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Managing supplier relationships on line: the role of e-marketplaces in Demand Chain Management

Summary

Although many companies used in recent years e-marketplaces to manage purchasing, if we analyze this phenomenon deeply, it emerges that sometimes these instruments don't satisfy all the specific needs actually required by strategic purchasing, which try to establish with suppliers strong trust relationships, which ensure quick responses to the rapid changes of the competitive context and of technology too. So, the aim of the research in which this paper is included is to identify, starting from literature review about the item, the main features that an e-marketplace must have to guarantee all its functions: transactional, informational and collaborative too. The paper is so articulated in a first part, containing a literature review aimed to better define virtual marketplaces and to report the main criteria used in literature to classify marketplaces. After that, in the second part of the paper, there are the first results of an empirical research, which wants to identify the main experiences of e-marketplaces operating on the Italian market, analyzing their features, in order to compare those with the issues suggested by specialized literature.

Key Words

On line transactions, integrated supply chain, e-sourcing, e-procurement, supply chain collaboration

1. Introduction

The complexity and the increasing instability of the present markets bring many companies to achieve more than one object at the same time, even if these were once considered conflicting: wider, more flexible and customized offerings, marked by a higher level of service, with low costs and available in a very short time. These peculiarities of the actual competitive context pushed the companies and the researchers to pay particular attention to the role that supply chain and its integrating management can assume in this environment. About that, studies belonging to the “Demand Chain Management” literature often claimed how a higher degree of integration beyond the players of the supply chain could afford, not only good performances in terms of efficiency, as costs reduction, but also in terms of effectiveness, as customer satisfaction. According to these statements, technology, and Internet in particular, seems to be assuming a significant role in optimizing the supply chain processes, allowing to reduce coordination and transaction costs and to strengthen customer relationships (Payaro, Tosetto, 2003; Auramo, Kauremaa, Tanskanen, 2005; Caputo, Fortuna, Michelino, Resciniti, 2007).

As a result, this research aims to study one of the instruments currently used by the companies to manage the supply chain relationships, the e-marketplaces, which supports the e-procurement processes. About this matter, it’s important to stress how, although many companies used in the recent years e-marketplaces to manage purchasing, if we analyze this phenomenon deeply, it emerges that sometimes these instruments don’t satisfy all the specific needs actually required by strategic purchasing, which try to establish with suppliers strong trust relationships, which ensure quick responses to the rapid changes of the competitive context and of technology too (Baglieri, 2004; Stabilini, 2005).

Even if until now the virtual markets gave an important support to all the steps of procurement processes, making them easier and reducing their costs through coordination, interaction and elaboration of information, today the context imposes these systems to strengthen their role of supplier relationship management (McIvor, McHugh, 2000; Li et al., 2005), being sure that the real benefit coming from the use of Internet in the relationship between customer and supplier along the supply chain is the opportunity that Internet gives, allowing collaborative partnerships and facilitating the companies involved in sharing systems of production planning, stock management, project and development of new products.

So, the aim of the research in which this paper is included is to identify, starting from literature review about the item, the main features that an e-marketplace must have to guarantee all its functions: transactional, informational and collaborative too. The paper is so

articulated in a first part, containing a literature review aimed to better define virtual marketplaces, their functions and the benefits they can bring to the companies which chose to use them and to identify the features that an e-marketplace have to own to be defined as a good marketplace. After the literature review, in the second part of the paper, there are the first results of an empirical research, which wants to identify the main experiences of e-marketplaces operating on the Italian market, analyzing their features, to compare those with the issues suggested by specialized literature.

2. The integrated management of supply chain: from *Supply Chain Management* to *Demand Chain Management*

The management of the relationship between the company and its suppliers represent an extremely complex item, on which the success rather than the failure of the competitive strategy could depend. The effective management of suppliers' portfolio is today the essence not only for those companies which try to reach the cost leadership, but also for those which want to differentiate their offering. In fact, the ability of selecting a good suppliers' portfolio and the one of establishing with them strong and collaborative relationships have important effects not only on the product costs' structure, but also on every performance realized by the company in terms of quality, service and affordability (Grando, 2001).

During the last years the purchasing and selling processes seem to have been influenced by some pressures coming from the external environment, which forced the companies to review in depth these processes, looking for innovative solutions and instruments which could support them.

So, on one hand, the increasing competition (Pellicelli, 2000; Volpato, 1995), derived from the major international exposition of the companies and the increase in the costs of many production factors force the companies to review their manufacturing processes, with the aim to reduce their total costs. So this element, first of all, brings the companies to look for more profitable products, manufacturing solutions more concentrated rather than decentralized, more profitable retail channels and new market segments and, after that, to search new ways to manage suppliers' relationships.

On the other hand, the propulsion in all the main industrial sectors to focus on the core activities of the company outsourcing the less important ones, brought the purchasing department to assume a more relevant role in the Operations, not only for the economic importance that the purchasing cost assumes in the so created network structures, but also for

the technical complexity that characterizes the coordination of activities first managed directly and now outsourced (Grando, 2001).

As a result, it is important to stress that the diffusion of Internet and of services now available on Internet represent today incredible technological opportunities for those companies which get ready to review their purchasing processes. In fact, it is commonly known that, after the first attention paid to electronic commerce addressed to final consumers, the opportunities offered by Internet in the development of business to business commerce can widely go beyond the excellent performances reached until now (Stabilini, Giuffrida, 2000). In fact, on one hand, the possible price reductions reachable through an open transaction on the net seem to anticipate the constitution of a perfect market: the complete availability of information and the existence of many actors on the supply market, in fact, increase the opportunities to obtain minimum purchasing prices. On the other hand, if you think that the process of research and selection of the suppliers takes on average about the 30% of the time spent by a buyer, it is easy to understand which benefits in terms of time and costs could derive for the buyer who decides to buy on Internet¹.

Although, the phenomenon here examined goes beyond the attempt to find out new solutions to manage purchasing processes more efficiently. In recent years, a combination of economic, technological and market forces, such as the globalization of business, the proliferation of product variety, the growing complexity of supply chains and the reduction in product life cycle, have forced companies to take a look at and redefine their supply chain strategies (Muffato, Payaro, 2004).

As the world's economy becomes increasingly competitive, sustaining competitiveness and the resulting profitability depend less on the ability to raise prices. Instead, firms need to compete on the basis of product innovation, higher quality and faster response times all of which must be delivered, in most cases simultaneously and always at the lowest cost attainable. Those competitive dimensions cannot be delivered without an effectively managed supply chain² (Presutti, 2003). So, in order to remain competitive, some companies have tried to improve the coordination and collaboration of all the partners involved in the same supply

¹ In addition, it is necessary to remember the simplification of all the administrative activities linked to the purchasing process, if you think that many applications of e-procurement can act as integrators among e-mail, administrative processes and systems of purchasing approval (Stabilini, Giuffrida, 2000).

² According to Tang et al. (2001), "to compete successfully in today's market place, companies need to effectively manage several key areas: the efficiency of supply chain management (SCM), management of materials, information and financial flow within the supplier/manufacturer/customer network".

chain. This approach has been called “supply chain integration”³ (Hewitt, 1994; Cooper, Lambert, Pagh, 1997; Betchel, Jayaram, 1997, Christopher, 1998; Knoblock, Minton, 1999).

