



Strategic information systems and the reconfiguration of value space: a case study of Yoox

The reconfiguration of value space

131

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Abstract

Purpose – The so-called strategic information systems define systems that represent instruments able to provide a competitive advantage. In this case, the purpose of this paper is to go further and broaden the perspective to examine business sectors. Namely, information systems are conceived also as factors that reconfigure entire business systems.

Design/methodology/approach – The research strategy followed can be considered in the circle of the case study. Specifically the case is Yoox, a virtual boutique. The theoretical approach for answering to the questions how and why information systems are determinant in Yoox's development is based on Normann's work (Reframing Business). In fact, it outlines modalities through which information systems reconfigure value space and give details to forces enacted consequently.

Findings – The Yoox case study throws light on the fact that, actually, information systems can be a useful instrument not only for reformulating business models but also dynamics that characterize entire business sectors.

Research limitations/implications – The perspective proposed is limited to marginal aspects of the fashion business, i.e. global brands such as Armani have been involved in pursuing new online distribution channels outsourcing these services to a Dot.com company like Yoox.

Originality/value – A business such as a virtual boutique for a multi-brand fashion and design is imitable due to the worldwide competition. The fact that Yoox became a provider of e-commerce platform, forming the logistical side to the marketing strategies on the net, changes the scenario significantly. Yoox's mission is not only to sell fashion online but to provide a technological platform for e-commerce. In this way, Armani, at first, was a Yoox provider but now it is also a customer. In some sense, the rules of the game of the fashion sector, have been, albeit marginally, modified.

Keywords E-business, E-commerce, Business strategy, Strategic management, Strategic information systems, Prime mover, Technology path-breaker, Reconfiguring the value space, Information systems, Fashion industry

Paper type Research paper

1. Introduction

The objective of this paper is to investigate the role of information systems as a means of strategic management. This issue has been a subject of research since the introduction of pioneering strategic information systems, such as American Airlines' SABRE, McKesson's Economist and American Hospital Supply's ASAP, at the end of the 1970s. In this respect, a dual perspective has emerged within the discipline of information systems: the business strategy perspective focused on the role of the organization itself, whereas the industrial economic perspective privileged the role of the competitive environment (Ciborra, 1993).

Our intention is to overcome this dualism. We stress that a sustainable competitive advantage requires considering what actually takes place both within the walls of a company and in the market.



Several attempts have been made in this respect. Melville *et al.* (2004, pp. 288-98) proposed a model that takes into consideration not only the organizational performance and the competitive environment but also the macro environment represented by a country's characteristics in IT development. The model envisages a series of conditions for achieving a sustainable competitive advantage, but it fails to specify the modalities for their accomplishment. Andreu and Ciborra (1996, pp. 119-25) go further in this regard. Through the concept of learning ladder, firms are seen as entities able to mobilize resources, from simple ones to more complex ones, into core capabilities. This transformation takes place according to different levels: the routinization learning loop (the transformation of resources into work practices), the capability learning loop (programmes and actions that govern work practices) and the strategic learning loop (organizational directives required to be competitive and to establish priorities). Given this ladder of loops, it becomes possible to understand which types of IT applications can contribute effectively to firms' competitiveness (Resca, 2006, pp. 206-7).

Andreu and Ciborra's (1996, pp. 119-25) concept of learning ladder outlines a framework in which information systems are seen as instrumental not only to a firm's internal processes but also to the competitive environment. Yet in their later work (Ciborra and Andreu's, 2001, pp. 76-80), they shift their focus to investigate the compatibility and transferability of core competences within business alliances, thus abandoning the problem of how individual organizations succeed.

Normann (2001, pp. 26-128) offers a possible solution to go beyond the duality of the internal and the external. In his work, the concept of value constellation comes to the fore (Normann and Ramirez, 1993, pp. 68-70), while the concept of value chain (Porter, 1985) is downplayed. The value chain approach emphasizes the subdivision of business activities to determine the value added and identify a competitive advantage; however, in a market economy led by knowledge, information and related services, it has only limited analytic purchase because such a value space is more complex and multi-dimensional. Activities are reshaped by innovative temporal sequences, reallocated geographically and distributed differently among economic actors. These transformations lead to new configurations of production processes and economic actors. Hence the importance of the new business paradigm: the reconfiguration of value-creating systems, Normann argues.

The industrialization phase stressed the role of production and the market was considered to be commodities' passive destination. In the 1970s, consumer-oriented management focused on customers and the ability of businesses to win their loyalty. The reconfiguration of value-creating systems advances a scenario in which businesses are not only competent actors, producing commodities or establishing relationships with their customers, but also value makers. That is to say, under the new scenario, businesses consider customers, providers, and competitors as potential partners for co-designing and co-producing. In the second part of this paper, we question the role of strategic information systems not only in formulating new business models but also in rearranging entire business sectors.

