on forecasts. There is a need of flexibility in order to manage the gap between plans and orders. The more than 2,000 dealers in Europe were allowed to continuously make changes in their upstream orders if the customers changed their sales order. Stock orders approximated customer orders, in order to reach sales targets. In such cases, sales tried to match the stock orders to a customer before production started. Then, only some changes in the configuration were needed, unless they succeeded in finding a customer they preferred to change the configuration to a no-extra stock car in order to minimize the risk of ownership. The forecasted plans' and the stock orders' realization in customer orders caused a huge number of changes.

Planning and ordering department had to put in extra work and coordination of several actors, involving the plant, planners, purchasers, supplier planners and supplier's sales function to handle these changes. The coordination for securing production materials was structured by the chimney model which restricted the changes that the supply chain could manage. A change in the incentive system's basis from sales targets to order targets left room for

speculative orders that could be amended later on. A number of changes could be accommodated but now changes added costs and could hinder change needed to uphold customer service. Planning and ordering people needed to manage orders and changes in the same way regardless of whether real customers or incentive-system tricks were the cause. Complex planning processes were used in a dynamic way. This handling caused conflicts or at least, interactions among people in the deliveries, coordination and sales/purchasing. The variability of the changes spread to other actors. Production planning was based on customer orders and resulted in a production plan and delivery schedules. It was governed by chimney rules. The changed behavior in the order-to-delivery process resulted in a planning and ordering picture of the customer as being unpredictable and often problematic.

The chimney model facilitated deliveries when demand was increasing because it acted as a basis for agreements in the supply chain. Material flexibility at the component level was secured. The chimney model described what changes in demand could be accepted. The model became integrated as a rule in Volvo's information systems, which automatically delimited orders that passed the agreed-upon flexibility limit to a degree. The chimney model logic was accepted and used as a routine. However, exceptions were still possible and meant that manual checks made sure that an order could be accepted, for example, by discussing an issue with a supplier. The chimney model was also related to the forecast quality. Volume growth forecasts and order processing created an increased number of exceptions and stiffened supplier resistance.

The chimney model was a mediator between market demands for flexibility and the supply side's view of what was possible. The chimney model assumed that variability in customer orders would make up the deviations rather than inaccurate forecasts. In short, the chimney model logic was unsupportive of forecast-based sales and limited the changes that could be made in the short term. Dealers knew little about the chimney model and consequences for the supply chain of short-term changes in orders. Planning based on financial measures made the plan "too" high. Demand seemed to change considerably, which was typical of periods of low sales, despite good sales figures.

The purchasing department is closely related to the order-to-delivery process and the product development process. However, purchasing is also engaged with its own high profile objectives, such as synergy-seeking, outsourcing and sustainability. The customer is represented indirectly via, for example, lean and flexible production models. The purchaser buys tools for specific models in production, meets suppliers and arranges for materials delivery. Flexibility in response to changes of orders is a stipulation in the contract that purchasers do not pay much attention to. Flexibility is difficult to relate to the other objectives of purchasers. The relationship between flexibility and the premium-brand image is not as transparent or intuitive as the relationship between quality forged by lean methods and the premium car. The variability of demand was troublesome for the manufacturing system. Purchasing was held responsible for costs and annual cost reductions rather than customer orientation or flexibility.

*The supplier's notion of the customer*

The customer order did not just affect planning/ordering at Volvo Cars; upstream suppliers relied on Volvo orders which affected the next tier's optimization of batches, production series, delays in production, etc. For system suppliers, each system was individualized for a specific car at a specific tine in the assembly line. In this case the customer is *a car in the making*, regardless if it was going to be delivered to a named customer or was going to a dealer's stock. The many late changes of orders convince suppliers that produced exclusive parts that the customer was too unpredictable to be taken seriously, as far as planning production was concerned. This unpredictability is enrolled in the rhetoric that places forecasts in the foreground and customer orders in the background.

In the next section, we will take up the notion of a biography of the customer. This social entity, the customer, is objectified in and changed as different notions of the customer come into contact with supply chain actors. There are dynamics of association as well as of dissociation at play in these processes.

**Discussion**

> "In doing the biography of a thing, one would ask questions similar to those one asks about people: What, sociologically, are the biographical possibilities inherent in its "status" and in the period and culture, and how are these possibilities realized? Where does the thing come from and who made it? What has been its career so far, and what do people consider to be an ideal career for such things?" (Kopytoff 1986:66)

There is a social life of the customer as an object set by the strategy, customer ordered production. In the Volvo supply chain, different regimes of value are spaces in which this object circulates (Appadurai 1986; Suchman 2005). Customer orientation is central but it is an ambivalent conceptual object moving around within organizations and in supply chain contexts (Cochoy 2005; Cuganesan 2008; Vaivio 1999). Our history of the customer involves a number actors making up representations of the customer, such as the customer ordered production strategy, chimney model, dealers, sales company, manufacturer, the supplier and the research community with its formalization of strategic principles. All these actors are active in the constitution of the order-to-delivery process.