According to this, Information and Communication Technologies (ICT), and in particular Internet, have played a fundamental role in helping the companies to reach the goal of “supply chain integration”. In fact, Internet can redefine the way in which some back-end operations, such as product development, procurement, production, warehouse management, fulfillment, post-sale support and even marketing are managed. In each process, Internet can change the role and the type of relationships between the various players, creating new value networks and developing new business models⁴ (Muffato, Payaro, 2004).

This increasing emphasis on supply management, rather than on the more traditional “purchasing”, requires that the professional supply managers move beyond the typical transaction focus of purchasing where price and availability were the key factors to be considered in the purchase decision. The “new basics” of supply management require that supply managers take a more strategic view of what they do. Those new basics include a comprehensive understanding of target costing, value engineering, supplier development and electronic procurement (Nelson, Moody, Stegner, 2002). The first three are not really new, having existed as an implicit part of supply management for some time. It is more accurate to say they are being rediscovered. It is electronic procurement, the productive use of the Internet to improve the effectiveness and the efficiency of the supply end of the supply chain, that is new.

The idea that from an integrated supply chain management could derive the opportunity for the company to reach effectiveness objectives, traditionally thought to be in contrast with the efficiency ones, makes it clearer to analyze the evolution of the studies on supply chain. The concept of Supply Chain Management evolved in the years (Romano, 2001). In fact, today the SCM is not simply the stock management but it involves “(...) the integration of entrepreneurial processes which make the products, the services and the information adding value for the customers available, starting from the final consumers and going on to the raw

³ The concept of integration in supply chain emerges in its definition too. The supply chain “encompasses all activities associated with the flow and transformation of goods from the raw materials stage through to the end user, as well as associated information flows... Supply Chain Management is the integration of these activities through improved supply chain relationships to achieve sustainable competitive advantage” (Dobler, Burt, 1996).

⁴ IT, which is usually viewed as a facilitator in performing such activities, allows closer integration of adjacent steps on the value-added chain through the development of electronic markets and electronic hierarchies (Malone, Yates, Benjamin, 1987). The electronic integration effect is also indicated by Malone et al. (1987) as one of the electronic interconnection effects, together with electronic communication effect and electronic brokerage effect too.

materials manufacturers” (Cooper et al., 1997)⁵. Although the integrated supply chain concept reveals the existence of a relationship among supply management and market objectives⁶, the customer orientation in the supply chain management is more evident in some recent studies, in which the expression “*Supply Chain Management*” is replaced by the one of “*Demand Chain Management*” (Heikkilä, 2002; Baker, 2003; Christopher, 2005; Jüttner et al., 2007), an expression which is, according to many Authors, more suitable to define that supply chain which, starting from the customers’ needs, is designed to satisfy these specific needs, instead of starting from the supplier/manufacturer and going on from this point.

The expression “*supply chain*”, according to someone, reflect that philosophy typically oriented to production and efficiency, that, some years ago, brought to design the supply chain starting from the factory, trying to optimize the operations within the supplier company. While this approach could be considered good, looking at production process, it is very far from the “customer centric” philosophy, that should bring to design supply chain with reference to the customer needs. After the transfer of the power in the distribution channel from the manufacturer to the customer, this conventional philosophy revealed to be thus inadequate. This is the reason why many people today suggest to design the supply chain not starting from the factory but backward, starting from the customer (Christopher, 2005)⁷. Adopting this point of view, the expression “*demand chain*” would be more suitable to define the chain that is “customer driven” rather than “supply driven”⁸ (Cox, 1997; Corò, Rullani, 1998; Hoover jr et al., 2001).

⁵ Also analyzing Italian literature, it is possible to find out the concept of integration as a coordinated management of the different links in the supply chain. In fact, in order to define the complex linkages existing among the companies operating in the different stages of an industrial sector, somebody uses the expression of “enlarged manufacturing system” (Zanoni, 1991). In the same way, the supply chain management with an integrated point of view is one of the basis in entrepreneurial systematic approach (Golinelli, 2002), according to which the supplier relationships would represent for the company, as a “vital system”, a “system over the system”, which could give rules and impose bonds.

⁶ About this item, Christopher (1998) defining the supply chain as “*the network of organizations that are involved through upstream and downstream linkages in the different processes and activities that produce value in the form of products and services in the hand of the ultimate customer*”, evidences that, in addition to the creation of value and to the integration and to the interdependence of the different actors of the supply chain, one of the main elements which define the concept of supply chain is the centrality of the customer (Tunisini, 2003). The centrality of the customer and of the service emerges from the studies about *Supply Chain Integrated Management* (SCIM) too, in which the main objective of the companies actively operating in an integrated supply chain is the creation of relationships aimed to increase the final customer satisfaction through the highest level of service (Signori, 2004).

⁷ About this item Baker (2003) claims how demand chain management is different from supply chain management, because of the upsetting of the supply chain that it requires, so that the final customer is not the final destination of the organization, but its starting point.

⁸ In the same literature it is possible to include all the Authors who, in the recent years, evidenced the problem of the integration between Marketing and SCM, as the necessary element to reach competitive advantage on today market (Ellinger, 2000; Piercy, 2002; Svensson, 2002, 2003; Walters, Rainbird, 2004; Borghesi, 2006). According to these Authors, the integration between the two concepts would enable to go beyond the limits of

So, the most admired competitors today are companies that link their customers and suppliers together into tightly integrated networks using what is commonly called Demand Chain Management (DCM).

Although we have known about the theoretical benefits of DCM for many years, making it work, in practice it was typically impossible before Internet (Frolich, Westbrook, 2002). DCM requires extensive up and downstream integration between all business partners in order to succeed and these types of connections have only recently become possible due to the web. Notably, in the pre-internet days there were no great solutions to the tradeoffs between low cost, rich content, real-time data and broad deployment across supply chains using traditional methods, such as EDI and Kanban.

In contrast, Internet effectively resolved these tradeoffs and allowed the types of integration necessary between every partner in the supply chain. Where real-time demand information and inventory visibility were once impossible, web-based technologies are now becoming increasingly indispensable for supply chain forecasting, planning, scheduling and execution. Real-time information travels immediately backwards through these web-based, demand-driven supply chains while inventory flows swiftly forwards. Most importantly, goods and services are delivered quickly and reliably when and where they are needed. The more integrated the flow of data between customers and suppliers, the easier it also becomes to balance supply and demand across the entire network. Together, greater on line coordination with associated reduced lead times helps defeat the bullwhip effect and contributes to higher performance (Lee et al., 1997).

The greater integration permitted by Internet is stressed by many Authors, who say that Internet is potentially able to lower switching costs related to the change of the partner and to increase flexibility and dynamism in the supply chain. In this way , the internet-based tools can lead to either benefits of long term relationships or short-term ones (Williams et al., 2002; García-Dastugue, Lambert, 2003).

