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Service Contents In The Supply Chain

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Abstract

The aim of this paper is to analyse the service contents in the customer-supplier link and in the supply activities. On the basis of information emerging from a case-study - the Zanussi-Electrolux Company, a firm with plants both in Europe and in the U.S.A., actively involved in the supplies sector - the authors propose an interpretative scheme which connects some of the basic concepts of service management with the thematic principles of supply management.

1. SUPPLYING: AN ACTIVITY OF INCREASING IMPORTANCE IN SERVICE

Present day competitiveness has brought about a marked evolution in the management of procurements, imposing on the firms an increasingly close interaction with the suppliers. The achievement of high level performances in terms of cost, quality and promptness in response to the market appear ever more dependent on the quality and efficiency of the supply network.
In current models of buyer-supplier relationships it is generally possible to identify different stages along the route which leads to a buyer-supplier partnership. In correspondence to the most advanced and cooperative relationship (supplier partner) the buyer requires the support of interlocutors capable of sharing in the innovative, planning and productive effort; the supplier, in turn, is looking for buyers with whom he can collaborate on a more stable and long lasting basis. The results are:

- the supply transaction is enriched in content: the control of the so-called *intangible processes* has become one of the requisites for the consolidation and development of supply relations. In fact the exchange between customer and supplier regards not only an object, but rather the complex of information, planning and logistic services that lead to the completion of that object.
  ⇨ *the supply transaction becomes enriched by the services included*

- the suppliers exchange with the purchaser not simply productive capacity, but rather the ability to plan and innovate as well as the opportunity to plan over a medium to long-term period. The purchaser offers the supply unit stability in providing supplies, circulating information and expertise. In addition the complex of information and technical and planning collaboration consolidates a continuous and interactive dialogue between the upper and lower ends of the productive chain.

⇨ *the supply transaction induces a two-way service which develops along a multiplicity of channels.*

❑ it is becoming always less possible to entirely decentralise the manufacturing of the components or sets of components that make up the final product, especially in the case where they incorporate a high added value. Vice versa it is becoming ever more necessary to share and synchronise the expertise possessed by each side involved, that is to organise the synergies (internal and external) to optimise the potentials of each unit in the supply chain. The traditional distinction between supplier and buyer of a service loses its sharpness.
⇨ *service is a responsibility of both participants*

The comments listed above are schematized in the table below.

	Traditional approach	New approach
Service contents	low	high
Service direction	one sided	two sided
Role of actors	supplier = server buyer = customer	supplier = server & customer buyer = customer & server
Kind of chain	material supply chain	material and service supply chain

2. CONTENTS OF SERVICE IN THE SUPPLY TRANSACTIONS

Among the aspects of service which most frequently appear in the literature on service management, those we consider the most significant in regard to the supplying activities (as can be seen from the case examined) are the following (Chase & Erikson,1988):

❒ *Service package.* Conducting a transaction according to the principles of service management means concentrating attention not only on the actual moment of the supply of the product/service, but also on the complex of activities/interactions (tangible and intangible) with the customer, which surround, or pave the way towards the supply objective.
❒ *Customer involvement.* The boundary line between the customer and the supplier organizations traditionally is distinct; the respective roles clearly marked out: one imposes the technical specifications, the other passively accepts them. Working from the viewpoint of service involves redefining the roles and reshaping the partition separating the supplier and the user of the service. In fact the service becomes much more efficient the more active is the role of the user, the greater the interaction with the supplier and the greater their reciprocal involvement.
❒ *Open system logic.* In a strictly productive environment (but a similar attitude is often latent in other work areas) the mentality of a closed system is dominant, it is impervious to outside influence and interactions. From a viewpoint of service

the system (procurements, production, distribution, ...) becomes, by definition, open to the surrounding ambient, and in particular, open to the customer.

If service is not an exclusive prerogative of the supplier (to such a degree as to permeate the entire supply chain) then both sides involved (customer and supplier) will interpret, in their own way, the service concepts listed above. In the following paragraphs each of these aspects is developed in relation to the evidence resulting from the case of Zanussi Elettrodomestici. The investigation in question, focused on the impact of market globalization on the models of buyer-supplier relationships, was carried out using specially compiled questionnaires and interviewing the managers of the buyer company and the managers of a significant sample of the supplier firms.

2.1 Service package

The supply transaction actuates a series of services (in R&D, Design, Logistics, ...) characterized by tangible and intangible elements: the supplier must have the ability to innovate, plan, make deliveries respecting the times, quantities and conditions specified. In other words the supplier must be able to handle the service package which increasingly characterizes the present day supply transactions. The activities and services required to the buyer fan out symmetrically: from supply market monitoring to management and control of the supply chain; from simple procurement of materials to training and technical assistance for the suppliers.

❑ *Services on the suppliers side.* In general the supplier-partner must be able to suitably look after the R&D and Design, Procurement, Production and Distribution steps, that is all the phases that link him to the operation chain of the customer (De Toni, Filippini, Forza, 1992).