In customer ordered production strategy the customer was seen as a premium product user and as an order initiator. Simultaneously, managers related the customer to volume growth and associated economies of scale, which interfered with the customer ordered production strategy's notion of the customer. The number of cars sold in a certain time period increased in importance.

Two different assemblages, both involving the customer, came into play. The customer order assemblage and the cost volume assemblage. Both involved the same resources related to the customer but their qualification and quantification differed. In the qualification process,

however, the customer was actively involved and entered into another relationship that undermined somewhat the claims in the strategy of Volvo Cars.

The dealer's notion of the customer had been influenced by the possibilities afforded by customer ordered production. Customers in the customer ordered assemblage were objectified as competent sales personnel themselves. In the cost volume assemblage especially private customers became objects or targets that were used to achieve incentives that might be loaded with objections. The customer became reduced to a set of variables. The parallel assemblages both used the possibilities to reconfigure orders in the name of the customer, but the limited possibilities to change affected the real customer order harder than the dealer stock order.

The sales company's notion of the customer was closely related to the performance of a premium product. First hand contacts with customers are sporadic. Instead, customers featured through trends, interaction was mediated through, for example, the media, and messages to customers are delivered through promotion and marketing activities based on measures of customer commonality. The sales company constructed customer representations in terms of volume growth incentives.

Manufacturing's notion of the customer involves multiple customer objects as was the case in the studies of Cuganesan (2008) and Vaivio (1999). Product developers needed to assess use value and viewed the customer as an expert user but more often than not, used a summary measure of customer value. In the order/ planning process, the customer was a problem that needed to be matched to capacity. The customer was seen through the orders; customer orders were important and manual coordination was extensive despite suspicion that the customer was fictional. However, the chimney model cleared material that was used for an order number regardless of it was connected to a real customer or to a dealer's stock. The degree of stock orders had increased and as the orders got treated in the same way the limited flexibility bought off suppliers was used up. The customer was over-shadowed by the potential for increased income streams that did not directly target the traditional view of forecasts based on customer knowledge. Purchasing viewed the customer as someone demanding in terms of, for example, cost levels, or corporate social responsibility as an external assessor.

The supplier's notion of the customer is related to Volvo Cars and the supply chain procedures demanded by them. Supply chain procedures demand individualized systems in the assembly of customer orders but the notion of the customer related to the car in-the-making.

If we take into account the customer as an object that is more than one and less than many (Law 1999), then a biography of the customer can be seen in the same way as a career of an object that travels across time and multiple organizations (Appadurai 1986; Kopytoff 1986; Suchman 2005). The controversy that increased the multiplicity illustrated two simultaneous assemblages that involved the same order-to-delivery process, the same actors but some divergences in the way the notion of the customer was performed. The customer is never a fully stabilized entity but acquires new properties as the situation changes. The object of the customer is likely to open up in correspondence with actors' investigative behavior as was found in a study of traders in financial markets (Knorr Cetina and Bruegger 2000). The

traders in thus study needed to observe and analyze the market at all times: "*Markets are never completely understood, and they acquire new properties as the situation changes and new events (from interest rate changes to the introduction of the euro) unfold."* (Knorr Cetina and Bruegger 2000:150). Customers in our study did also acquire novel properties as events unfolded. It is questionable to what extent, for example, the sales company feels the development of the customer if the relationship with dealers or customers involves fewer interactions. As in the case of markets, the customer is performed in a multitude of complex ways. The traders' market starts anew each working day while customers as objects are ongoing sets of consequences and conditions. Suchman (2005) sees the multiplicity of objects as both problem and resource for actors. It is a contingent resource in the alignment of professional identities and organizational positioning. The customer as an object in a supply chain involves more and more complex alignments than the intra-organizational processes described by Suchman (2005).

Customer orientation in the customer ordered assemblage and the cost volume assemblage perform multiple versions of the customer. Suchman (2005) draws on Mol and Law (2002) to explain what holds 'an object' together in practice: a high degree of coordination in relation to other objects and practices. Durability is an effect stemming from the object's ongoing, contingent connections, such as overlaps across multiplicity.