In addition, Eng (2004) points out the greater flexibility as a benefit of the adoption of the internet-based tools and indentifies some contributions of e-marketplace to SCM, such as dynamism and globalization in the supply of resources, the possibility to deal with many

restricted definitions of *supply chain* and of Marketing too, the first traditionally oriented to the efficiency and the second to the effectiveness. In particular, the SCM concept has always been oriented to the costs reduction and to the optimization of logistic aspects rather than to the reach of the contrasting objectives of efficiency and effectiveness (Bocconcelli, 2005).

suppliers and the reduction of transaction costs, which permit to reach a larger number of purchasers and sellers.

Also Presutti (2003) points out the role of e-procurement in reaching a greater number of suppliers and, as a consequence, in the costs reduction and in the increase of the quality of materials. According to other Authors (Sashi, O'Leary, 2002), electronic auctions can facilitate the access to wider and global markets, leading to an increase in the number of players for each stage of the supply chain. On the contrary, others (Croom, 2001; Davila et al., 2003) consider as one of the main benefits of the adoption of the internet-based tools the rationalization of supplier base⁹.

3. The role of Internet and of marketplaces in the integrated supply chain management

In the previous paragraph the main benefits deriving from the internet applications to the supply chain were evidenced. As Caputo et al. (2007) say, the use of the Internet as a new tool to conduct business has opened new paths and created new sources of value creation. On the one hand, Internet has allowed to increase richness, depth and speed of information exchange, on the other hand it has generated new ways of doing business transactions through the creation of virtual markets, characterized by high connectivity and lack of geographical barriers. These innovations result in a series of organizational and managerial implications: virtual communities and commercial agreements going beyond the internal firms from different industries; the disappearance of traditional intermediaries and the appearance of new types of linkage between buyers and sellers and most of all greater possibilities to extend the offering range to complementary products and services and to access fundamental resources and technologies and greater capacity to customize products and services.

Although Internet gives many opportunities to increase the integration in the supply chain, actually the companies adopt e-procurement systems and marketplace only with the aim of increasing efficiency significantly¹⁰.

⁹ According to Christiaanse and Kumar (2000), in contexts characterized by demand instability and opportunity to customize products, it is necessary to re-engineer the supply chain by eliminating or combining some stage/activities and reshaping the competences of different members. As information technology reduces the total coordination costs, it can make the process of selecting and including many players in the supply chain more dynamic.

¹⁰ As a demonstration of what we said before, there are data about the e-procurement applications developed until now, which evidence how one of the main difficulties associated to their implementation is linked to the limited opportunity of buying complex goods and services. Even if the purchasing of raw materials and of standard services is possible on the net, it is more difficult to assist to a real revolution for the purchasing of non standard goods and services. In fact, in this case, the purchasing price is not the main component of the transaction, because companies look for a wide group of performances of the product/service (Giuffrida, Stabilini, 2000). This is not necessary a limit, if we think that the saving in the efficiency on the materials

E-procurement systems spread starting from the first nineties, when many companies started to focus their attention on the processes of direct materials' purchasing, thinking that their more efficient management could guarantee a competitive advantage. In particular, some companies started to purchase products and services – for which the supply conditions could be defined in advance – through the use of an electronic catalogue. This brought to the development of informatics applications for the catalogue management, which essentially consist of the filling and the updating of the catalogue contents and for the management of purchasing process, that is mainly composed of the activities of purchasing request, purchasing approval and order filling. Other companies, on the other hand, focused on the usage of on-line transactions instruments, which allowed to reach very good performances in terms of processes efficiency and reduction of purchasing prices. In particular, these instruments offer the opportunity of managing the quotation requests and the opportunity of managing electronic auctions too, with the aim to create a competition among the different suppliers for a single supply contract.

To make the real opportunities offered by marketplaces in terms of supply chain integration clearer, a sum of the main criteria used in literature to classify the different kinds of marketplaces operating on the market will be reported. This should enable to identify the dimensions useful to evaluate the “quality” of the marketplaces actually operating on Italian market.

“Marketplaces” are defined as those “intermediaries who offer different instruments and services aimed to facilitate transactions, creating a virtual place where different actors operating on the same market to interact easily and offering high value services to the companies, fixing the rules and establishing the infrastructures necessary to make the transactions more efficient”¹¹ (Bielli, Chessa, Funari, 2001).

Although the functions of an e-marketplace may vary depending on individual markets, e-marketplace built upon a shared internet-based infrastructure could provide firms with a platform for (IBM et al., 2000):

purchasing via internet could reach high levels (- 17% according to the data of the B2B Observatory of the Politecnico in Milan) and that the adoption of these instruments for the management of non strategic purchasing, in many cases, enables to have much more time and more resources available to manage strategic purchasing (AA.VV., 2003).

¹¹ The e-marketplace phenomenon involves, in different ways, all the industrial sectors and all the kinds of companies for different reasons (Bielli, Chessa, Funari, 2001): *i*) first of all because they represent for the companies the opportunity of approaching to e-business sustaining low costs, especially in the case of involvement in existing initiatives; *ii*) secondary, because they modify entrepreneurial costs and processes generating, on a hand, a cut in product costs and, on the other hand, a recovery in efficiency thanks to the availability of an integrated service supporting the purchasing activity; *iii*) in the end, because they offer the opportunity of managing economic transactions, high value and different services.

- a) core commerce transactions that automate and streamline the entire requisition-to-payment process online, including procurement, customer management and selling;
- b) a collaborative network for product design, supply chain planning, optimization, and fulfillment processes;
- c) industry-wide product information that is aggregated into a common classification and catalogue structure;
- d) an environment where sourcing, negotiations and other trading processes such as auctions can take place online and in real time;
- e) online community for publishing and exchanging industry news, information and events¹².

Even if the benefits deriving from the introduction of marketplaces are clear, the companies today adopt different approaches to these recent instruments, which are in a stage of implementation and which are being perfected. In this stage the increasing number of marketplaces seems to have created a fast growth in offerings and a dynamism in the services portfolio that disoriented the companies. These, unable to evaluate the advantages and the limits of the offering¹³ have chosen to postpone the adoption, waiting for the evolution of the sector and for the achievement of a standard (Stabilini, 2005).

Although many Authors agree about the general definition of the marketplace, it is important to stress that, within this concept, it is possible to distinguish different kinds of subjects. Analyzing the different categories cited in literature it is possible to divide them into two groups. The simplest, on one hand, try to distinguish the different kinds of marketplaces using a single criteria; the others, on the other hand, more complex, classify the different kinds of marketplaces according to more than one variable.

¹² These capabilities seem to change traditional supply chain management processes by lowering costs and increasing speed to respond to supply and demand needs. Specifically, buyers can reduce purchasing costs and achieve higher volume contract terms with preferred suppliers by aggregating purchasing across divisions and companies. It provides a single point of contact and minimizes off-contract buying and lowering selection costs through access to multiple suppliers¹² (Eng, 2004).

¹³ As shown in Eng's study (2004), the proportion of strategic supply chain services conducted on e-marketplace is rather small compared to transaction-based supply chain activities. It seems reasonable to argue that firms would gradually adopt the strategic capabilities of the e-marketplace such as the ability to synchronize supply chain activities simultaneously with different participants all at the same time. As such, managers must account for the actual costs and benefits involved vis-à-vis the extent of participation in an e-marketplace. In addition, managers would need to find ways to measure and report costs and other performance data ad more trading activities are conducted on the e-marketplace. This includes measurement of the costs and benefits across functional areas within the organization and beyond organizational boundaries.