○ *R&D and Design.* Competitive dynamics push the buyer-assembler towards the formation of a pool of suppliers capable of immediately going along with his product strategies: the sources must be able to incorporate innovations in the supply object and offer design capability on complete functional sub-assemblies (black box).

○ *Procurement.* An element which often characterizes the privileged supplier is the ability to carry out the role of intermediary collector for those supply channels whose connection with the final assembler was eliminated by the same assembler. Usually these are channels of added value and of technological content which do not require the direct control of the final consumer. Thus the supplier assumes the responsibility of procurement which otherwise would be the concern of the buyer. The supplier must possess the ability to manage and coordinate the intermediate supplies network, and so develop the capacity to select, train, control and evaluate his own suppliers (Lamming, 1992).

○ *Production.* A quality and technological answer to the supply object constitutes the best qualification parameter for suppliers, especially if situated at the higher levels of the

supply chain. A sufficiently well-developed productive asset and the use of advanced managerial practices (JIT, TQM) often represent the necessary premise for the development and consolidation of supplier relationships.
O *Distribution.* JIT deliveries and precise packaging rules (re-usable containers, in specific configuration for robotic handling, automatically identifiable) are becoming more frequent requirements made by customers. The supplier could also be asked to set up a computerized link with the buyer which would permit the flow of material between departments at the upper and the lower ends of the chain to be controlled.

❑ *Services on the part of the customer.* In like manner the buyers must be able to sustain the effort made by the direct supplier to qualify, aiding in the following areas:
O *Training and technical assistance* (in Design, Production, Quality, Statistical Process Control, Maintenance), and in some cases even financial aid (low interest rate loans to the supplier to enable him to meet the required specifications).
O *Integrated production planning* through a vendor scheduling system extended to the activity at the upper end of the chain (Dumond E.J., Newman W, 1990). Bad performance on the part of the suppliers is sometimes justified by the absence or inadequacy of an integrated planning system: changes in the specifics of production and in the quantity are the easier to face the more time is available to the supplier (Bernard, 1989). More generally the customer, especially if situated at the top of a complex production chain, is nowadays required to possess the capacity to plan, together with the integrated suppliers, the coordination of the supply flows which cross the units of the chain.
O *Control and evaluation* of the networks composed by the supply units (that is monitoring the performance of the supply units). The more cooperative interaction between buyer and supplier requires more sophisticated instruments for the coordination and the control of the activities.

In addition the buyer must be able to offer the supplier opportunities projected over a medium to long term period so as to justify the more intense efforts in design, production and logistics. Finally the new formulae of relationships with the suppliers lead the buyer to an appropriate reconfiguration of his own operative structure so as to permit an effective interaction/integration with the supplier.

2.2 Customer involvement

Current active competitiveness pushes the customer and the supplier towards greater reciprocal involvement, joining up the respective operative chains, broadening the area of their interactions. Thus one of the constituent principles of service management is affirmed: the involvement of the consumer in the process of supply of the goods/service, where the customer is, in this case, both the "buyer" as he receives the final object of the transaction, and the "supplier", as he benefits from a series of services coming from the interlocutor at the lower end

of the chain and targeted at the complete and positive fulfilment of the object itself.
The contribution of the supplier can thus be required right from the first steps in product development, so as to:
• to capitalize on the expertise within a certain applied horizon;
• shorten the time to market;
• improve the quality and lower the global costs;
• allow the supplier to take part in the planning as a whole, and thus increase his level of motivation and responsibility.
At the more cooperative stages of integration, the buyer-supplier relationship can even lead to the intersection of the respective strategic domains: the supplier reaches the point of sharing, in part, the risk associated with the entrepreneurial action of the customer.
In the same way, the buyers involvement can be expressed as support for solving the problematics of the supplier, whether technological, managerial or productive (setting up TQM and JIT programs, modernization of the production tools, etc). The general improvement in the managerial, control and communication systems used by the supplier can require an all-out intervention on the part of the buyer.

2.3 Open system logic

The main objective of the buyer involved in the traditional type of supply transaction is the minimisation of the buying cost, all other conditions being equal. It is exactly here that nowadays we find the greatest change: the supply conditions apart from the price are always becoming more sensitive to the change in the interlocutor. Quality, technology development and operative congruency require a longer time for development and arise from actions which ask of a customer and a supplier relational investments whose threshold of irriversibility is gradually becoming higher. In this context the traditional separation between the actors in play undergoes a strong destabilizing shift. Thus an open system logic is affirmed where improvements on the side of planning, production and logistics originate from:
❑ *Greater management transparency*. The implementation of projects such as JIT and TQM etc. are often impractiable without the collaboration and the joint effort of the buyer and the supplier.
❑ An *integrated view and management of the supply chain*. The detailed analysis of the supply channels of the actors involved can provide a more complete view of the storage times, a greater comprehension of the processes, a more immediate identification of the phases and the course of the logic flow (Scott, Westbrook, 1991).
❑ A *reconfiguration of the organizational structure* of the internal procurement activity and a redistribution of the corresponding responsibility. The greater area of buyer-supplier interaction and the need to manage at the same time ("overlapping") phases traditionally carried out in sequence (design, planning, purchasing, production) lead to the formation of multi-functional units which interface with the counterpart

and affirm an open system logic not limited to the buyer-supplier relationship, but structurally rooted in the organizations involved.