It is in this context that we consider the case study of Yoox. Yoox is a virtual boutique for a multi-brand fashion and design. Thus, Yoox has overcome the traditional space (shop floor) and time constraints (opening hours). Purchases are possible wherever and whenever the demand arises, enabling fashion seasons to be prolonged and improving the management of leftover stock. Yoox is an example of reconfiguring a mature

economic sector, the fashion sector, with the introduction of information systems. Therefore, the objective of this work is to investigate the potential role of information systems in reconfiguring the value space on the basis of Yoox's development.

In the first part of this paper, we portray the evolution of the dominant theoretical frameworks in the strategic management research. We start with business strategy in general to eventually zoom in on the strategic information systems. Then we introduce the core concepts of the value space reconfiguration approach which are helpful for interpreting the dynamics of these systems. The second part begins with the research design used to investigate the case of the virtual boutique, Yoox. The presentation of the case study is followed by a discussion of the solutions, which this dot com company adopted to reconfigure its value space. Conclusion ties up all the threads and discusses the limitations of the case study.

2. The theoretical framework

2.1 Notes on the debate on the strategic management research

Strategic management research can be subdivided into two main branches: content research and process research (Mellahi and Sminia, 2009, pp. 1-4). Contents research aims to detect factors that enhance firms' competitive advantage, whereas process research investigates how firms' strategies emerge over time. In other words, content research outlines the steps that should be followed in order to be successful, and process research focuses on how these steps should be actually put into practice.

Within content research, there are two main streams. The so-called Porterian school (1980, 1985), on the one hand, and, on the other, the firm-level resources and capabilities stream (Barney, 1991, pp. 104-10; Wernerfelt, 1984, pp. 173-5; Teece *et al.*, 1997, pp. 515-18). The former turns to studies of industrial organization and industrial economics, such as Bain's (1959) and the Chandler's (1962, pp. 19-51) works, maintaining that industry characteristics determine a firm's performance. However, this approach has been criticized. Namely, if industry characteristics are so influential, why do firms differentiate from each other considerably and why do some outperform others? This suggests that industry characteristics are not so relevant as it was believed. At this point, the focus of strategic management research moved from industry characteristics to firm-level resources and capabilities. The resource-based view of the firm (Barney, 1991, pp. 104-10; Wernerfelt, 1984, pp. 173-5) and the concept of dynamic capabilities (Teece *et al.*, 1997, pp. 511-18) are the main results of this approach.

Empirical studies within the process research in strategic management have demonstrated that formulating and implementing strategies have limited effects on the decision-making processes that firms follow in order to be competitive in the market (Mintzberg, 1973; Pettigrew, 1985). Internal politics, organizational culture and leadership style influence the strategy-making process. To say it differently, process research questions the relevance of content research due to the factors that constrain implementation of the chosen strategies.

2.2 Notes on the debate on the strategic information systems research

The strategic systems research mirrors the debate on strategic management. Even though the debate is confined to content research, it is still characterized by the dual perspective, and, similarly, industrial economics approaches clash with business strategy approaches. As far as the latter concerns, the value chain (Porter and Millar, 1985, pp. 150-4),

the strategic thrusts (Wiseman, 1988) and the resource-based view of the company (Barney, 1986, pp. 656-9; 1991, pp. 105-10) have shaped the studies on strategic information systems. In contrast, Porter's (1980) five forces, the theory of monopolistic competition put forward by Chamberlin (1938) and Schumpeter's (1950, pp. 131-43) concept of creative destruction outline the models of competition in which these systems can play a relevant role.

Normann's (2001, pp. 26-128) work is particularly useful in order to overcome the duality between the approaches that see information systems as instruments mainly for supporting firms' internal processes rather than forging external relationships with the environment. The concept of value constellation (Normann and Ramirez, 1993, pp. 68-70), the basis of Normann's work, puts forward a scenario in which the internal and the external morph and firms emerge as disintegrated and recombined according to a different rationale.

2.3 From value constellation to the reconfiguration of value-creating systems

Schon (1994, pp. i-xxiii) states that value constellation can be grasped in opposition to Porter's value chain. Normann and Ramirez themselves dismissed this interpretation; nevertheless, it is instructive to identify the differences between a value constellation and a value chain. With the value chain, value is added, step by step, in any phase of the flow that starts with suppliers and ends with customers. Value is added, in sequence, by every actor involved in the product or service output. In contrast, the value constellation stresses the role of customers. Value arises from the way in which customers use the product or service (Kippenberger, 1997, pp. 29-32; Braccini *et al.*, 2008, pp. 9-11). What is it that customers achieve? What kind of value-creating potential is harnessed here? The key difference is that value is created, not just added.