Table 1 – Criteria used to classify marketplaces

Criteria/s used	Marketplaces' categories	Authors
Depth of portal content	- horizontal marketplace - vertical marketplace	Kaplan, Sawhney, 2000; Clarke, Flaherty, 2003; Le, 2005
Targeted portal users	- public marketplace - private marketplace	AA.VV., 2002; Clarke, Flaherty, 2003
Number of owners and their role in marketplace	- public marketplace owned and operated by one or more independent third parties - consortium marketplace formed by a collaboration of firms - private marketplace formed by a single company	Krammer et alter, 2001; Karpinski, 2001; Le, 2005
Role of participants	marketplace operated by - third party outside the industry - several vendors in the same industry - a competing vendor in the same industry - a complementary vendor in the same industry	Yu et alter, 2002
Portal mission	- informative marketplaces - transactional marketplaces - integrated transactional marketplaces - collaborative marketplaces	AA.VV., 2002; Clark, Flaherty, 2003
Kind of services	- hub marketplaces - full service marketplaces - pure marketplaces - portal marketplaces	AA.VV., 2002
o Kind of goods exchanged	- Project/specification manager - Supply consolidator	McKinsey, CAPS, 2000
o Objective	- Liquidity creator	
o Instruments used	- Aggregator - Transaction facilitator	
o Transaction content	- MRO marketplace	Kaplan, Sawhney, 2000
o Transaction structure	- Yield managers marketplace - Exchanges marketplace - Catalogue marketplace	
o Independence	- E-sales	Kaplan, Sawhney, 2000
o Transaction content	- Collaborative marketplace forward aggregator - Independent horizontal marketplace - Independent vertical marketplace - Collaborative marketplace of indirect materials and services - Collaborative marketplace of direct materials and services - Direct goods and services e-procurement - Indirect goods and services e-procurement	

Source: our elaboration

So, with reference to the first kind of categorization, there are those based on the following criteria:

- the kind of goods exchanged;
- the targeted portal users;
- the number of owners and their role in marketplace;
- the portal mission;

- the kind of services.

According to this, of course, the most interesting categories, with reference to this paper, are those which divide the marketplaces on the basis of the portal mission and of the kind of offered services.

According to the first criteria cited, the marketplaces could be divided into four groups:

- *informative marketplaces*: they form a platform among customers and suppliers for the matching and the exchanging of information, without living the opportunity of making the transactions on line;
- *transactional marketplaces*: they enable to conclude the transaction on line, using different alternative instruments of transaction;
- *integrated transactional marketplaces*: they enable to make the process of transferring information developed within the marketplace to the informatic systems of the involved companies automatic, so that the administrative processes linked to purchasing process get simpler;
- *collaborative marketplaces*: they allow a full integration of the processes and of information coming from the involved companies, enabling them to share activities such as production planning, stock management and the development of new products and services.

On the other hand, if we look at the kind of service, we can divide the marketplaces in the following four categories:

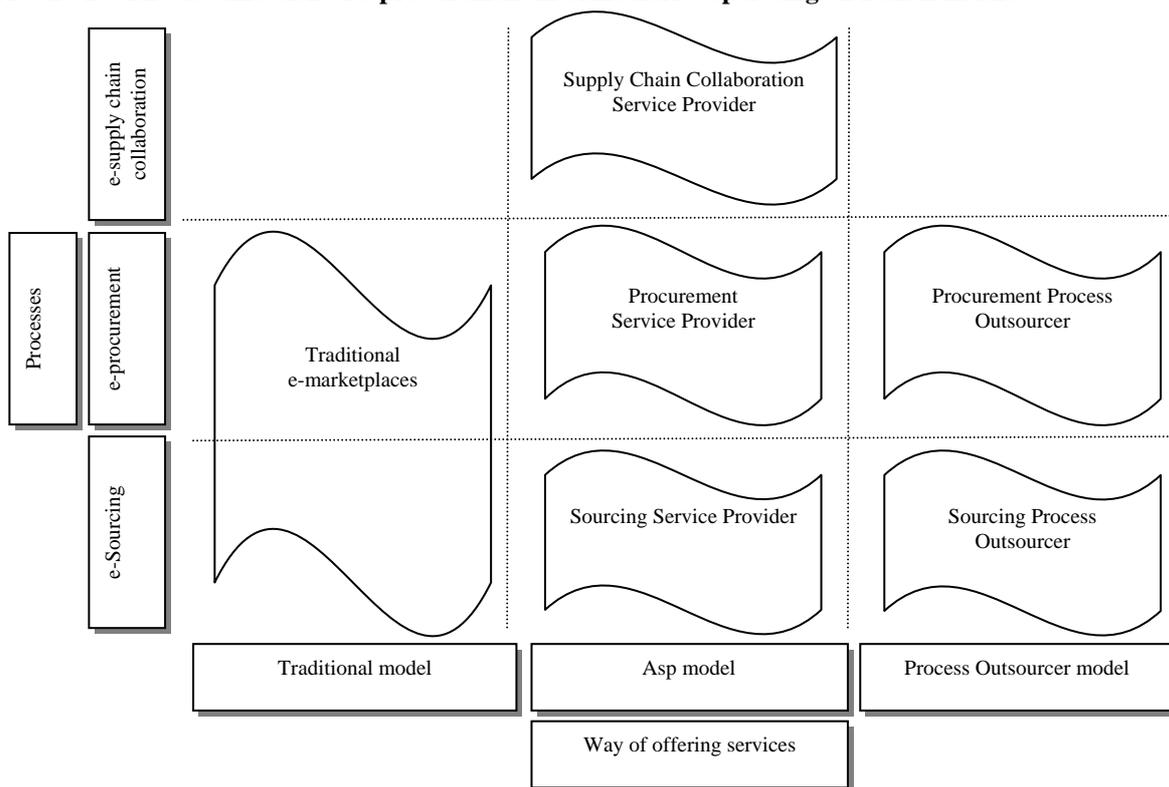
- *hub marketplaces*: they are characterized by a high level of all the main services, those typically used as a support to the processes done in the e-marketplaces (information management and transferring, logistic, assurance, certification and cash flow services) and those which are not strictly linked to the purchasing process but which have the aim to offer more benefits to their customers (newsletter, legislation, community and forum, job offering e training etc...);
- *full service marketplaces*: characterized by a good level of typical services, but by a low level of additional services;
- *pure marketplaces*: focused on the relationships between customer and supplier and which didn't develop any kind of particular service yet, neither the typical, nor the additional;

- *portal marketplaces*: they offer additional services of different kinds and they have introduced the functionality of the e-marketplaces soon afterwards.

After describing the main and simplest criteria of categorization used in literature, it is necessary to pay attention to those which, on the contrary, try to aggregate more than one criteria to give a more realistic illustration of the kinds of marketplace operating on the market. Among these the categorization adopted by the Politecnico (AA.VV., 2003) seems to summarize effectively all the main categories of marketplace operating on the market and it looks like giving a good support to the comprehension of which are the real opportunities offered by an e-marketplace in terms of supply chain integration.