We have engaged in multiplicity of the customer from past and future, market-responsive strategy and volume growth strategy, sensitized and quantified, subject and object, which might be seen as multiple theories of the customer. Actors in the supply chain theorize events with individual sets of tools and devices. In addition, multiple versions of the customer are performed along the supply chain. The customer as an object is a gradual qualification that starts as articulations that might be incompatible with others' articulations, and continues with a redefinition of the object, such as a condition on which others are involved (Dubuisson-Quellier 2010; Suchman 2005). Examples of successful definitions that have proved durable are the customer as a premium product user and order initiator. Both were initiated in the implementation of customer ordered production and are still part of the daily struggles in the supply chain in various ways.

Suchman (2005: 393) suggests that the study of objects should go beyond economic exchange, to explore the different 'regimes of value' within which objects circulate. In Suchman's study the case of the Haloid xerographic copier and its descendants involved multiple trajectories that give rise to a number of 'new' products. These trajectories involved spaces such as customer installations, sites of product development and research laboratories. The resulting assemblages were various and generally failed to include one another. That failure should be a seen as a sign of the variety and multiplicity of different actor positions and the multiple possibilities that the object affords. The opportunity is in finding those possibilities, to redefine and align them effectively with relevant others, an argument made by Suchman (2005) and Dubuisson-Quellier (2010).

Figure 1 is an attempt to sketch multiplicity in terms of versions and theories that are qualified. It should be noted that ‘regimes of value’ are shifting and therefore the figure should be seen as a suggestion of possibilities and hinders in the qualification of the customer.

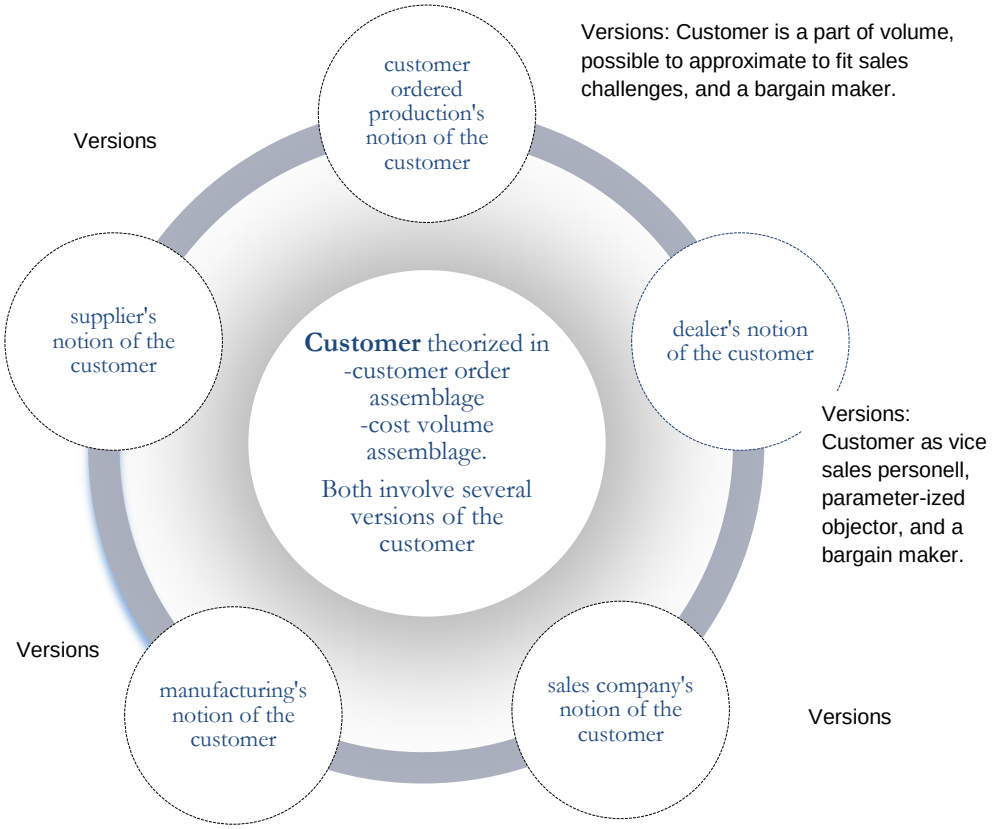


**Figure 1Multiple theories and versions in a customer biography**

The supply chain offers only to some extent pre-determined positions and possibilities for customer orientation. Customer knowledge is developed from various positions and with multiple possibilities. Two possibilities found, redefined and aligned with relevant others, are n the customer order assemblage and the cost volume assemblage which constitute different ‘regimes of value’. In the supply chain case that we have discussed, there might be further dynamics involved and additional complexity but still the qualification of the customer concept evolves as in the cases related by Vaivio (1999) and Cuganesan (2008) involving sales and management accounting. Intra-organizational and inter-organizational actors are engaged in ‘regimes of value’ and even ‘sub-regimes of value’ of which someone’s quantification becomes a part of somebody else’s qualification.