❑ A *more intense information exchange*. In the most cooperative stage the exchange of information and technological, planning and productive expertise permits the buyer and the supplier to have a greater congruence of their respective operative activities. In some cases, information exchanged can regard the structure of costs and the financial situation of the counterpart.

3. THE ZANUSSI ELETTRODOMESTICI S.P.A. CASE

Zanussi Elettrodomestici s.p.a., the most important firm in the Zanussi group of industries (which in its turn belongs to the Electrolux group) is the biggest producer in Europe of domestic appliances. Its turnover is around 3000 billion lire and the productive structure is articulated in monoproductive plants (fridges, freezers, cookers, ovens dish-washers washing machines, etc.) and in component plants to make a total of 12 units. The purchases, almost exclusively purchases of parts-components, at present account for two thirds of the turnover.
The Zanussi approach to the management of supply activities, and in particular the service content recognisable in them, will be illustrated in the following paragraphs, in conformity to the interpretative scheme given above.

3.1 Service package

❑ *Services on the part of the supplier.*

O In the past the buyer-supplier relationship, in general, foresaw a simple collaboration of a productive character. Today Zanussi requires to the suppliers know-how as well as specific and specialistic abilities, such as to give rise to a reciprocal exchange of knowledge and an advanced technological dialogue. The suppliers who, because of their structure and know-how show themselves to possess an adequate amount of knowledge/ability and the capacity to take care of *R&D and Design* are given this responsibility.

O Since Zanussi is privileging the sub-assembly supply (rather than supply of retailed component production) suppliers are preferred who are able to substitute Zanussi in the supply transaction with producers of not strategic materials/components. The supplier of a functional group must then be able to develop and manage the supply chain that furnishes the steps in assemblage.

O Their *production system* characterised by an attitude of technological excellence, must be equiped by an internal quality system and must show itself capable of governing the processes in consistency with the procedures at the lower end of the chain (JIT, TQM).

O The *distribution phases*, that is the transfer of materials from the supply sources to the buyer Zanussi, are aided by an information system which connects, by bi-directional channels, the preferred supplier to the consumer.

❑ *Services on the part of the customer.*
O Investments in *training and technical assistance* for the pool of suppliers have been made by the Zanussi group to make aware the suppliers of the problematics of production, quality and logistics.
O Zanussi's *production plan* takes into account the characteristics and potentials of the principal suppliers. Once elaborated the production plans are transmitted over the network to the integrated suppliers.
O Zanussi has developed a series of tools for the *control and monitoring* of the supply activities. It was prepared to try, and is still experimenting with, a specific performance measurement system: the suppliers are continually evaluated in regard to waste generated, delivery and the overall level of cooperation.

3.2 Customer involvement

Zanussi intends to promote a large scale involvement of the privileged suppliers right from the initial stages of product development. The areas of involvement are multiple, in particular regarding the component standardisation, product-process innovation and the procurement practices.
The greatest integration between buyer and supplier means that the latter takes on an extensive, and at the same time more exclusive, commitment, in all the ambits that influence the competitiveness of the end product. The customer Zanussi thus tries to support and reward the productive efforts made by the suppliers, offering them: 1) long-term contracts, in which only a few clauses are renewed each year, 2) technical assistance for the suppliers at the different stages of product and process development, 3) introduction of a concrete collaboration aimed at combined improvement and the exchange of expertise between the two partners.

3.3 Open system logics

❑ The Electronic Data Interchange project has as its objective the *integration of information* with the suppliers. The suppliers involved in the project coincide with the supply units of complex products, characterised by an elevated proportion of volume/value and/or a high frequency of consignment.
❑ Zanussi is now seeking to introduce a system of cooperation which redesigns the role of the supplier. *Transparency* in the relationship means working together to share equally in the costs and the benefits of the productive effort, the research on efficiency and competitiveness of the system.
❑ The rationalisation of the pool of suppliers and the strategic redefinition of the supply object (black box vs. components) pushes Zanussi towards sharing the responsibility for managing the supply chain with the privileged suppliers.
❑ The evolution in the relationship with the suppliers has involved profound second thoughts on the part of Zanussi regarding its organisation and has lead to the reconfiguration of the organisational design of the supplies activity and the redefinition of the corresponding responsibility. In fact those projects are interfunctional: they involve not only the

purchases but also the Quality, Information Systems, Design, Production, Distribution and Sales. Thus every function is re-examined in the light of this new approach.

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