According to this categorization, it should be possible to divide the specialized actors operating on the market on the basis of two dimension: *a)* the kind of processes on which these intermediaries have the main impact; *b)* the way of offering services.

Picture 1 – The classification of e-procurement intermediaries operating on Italian market



Source: AA.VV., 2003, p. 6

With reference to this classification it is possible to divide the e-procurement intermediaries into five groups:

- *Sourcing Service Provider*: they make their sourcing platform available in ASP¹⁴ to support the transactions based on purchasing auctions and systems of offering requirements¹⁵;
- *Procurement Service Provider*: they make their technological platform available to the buyer companies, in ASP, to manage the systematic purchases. The main functions supported are the following: catalogue management, purchasing request, definition of the delegations and of the budgets for every user, the management of the approval process and of documents;
- *Supply Chain Collaboration Service Provider*: they have the aim to make the platform used to facilitate the integration and the collaboration within the supply chain, available for the companies included in the same industrial sector with an ASP logic¹⁶;
- *Sourcing Process Outsourcer*: they offer professional e-sourcing services, consisting of transactions based on purchasing auctions, which go from the consultancy to the support for the specification of the contract, to the scouting of new suppliers;
- *Procurement Process Outsourcer*: they manage the purchasing process of buyer companies for specific categories of products/services, usually indirect materials or non strategic goods, using a web catalogue. They don't only make the technological platform available for their customers, but they also manage the purchasing process from different suppliers hosted on the catalogue, the relative administrative and financial flow and the logistic process too.

4. The empirical research

4.1. The methodology

The empirical research reported in the following pages was conducted on a sample of intermediaries specialized in e-procurement solutions actually operating on the Italian market.

The aim of this research was to identify, within the examined actors, excellent case studies

¹⁴ The expression ASP means "Application Service Provider" and it is used in contraposition to the so defined Process Outsourcing. These represent two different expressions of offering on line services: the first identifies the solution adopted when the technological platform is rent to the customers while the second consists of managing customer-supplier relationships on the customer's behalf.

¹⁵ They address to those buyers who want to use the internet technologies alone to manage transactions, but they are not able to develop and manage themselves. These intermediaries, in addition to the technological platform access, offer services of every kind, such as training and supporting during the transactions and reporting.

¹⁶ The main effort of these operators is to define a common "vocabulary" to facilitate the interactions among the different actors of the supply chain, in terms of product codes and exchanged documents (order, invoice and so on), which is necessary to guarantee an online automation of purchasing processes and to support collaboration along the supply chain.

and/or improvement opportunities, trying to compare the features stressed by the study of the web sites with the issues suggested by literature specialized on the item.

This is the reason why a model of evaluation was developed, including all the main items identified by literature as fundamental to design a good marketplace, able to support adequately the management of the relationship and of the cooperation with the suppliers. In fact, as we have already claimed, the strategic aim of a marketplace should be, first, to support the purchasing process in every stage and in every operation (Sawnhey, Parik, 2001) and, after that, to enable the activities defined as *supplier relationship management*, aimed to develop communities increasing the loyalty toward the promoting company (Roberts, 1999). So the real benefit deriving from the use of Internet in the supply chain is represented by the opportunity that Internet offers in enabling collaborative processes, in information sharing, in planning synchronizing, in coordinating operative flows and in the conjoint development of business models (McIvor, McHugh, 2000; Li et al., 2005).

As a result, we tried to evaluate which could be the essential feature of a marketplace which has to operate effectively, converting from a basic instrument used to facilitate transactions by on line auctions and to collect a mass of information to an instrument used to really integrate the supply chain.

Taking the literature about this item as a starting point (Baglieri, Secchi, 2006; Clarke, Flaherty, 2003) for every marketplace included in the sample, we have analyzed the main features linked to the following dimensions:

- a) *extension*: this dimension refers to the level of specialization of the considered marketplace. About it we have considered if the marketplaces could be defined as specialized, as to say focused on offering services to the companies operating in a particular sector or general, as to say able to support every kind of company;
- b) *penetration*: it refers to the number of transactions realized on the marketplace. This dimension is measured by the number of suppliers or customers involved in the marketplace or by the economic value of the transactions realized in a specific period of time¹⁷;
- c) *depth*: it describes the strength and the quality of the relationship that the marketplace is able to create. So, we can distinguish the marketplaces which simply offer a buying

¹⁷ About it, it is important to stress that since the primary measures of portal success are high level of users acquisition and retention, only those sites that attract and maintain the desired target audience and build valuable customer relationships will have the potential for long-term success (Clarke, Flaherty, 2003), especially with reference to collaborative portals.

opportunity and marketplaces which guarantee the support to the management of the entire integrated supply chain.

After that, we considered some more specific features which have been identified by literature as important in the definition of a marketplace and which are summarized in the table 2.

Table 2 – Main features useful for the development of a successful marketplace

Objectives of the stage	Main features
1. First step: the most challenging objective of an e-marketplace at its early stage is to increase awareness and win acceptance	<ul style="list-style-type: none"> • Information content • Website hosting service • Request for proposals • Search capability • Directory service • Forum for users groups
2. Second step: now the e-marketplace can begin offering more value-added services and it does not need to be as cautious as it was in the first step about causing resentment from suppliers	<ul style="list-style-type: none"> • Evaluation service • Price bargaining • Expand globally
3. Third step: the be-marketplace should expand its reach to small and medium-size companies, bring them onboard, give them a presence in the marketplace and distribute technical information and business opportunities to them	<ul style="list-style-type: none"> • Number of small and medium-size companies involved • Secure on line electronic payment platform

Source: our elaboration on Yu et alter (2002)

Looking at the sample, in this first step of the research the analyzed marketplaces were selected among those defined, according to the definition of the Politecnico’s Observatory, as service provider/process outsourcer actually specialized in the offering of e-sourcing and e-catalogue services. For every selected marketplace information, necessary to better define the basic dimensions of extension, penetration and depth, were collected analyzing the web site and secondary sources of information (reports, press release etc...). This first step enabled to map marketplaces actually operating on the Italian market to indentify similarities among the different examined portals and to find out improvement opportunities according to the issues defined by literature. In particular the question we tried to give an answer to in this step was “can we say that the examined that marketplaces are nearer to the collaborative model, which allows a real integration in the supply chain or that they are more similar to the pure marketplace, focused only on transactions management?”.

In the second step of the empirical research marketplaces were carefully analyzed to pass judgment on their quality, with reference to the cited dimensions. This second step required to make a more in depth analysis through the access to the website area reserved to transactions, to have the opportunity of expressing an opinion about the existence of specific items (such as

price bargaining, forum discussion and so on), which, are often available only to logged users and not to every web site visitors.

4.2. The results of the empirical research

As we said in advance, in the first part of the research the dimensions of extension, penetration and depth of examined marketplaces were analyzed and summarized in the table 3. The information reported in the following part of the paper, in particular, refer to the in-depth analysis of the features of some e-procurement intermediaries actually operating on Italian market, which represent today the most significant experiences in this sector.

1city.biz

1city.biz is the digital market of i-Faber SpA, the leader in Italy for the offering of the internet-based solutions and services, which operates with the aim of increasing the efficiency of sourcing processes and of guaranteeing, at the same time, economic savings, through the access to liquid market¹⁸.