The notion of co-production helps define the concept of value constellation further. What is co-production? Market exchanges include not only simple transactions in which goods are traded on price basis. Buyers and sellers' organizations have their own interests and objectives, and they by necessity consider interests and objectives of their exchange partners. Normann and Ramirez's (1994, pp. 49-65) concept of interactive value draws attention to how the boundaries of value should not be limited to what is possible to obtain from the firm's immediate customers. Rather, the aim is to create value not only to the immediate customers but also to their customers. In this way, the "end consumer," the passive receiver of value produced by the supplier, is no longer relevant. Value emerges from co-creative processes in which the firm itself, its immediate customers and third parties are equally involved. The basis of the interactive value is built with the so-called offerings. Offerings represent activities within an economic relationship and are characterized by three dimensions: the physical content (the core product, the packaging, the quality of the good, its material components, etc.), the service content (distribution, technical support, customer training, warranties, brand reputation, etc.), and the people content (long-term partnerships, interpersonal trust, reputation, human resource co-development, etc.). When different economic partners contribute an appropriate combination of these contents, they create value. Value constellation stands for the whole of economic actors brought together in order to interact and co-produce value through their offerings.

It is at this point that the role of technology systems, particularly information systems, comes into picture. Thanks to them, economic activities are geared

to innovative temporal sequences, reallocated geographically and shared differently among economic actors, which leads to new configurations of production processes. Hence the importance of the new business paradigm: the reconfiguration of value-creating systems (Normann, 2001, pp. 61-94). Not only businesses are considered competent actors, producing or establishing relationships with customers, but they are also recognized as value makers. Customers, suppliers, competitors and partners emerge as potential players for co-producing and co-designing. Businesses are thus conceptualized as entities which are able to reorganize not only their organizational borders but also their business borders as well as their entire business sectors.

2.4 Reconfiguring the value space

The concept of value constellation (Normann and Ramírez, 1993, pp. 68-70) evokes a series of factors that contribute to creating value for a company. Customers, providers, government bodies and other actors become potential partners for establishing relationships that can lead to the generation of material and immaterial resources and, eventually, a competitive advantage. However, the development of these relationships stands in the background as its main drivers. In other words, now the question turns to what actually allows businesses to overcome many constraints that have impacted the division of labor: time, place, actor and constellation (Normann, 2001, pp. 26-36). The parameters of when and where activities can be done, by whom and with whom have undergone important changes. The traditional components of a business model have been replaced or transformed to accommodate for a scenarios in which businesses are reorganized according to a large range of solutions.

Technological innovations, particularly information technology and the internet, are the core of the so-called dematerialization process (Normann, 2001, pp. 27-44; Spagnoletti and Resca, 2012, pp. 3-5). This process consists of two main phenomena: liquification and unbundleability. The former lies in the separation between information and the physical world. For instance, the same content can be transmitted by e-mail and by regular mail, but the latter requires a more intense engagement with the physical world. It is this possibility that allows for contents moving about and being also combined (Kallinikos, 2006, pp. 48-75). Liquification has important effects. Online financial transactions offer a clear example. More broadly, because of the liquification, the flow of information about any kind of asset becomes a source of opportunities for reconfiguring business models. Production, finance, marketing, research and development, distribution channels – all are subject to ongoing reevaluation and improvement via new solutions. This proliferation of information led to emergence of new markets, not only of physical assets but also of information itself.

However, the liquification faces obstacles when the repository of information or knowledge is a person. Tacit knowledge (Polanyi, 1967, pp. 1-25) and knowledge developed in a specific socio-cultural context share this characteristic. This kind of knowledge cannot be codified as it is the result of a long socialization process, or a long period of apprenticeship, which leads to skills and capabilities embodied in specific subjects, in specific cultures and in specific social contexts.

Unbundleability is related to the possibility to dissect activities of a specific business according to time (i.e. Yoox sells fashion goods 24 hours a day, 365 days per year), place (i.e. Yoox sells fashion goods through a web site), and actor (i.e. Ikea furniture is assembled by customers rather than its own employees). New economic actors

reconfigure entire businesses due to their ability to, first, unbundle sets of economic activities and, second, reallocate them in an innovative way.

This process also includes rebundleability (Normann, 2001, pp. 61-78), which, similar to the dematerialization, is supported by liquification and unbundleability. Interactivity and reciprocity among economic actors become fundamental to that end. Economic activities can be subdivided and then reconstructed to take advantage of the most valuable assets available. This process involves relieving and enabling: new forms of cooperation can take place when an actor is relieved from some tasks, which are assigned to a more competent actor or where new assets and capabilities enable new projects and activities. The recreation of the value space also allows for barter. In this context, non-monetary exchanges also can emerge. Available time, competences and information can reveal themselves as complementary resources trigger unorthodox transactions.