In Cuganesan’s (2008) customer intimacy example, a "numeric calculation network" used accounting numbers to calculate and impose upon the sales-force a regime of performance measurement for customer intimacy. A "sales calculation network" destabilized the proposed performance measures by promoting their own implicit basis for calculating customers through co-location and proximity with named customers. Based on the material from customer ordered production, the "numeric calculation network" was enforced by, among

others, the owners. The quantification de-contextualized and made possible, (even though some claimed, not meaningful) the transfer into different versions of the customer. On the other hand, space delimited the possible transfer of the "sales calculation network's" transformation. The networks might align but are necessarily not predisposed to align with each other (Dubuisson-Quellier 2010). Different theories and versions of the customer might counteract each other in many cases. A decrease in operational performance in a supply chain might indicate a change in customer knowledge in another of the existing theories of customer orientation of the supply chain. It would then be important to connect with different versions of the customer, i.e. involving both "numeric and sales calculation network".

**Conclusion**

Mattsson (2010:viii) argues convincingly that there has long been a disconnection between the study of marketing and market studies. For a reconnection, he suggests, our research approaches need to be interdisciplinary, the research methodologies need to be able to describe complex processes and to embrace marketing practices. We have heeded his suggestion in our study of what constitutes customer orientation in a supply chain. Using a socio-technical approach, we studied the figure of the customer that is produced and circulated through the interactions of many actors, and learnt that customer knowledge is a shaped, negotiated, and contested process (cf. Araujo et al. 2010:8). Studies that focus on the life of objects inspired our brief biography of the customer (Appadurai 1986; Dubuisson-Quellier 2010; Kopytoff 1986; Suchman 2005). The relationships between customer statements and their worlds as socio-technical assemblages, is about ongoing adjustments between statements and action. Earlier studies have explored how customer statements affect organizational action and trajectories of events (Vaivio 1999), how different organizational assemblages relate to the customer (Cuganesan 2008), that customer relations are transformed by interactions in between institutional market actors and the organization (Cochoy 2005), and how products in the name of, for example, the consumer are qualified and transformed (Dubuisson-Quellier 2010; Suchman 2005).

The customer that circulates in Volvo Cars' supply chain has been given a special status in the customer ordered production strategy. But the qualification of the customer was diffuse and needed to be shared amongst the many of the actors involved. Customers, dealers, manufacturers, among others aligned the realization of possibilities to decrease costs and risks together with higher sales prices. Over time, the customer became an ambivalent object as it needed fit a cost volume assemblage as well a customer order assemblage. A decrease in costs and increased volume became necessary and this shifted priorities based on position in the supply chain. For example, the process of quantification involved incentives for number of cars sold per period that hardly related to the vision of the customer in the customer order assemblage. A new assemblage had been initiated, a cost volume assemblage that competed with the customer order assemblage for tools and resources. These parallel assemblages are processes that involve different views of the customer object, a second career, a diversification and increased learning but also problems of attempts to align the assemblages, which is necessary because both are taking part in one order-to-delivery process.

Few would argue that their organizations are not customer oriented. How can customer orientation be enacted taking the complexity we have illustrated into account? Marketing management prescriptions seldom acknowledges the potential for multiple assemblages to coexist and undermine each other, as our supply chain example demonstrates. A complementary implication relates to strategizing in industrial networks. Strategic objectives, such as customer orientation, are represented in different ways within an organization and often enough beyond its boundaries as the organization attempts to influence its network partners. The strategic management literature seldom takes into account ongoing practices that make up performances and hardly ever pauses to consider that competition might occur between assemblages rather than between firms. The biography of a conceptual object such as "the customer" is a study of the social life of a strategic objective. The biographical method follow the objects "*…for their meanings are inscribed in their forms, their uses, their trajectories. It is only through the analysis of these trajectories that we can interpret the human transactions and calculations of enliven thing*" (Appadurai 1986:5).

The practical implication of this study is that there are no easy fixes when it comes to customer orientation. Customer knowledge and the processes that make up this knowledge inhabit different supply chain positions. Customer orientation seems to be found in a process of learning with, rather than learning from, others in the supply chain, including the customer. There will be competing notions about the customer and the mutual adjustment between these different notions is likely to be durable in some periods than others.

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