The mission of 1city.biz is to create and manage electronic markets where companies, private and public could organize their commercial relationships to enlarge their suppliers basis, reduce operative costs of the purchasing process and the transaction timing, with a consequent increase in efficiency.

About this, the services offered by 1city.biz first developed as transaction processes, in particular using systems of on line auctions, to extend, in a second time, to specific e-procurement and e-supply-chain solutions supporting purchasing processes. The critical factor of success, which distinguishes 1city.biz from the other national competitors is the offering of services and instruments studied to support the customer along the entire value chain, from the pre-negotiation to the financial stage of post-negotiation, passing from the management of the documents. In fact, the main services offered go from the support to suppliers (as to say the support during the negotiation process through the activity of research, aggregation, training and assistance), to the solutions of scouting and suppliers register (scouting, evaluation and management of marketing and economic data about the suppliers), from international scouting (specific scouting, economic and financial data evaluation and management with reference to the suppliers of foreign countries in cooperation with primary

¹⁸ 1city.biz, founded in the April of 2002, is an enterprise of Unicredit Group, which actually is the majority shareholder with the 65% of the shareholders' equity. The other shareholders are ERG (23%), Impregilo Group (8%) and Oracle (4%).

international consultants), to the rating of suppliers and to the specifications of a contract. In addition to these services there are then those of e-supply chain collaboration, documental services (management of the documental exchange among customer and supplier in electronic format) and the integration of ERP systems, to make the exchange of data more efficient, so enabling a more frequent use of the auction services.

1city.biz increased steadily so that today it represents the open market characterized by the highest level of liquidity in Italy, with a value of the transactions that, at the end of 2007, reached the value of 1.700 million of Euros. If we look at the global results (from the date of birth of the marketplace until now), the total value of transaction today corresponds to 5.600 million of Euros (which correspond to over 14.000 transactions). Today the marketplace involves 455 customers and 11.800 suppliers. During the last year the extra-Italia activities have increased, so that today 1city.biz operates in 20 European countries, and guarantees the transactions of different kind of goods (over 500).

BravoSolution

BravoSolution is a leader company operating on the market of procurement solutions and instruments based on the internet technology. The mission of this company consists of creating value for their customers supporting them in the improvement of purchasing processes through the use of innovative services and technologies. BravoSolution has head offices in Italy, France, Spain and United Kingdom, where it is official provider of e-sourcing solutions.

In addition to many professional services, BravoSolution offers a service of on line assisted transaction, complete support to the organization and to the implementation of on line procurement and a contribution to the scouting of new suppliers and to the updating of the specifications of the contract.

In terms of global performances, BravoSolution gave support to over 24.000 on line negotiations reaching the value of over 6.500 million of Euros. Today BravoSolution has a customer portfolio composed of 200 leader companies, international companies too; over 25.000 suppliers coming from 56 countries took part to the on line auctions.

Fastweb

Fastweb is the main operator in Italy offering broadband telecommunication services and the first operator at world who developed an all IP network for the supply of Triple Play services (voice, data, video). From 2000 the division B2B of Fastweb offers various high value

solutions, in particular some of them dedicated to the world of business to business with e-sourcing solutions (suppliers register, telematic transactions, on line auctions and so on) and with e-catalogue (orders filling). Fastweb acts in the B2B offering technological solutions and consultant for the buying and selling processes.

In addition to the solutions for communication and to the hosting & housing services, BravoSolution is focused on the offering of solutions such as the supplier portal integrated in the website (registration of suppliers, check of in course transactions, access to transactions applications and orders filling), the platform of telematic transactions (suppliers register, information requirement, offer, quotation requests, tenders and dynamic auctions) and the orders filling (catalogue management, purchasing requests, quotation requests, authorization workflow, orders, delivery and invoice).

With about 1.200 transactions for a value of 500 million of Euros, managed by its e-sourcing systems, Fastweb represents today one of the main players of the B2B sector. The transactions concluded by Fastweb systems involved more than 2.200 suppliers, located in more than 20 different countries around the world.

ITP

Itradeplace is the enterprise of the Asm Group, located in the province of Brescia, today A2A, born to offer to private and public companies professional products and services supporting the purchasing processes.

The range of offered services supporting purchasing goes from consultant activities, aimed to re-design the order cycle optimizing it, to the outsourcing of web processes and technologies used to support the on line tenders (e-sourcing), to the purchasing by electronic catalogue (e-catalogue).

ITP-club offers the purchasing service for the general spending articles and it represents the service for the electronic and integrated management of the Rda by catalogue. The companies taking part to ITP-club can use a real e-procurement system in ASP containing a catalogue with over 80.000 products, always updated.

The range of offered services is then completed by products which are developed ad hoc for the market of public administration. In this context ITP offers solutions which can support every kind of practice: from the simple purchasing management aimed to reduce costs, to the private transactions and tenders.

Statim

Born in 2001, Statim is a service company operating to increase the purchasing practices, the logistic flows and to manage stocks in private companies and in public administration too.

In addition to the general consultant service, Statim offers e-procurement services, suppliers register, giving an informatics support for the scouting, selection and management of the suppliers involved in general transaction and, specifically, in telematic transactions, thanks to the constitution of an internet portal that enables to computerize the documents and the entire activity of transaction with the suppliers invited to take part to the events.

Actually Statim organizes more than 15.000 transactions every year, involving 400 suppliers for the transactions of about 850.000 different kind of products.

Table 3 – Main features of the most important marketplaces operating on Italian market

Marketplace studied	Extension	Penetration	Depth
lcity.biz	Over 500 different kind of goods	Total value of transaction 5.600 million of Euros which correspond to over 14.000 transactions from the date of birth (1.700 million of Euros in 2007)	455 customers and 11.800 suppliers involved
Bravo Solution	Not specialized	24.000 on line negotiations reaching the value of over 6.500 million of Euros from the date of birth	200 leader companies and 25.000 suppliers involved
Fastweb	Not specialized	1.200 transactions for a value of 500 million of euros	More than 2.200 suppliers involved
ITP	Over 80.000 products specialized in public sector	Not available	Not available
Statim	850.000 different kind of products	More than 15.000 transactions every year	400 suppliers

Fonte: our elaboration

5. Conclusions: the actual state of art of Italian marketplaces

The results of the empirical research, even if partial, confirm what the analysis conducted by the B2B Observatory every year revealed about the adoption of the internet-based applications in Italian companies, as to say that the e-procurement phenomenon is in an “embryonic” stage, as demonstrated by the very heterogeneous approach adopted by the companies.

In fact, for some companies e-procurement means e-catalogue¹⁹. This is an approach which was very common some years ago, which seemed to be decreased when the e-sourcing

¹⁹ According to the B2B Observatory of the Politecnico in Milan, the services offered by the actors operating in business to business sector, according to the process on which they have the major impact, can be divided into

instruments revealed strategic. Although, in some organizations this approach remain constant also because of the psychological and cultural barriers which today stop the online transactions²⁰.

In addition to these companies there are other companies focused on e-sourcing which aim to reach good performances, either in terms of processes efficiency or in terms of costs reduction. After that, there are also many companies which are trying to focus on both the solutions, e-sourcing and e-catalogue, conscious that the highest benefits could be reached through a careful combination of all the e-procurement instruments. Then, it is important to remember the existence of another category of companies which adopt the same strategy adopted by the consortium marketplaces in which they are involved, which, in most cases, are represented by e-sourcing services.

Looking at the e-supply chain in Italy we can notice the co-existence of consolidated models, based on traditional technologies (EDI for example) on a hand and of more innovative models, based on the internet technology on the other: the first especially focused on automotive, pharmaceutical, grocery and electrical sectors; the second, on the contrary, adopted in those sectors where EDI is the main instrument used to manage the relationships along the supply chain (as, for example, informatics and textile sectors).

With reference to the companies adopting e-supply chain solutions we can distinguish those which pointed essentially to the integration/automation of operative processes (e-supply chain execution) and those which are implementing collaborative applications too (e-supply chain collaboration).

With reference to the first category we can identify three different kinds: *a)* companies adopting the traditional and the internet-based integration-application solutions, for the management of the entire or of a part of the order cycle²¹; *b)* those which developed Extranet

three different categories: *i)* e-sourcing services, aimed to support the companies in all the activities which go from the scouting of new suppliers, their qualification, their certification, to the transaction; *ii)* e-procurement services, aimed to support systematic purchasing processes, typically based on web catalogue, products/services for which the specifications of the contract are defined or known; *iii)* e-supply chain services, aimed to stimulate all the collaborative activities among customers and suppliers, such as the integrated management of the order-delivery cycle, production planning and purchasing, new product development (AA.VV., 2003).

²⁰ About the adoption process of an e-marketplace see White et al. (2007), who in an exploratory study seek to provide a qualitative exposition of the specific factors influencing the adoption of consortium-owned B2B marketplace. The study is based upon case studies of twelve companies trading through three different consortium B2B e-marketplaces. The study identifies twenty-six specific factors, linked to the dimensions of relative advantage, compatibility, trial ability, complexity, perceived risk, type of innovation-decision, nature of social system, extent of change agents' promotion efforts and rate of diffusion, which impact on adoption.

²¹ This is the most "populated" cluster, mainly composed of large companies operating in grocery, automotive, pharmaceutical sectors, which decided to invest in these solutions starting from eighties and nineties.

web-based solutions for the distribution channel; *c*) companies which developed Extranet web-based solutions to manage suppliers relationships²².

With reference to the companies adopting, on the other hand, e-supply chain collaboration solutions, we can distinguish: *a*) companies basing on traditional technologies for technical data transmission and for planning activities; *b*) those which developed Extranet web-based solutions to coordinate the distribution channel; *c*) companies which developed Extranet web-based solutions to coordinate supply chain²³.

So, analyzing the performances obtained by the different actors operating on Italian market, we can notice that, although the total value of transactions by Internet is rather low, we can evidence some general trends. If we disaggregate the total value according to the different business models, it is quite clear the existence of a high polarization toward e-sourcing services. Although e-procurement and e-supply chain collaboration services actually have a low impact on the total value of transactions, compared to the e-sourcing services, it is important to stress how these services represent in Italian context those with the highest potential of growth. Their limited diffusion until now seems to be due to two causes: on one hand, making a comparison to e-sourcing services, these require more difficulties and a longer time of implementation because of the restructuring in organizational structure, in processes and informatics systems and, on the other, this could be caused by a delay in the birth in Italy of specialized intermediaries offering these services.

So, this is the reason why it will be necessary for the future to focus the research activities not only on the benefits deriving from the implementation of the internet-based solutions for supply chain management, but also on identifying the key-factors necessary to the creation of good marketplaces.

References

AA.VV. (2002), *Osservatorio B2B – Emarketplace: quale ruolo nel B2B italiano?* Associazione Impresa Politecnico, Milano

AA.VV. (2003), *Osservatorio B2B – Dai marketplace ai servizi di sourcing, procurement e supply chain collaboration*, Associazione Impresa Politecnico, Milano

²² These are usually companies which outsourced to suppliers a great part of the production process and which need an instruments enabling the interaction with the suppliers which are flexible and not too invasive, especially because of the low informatics ability of the suppliers.

²³ These are usually companies which represent the core of complex and articulated networks, composed of many suppliers which use Extranet to manage and to control the net.

- Auramo J., Kauremaa J., Tanskanen K. (2005), *Benefits of IT in Supply Chain Management: an Explorative Study of Progressive Companies*, in "International Journal of Physical Distribution & Logistic Management", 35 (2), pp. 82-100
- Baglieri E. (a cura di) (2004), *La gestione strategica degli approvvigionamenti*, Etas, Milano
- Baglieri E., Secchi R. (2006), *I portali per la gestione delle relazioni di fornitura: obiettivi strategici e direttrici progettuali*, in "Finanza Marketing e Produzione", 24 (3), pp. 58-72
- Baker S. (2003), *New Consumer Marketing*, John Wiley & Sons
- Betchel C., Jayaram J. (1997), *Supply Chain Management: a Strategic Perspective*, in "The International Journal of Logistic Management", 8 (1), pp. 15-34
- Bielli P., Chessa N., Funari S. (2001), *Da relazioni one-to-one a marketplace: l'evoluzione del commercio elettronico business-to-business*, in Biffi A. (a cura di), *Net Economy. Tecnologie e nuovi paradigmi manageriali*, Franco Angeli, Milano
- Bocconcelli R. (2005), *Creazione del valore per il cliente finale e Supply Chain Management: il caso Ducati*, paper presentato al Secondo Convegno Annuale della Società Italiana Marketing, 2-3 Dicembre
- Borghesi A. (2006), *Marketing-logistica*, Giuffrè, Milano
- Caputo M., Fortuna D., Michelino F., Resciniti R. (2007), *Market Orientation and Internet in Supply Chain Management: an Empirical Investigation*, in "Mercati e competitività", 3, pp. 19-46
- Christiaanse E., Kumar K. (2000), *ICT-enabled Coordination of Dynamic Supply Webs*, in "International Journal of Physical Distribution and Logistics Management", 30 (3/4), pp. 268-285
- Christopher M. (1998), *Logistics and Supply Chain Management: Strategies for Reducing Cost and Improving Service*, Pitman Publishing, London
- Christopher M., (2005), *Supply Chain Management. Creare valore con la logistica*, Pearson Education Italia
- Clarke I., Flaherty T.B. (2003), *Web-based B2B Portals*, in "Industrial Marketing Management", 32, pp. 15-23
- Cooper M.C., Lambert D.M., Pagh J.D. (1997), *Supply Chain Management and Implications for Purchasing and Logistic Strategy*, in "The International Journal of Logistics Management", 4, 2
- Corò G., Rullani E. (a cura di) (1998), *Percorsi locali di internazionalizzazione. Competenze e auto-organizzazione nei distretti industriali del Nord-Est*, Franco Angeli, Milano
- Cox A.W. (1997), *Business Success: A Way of Thinking about Strategy, Critical Supply Chain Assets and Operational Best Practice*, Earlgate Press, Boston (UK)
- Croom S. (2001), *Restructuring Supply Chain through Information Channel Innovation*, in "International Journal of Operations & Production Management", 21 (4), pp. 504-515
- Davila A. Gupta M., Palmer R. (2003), *Moving Procurement Systems to Internet: the Adoption and Use of e-procurement Technology Models*, in "European Management Journal", 21 (1), pp. 11-23
- Dobler D.W., Burt D.N. (1996), *Purchasing and Supply Management*, McGraw-Hill, New York
- Ellinger A.E. (2000), *Improving Marketing/Logistics Cross-Functional Collaboration in the Supply Chain*, in "Industrial Marketing Management", 29
- Eng T.Y. (2004), *The Role of e-marketplaces in Supply Chain Management*, in "Industrial Marketing Management", 33, pp. 97-105

- Frolich M.T., Westbrook R. (2002), *Demand Chain Management in Manufacturing and Services: Web-based Integration, Drivers and Performance*, in "Journal of Operations Management", 20, pp. 729-745
- García-Dastugue S.J., Lambert D.M. (2003), *The Internet-enabled Coordination in the Supply Chain*, in "Industrial Marketing Management", 32 (3), pp. 251-263
- Giuffrida G., Stabilini M. (2000), *E-procurement: grandi benefici attesi, poche le esperienze concrete. Per ora...*, in "Economia & Management", 3, Maggio
- Golinelli G.M. (2002), *L'approccio sistemico al governo dell'impresa*, Cedam, Padova
- Grando A. (a cura di) (2001), *Innovazione, produzione e logistica nell'era dell'economia digitale*, Etas, Milano
- Heikkilä J. (2002), *From Supply to Demand Chain Management: Efficiency and Customer Satisfaction*, in "Journal of Operations Management", 20
- Hewitt F. (2004), *Supply Chain Redesign*, in "The International Journal of Logistics Management", 5 (2), pp. 1-9
- Hoover W.E. jr et al. (2001), *Managing the Demand-Supply Chain: Value Innovations for Customer Satisfaction*, Wiley, New York
- IBM, I2, & Ariba A.M. (2000), *E-marketplaces Changing the Way we do Business*, available at www.ibm-i2-ariba.com
- Jüttner U., Christopher M., Baker S. (2007), *Demand Chain Management-Integrating Marketing and Supply Chain Management*, in "Industrial Marketing Management", 36
- Kaplan S., Sawhney M. (2000), *E-hubs: the New B2B Marketplaces*, in "Harvard Business Review", vol. 78, n. 3, pp. 97-103
- Karpinski R. (2001), *E2open at one*, in "Internet Week", August 1, www.internetweek.com
- Knoblock C.A., Minton S. (1999), *Building Agents for Internet-based Supply Chain Integration. Workshop on Agents for Electronic Commerce and Managing the Internet-enabled Supply Chain*, Seattle, WA, May 1
- Krammer M., Browning J., Rozwell C., Shu L. (2001), *The SMB Guide to e-Marketplaces*, Gartner, US
- Le T.T. (2005), *Business-to-business Electronic Marketplaces: Evolving Business Models and Competitive Landscape*, in "International Journal of Services Technology and Management", 6 (1), 2005, pp. 40-54
- Lee H.L., Padmanabhan V., Whang S. (1997), *Information Distorsion in a Supply Chain: the Bullwhip Eeffect*, in "Management Science", 43 (4), pp. 546-558
- Li M., Wang J., Wong Y.S., Lee K.S. (2005), *A Collaborative Application Portal for the Mould Industry*, in "International Journal of Production Economics", 96, pp. 233-247
- Malone T.W., Yates J., Benjamin R.I. (1987), *Electronic Markets and Electronic Hierarchies*, in "Communications of the ACM", 30 (6), pp. 484-497
- McIvor R., McHugh M. (2000), *Collaborative Buyer-Supplier Relations: Implications for Organization Change Management*, in "Strategic Change", 9, pp. 221-236
- McKinsey & Company, CAPS Research (2000), *Coming into Focus Using the Lens of Economic Value to Clarify the Impact of B2B e-marketplace*
- Muffato M., Payaro A. (2004), *Integration of Web-based Procurement and Fulfillment: a Comparison of Ccase Studies*, in "International Journal of Information Management", 24, pp. 295-311
- Nelson D., Moody P., Stegner J. (2002), *The Purchasing Machine*, The Free Press, New York

- Payaro A., Tosetto L. (2003), *Internet a supporto della supply chain. Il caso Komatsu Utility Europe*, in "Logistic Management", 133, pp. 61-70
- Pellicelli A.C. (2000), *Analisi della concorrenza: verso nuovi modelli?*, in "Economia & Management", 5
- Piercy N. (2002), *Market-led Strategic Change*, 3rd Edition, Oxford: Butterworth-Heinemann
- Presutti W. (2003), *Supply-management and e-procurement: Creating Value Added in the Supply Chain*, in "Industrial Marketing Management", 32, pp. 219-226
- Roberts B. (1999), *Web Portals Open Doors to One-step Services*, in "HR", May, 44, pp. 117-121
- Romano P. (2001), *Dalla logistica integrata al supply chain management*, in "Finanza Marketing e Produzione", 19, 3
- Sashi C.M., O'Leary B. (2002), *The role of Internet Auctions in the Expansion of B2B Markets*, in "Industrial Marketing Management", 31 (2), pp. 103-110
- Sawhney, M., Parikh D., (2001), *Where Value Lives in a Networked World*, in "Harvard Business Review", January, pp. 79-86
- Signori P. (2004), *La misurazione dell'integrazione logistica*, Cedam, Padova
- Stabilini G. (a cura di) (2005), *Acquistare prodotti e servizi. Processi, logiche e soluzioni gestionali*, Etas, Milano
- Svensson G. (2002), *Supply Chain Management: the Re-integration of Marketing Issues and Logistics Theory and Practice*, in "European Business Review", 14, 6
- Svensson G. (2003), *Consumer Driven and Bi-directional Value Chain Diffusion Models*, in "European Business Review", 15, 6
- Tang J.E., Shee D.Y., Tang, T. (2001), *A conceptual Model for Interactive Buyer-Supplier Relationship in Electronic Commerce*, in "International Journal of Information Management", 21, pp. 49-68
- Tunisini A. (2003), *Supply Chain e strategie di posizionamento*, Carocci, Roma
- Volpato G. (1995), *Concorrenza, imprese e strategia: metodologia dell'analisi dei settori industriali e della formazione delle strategie*, Il Mulino, Bologna
- Walters D., Rainbird M. (2004), *The Demand Chain as an Integrated Component of the Value Chain*, in "Journal of Consumer Marketing", 21, 7
- White A., Daniel E., Ward J., Wilson H. (2007), *The Adoption of Consortium B2B e-marketplaces: an Exploratory Study*, in "Strategic Information Systems", 16, pp. 71-103
- Williams L.R., Esper T.L., Ozment J. (2002), *The Electronic Supply Chain*, in "International Journal of Physical Distribution & Logistic Management", 32 (8), pp. 703-719
- Yu H.C., Hsu C.S., Hsi K.H. (2002), *Setting up an e-marketplace: a Three Stage Approach*, in "Technology in Society", 24, pp. 473-482
- Zanoni A. (1991), *Il governo del sistema produttivo allargato*, in "Sinergie", 24