Based on the development of information technology, the dematerialization and rebundling processes considerably influence production factors. For instance, lower transaction costs encourage exchanges (Ciborra, 1993, pp. 117-29), low reproduction costs of immaterial assets commonly lead to economies of scale (Shapiro, 1999, pp. 173-80), and, at the same time, flexible combinations of these factors promote economies of scope. Furthermore, the labor market is continuously opening its doors, and financial capital markets have already become a commonplace all over the world.

In the context of this value space, three protagonists can be singled out (Normann, 2001, 49-78): imperfection-based invaders, technology path-breakers and prime movers. Imperfection-based invaders exploit newly deregulated markets as new business strategies become available. They also exploit market imperfections and distortions of new niche markets, in which market forces do not operate properly.

Technology path-breakers take advantage of technological innovations to achieve a competitive advantage. Just as the railroad, telegraph and internal combustion engine did earlier, the internet presented a formidable opportunity for reconfiguring business models and launching innovative products. To be an imperfection-based invader or a technology path-breaker is not sufficient to maintain a competitive advantage, however. In absence of competences and capabilities for a profound reconceptualisation of the business model, the competitive advantage gained through innovations related to market imperfections or technology risks to vanish. Moreover, competitors easily imitate this kind of innovation. Prime movers, however, require further elaboration.

A prime mover does not simply exploit market imperfections or take advantage of technological breakthroughs, but rather reconfigures a new business model on the basis of the dematerialization process. A prime mover is detectable by a design vision that leads to a broader system of value creation. External actors and new competences are mobilized, old business borders are overcome and actors' roles are reshuffled. If this reconfiguration effected by a prime mover involves not only products or services but a whole business system, an ecogenesis (Normann, 2001, pp. 81-8) occurs. The rules of the game transform, leading to a new infrastructure and new business ideas that influence strategies, actions and networks of other actors within the system.

3. Research design

The research question of this paper concerns the role of information systems in the reconfiguration of the value space. Specifically, the objective is to see if these systems envisage and support not only new business models but also a reformulation

of whole economic sectors. Therefore, the individual company is no longer the only unit of analysis, and the issue becomes much wider. Among factors that contribute to reconfiguring the value space by information systems are changes in power relationships among sector players, emergence of new niche markets, exploitation of new distribution channels and reorganization of the division of labor within the sector.

A dot com company, Yoox, has been selected as an appropriate example. This dot com company is advantageous for investigating the changes in a complex business sector like fashion because Yoox, playing a leading role in the virtual boutique sector, has succeeded in rearticulating, although marginally, such a business approach. Indeed the motto “business as usual” is not valid in this case.

The research strategy followed falls under a case study. However, we provide a complete description neither of the fashion sector, nor of the role of the internet in securing retail and market shares, nor of competitors and their strategies. The focus is on this dot com initiative and on its capacity to introduce information systems in a way that can change the fashion sector.

Normann’s (2001, pp. 26-94) work provides the theoretical approach for answering the questions how and why information systems are determinant in the development of Yoox. Due to its capacity to outline modalities through which value space can be reconfigured and its capacity to give details to forces that lead to this reconfiguration, the role of information systems emerged both in the reformulation of Yoox’s business model and of its business sector. The company’s web site was the main source of data, and we examined its different sections in order to understand the complete process of goods acquisition. The information about items’ supply, storage and delivery was collected through the analysis of specialized web sites. Application web sites, ICT vendors and on-line magazines have provided an opportunity to check and validate sources of information. Balance sheets and stakeholders’ minutes have provided invaluable data on the business and financial environment.

4. Yoox: a virtual boutique for multi-brand fashion and design

Established in 2000, Yoox shares many characteristics with the start-ups of that period. Yoox is a typical dot com company in which venture capital firms have played an important role, even though its management has been concentrated in the founder’s hands. Yoox sells fashion products online from its headquarters in Italy and has branches in the USA and Japan. According to its web site (www.yoox.com), Yoox is considered to be the number one virtual boutique for multi-brand fashion and design in the world due to the 5.1 million unique web site visitors per month. The company has experienced a considerable growth since it was launched in the European Union in 2000. Yoox products were launched in Canada and the USA in 2003, in Japan in 2005 and in 67 other countries throughout the world in 2010. The company’s turnover skyrocketed from €4 million in 2001 to 16 million in 2003, 26 million in 2004, 37 million in 2005, 49 million in 2006, 101 million in 2008, 152 million in 2009 and, finally, to whopping 214 million in 2010 (Borsa Italiana, 2011). Its Earnings Before Interest, Taxes, Depreciation and Amortization (EBIDTA) has been positive since the second year in business, even though the company carried losses for several years to support its growth. The EBIDTA amounted to €14.9 million in 2009 and 18.7 million in 2010, whereas the net profit reached 4 million in 2009 and 9.1 million in 2010 (Borsa Italiana, 2011). It is important to mention that these data do not only concern

yoox.com, but also thecorner.com, founded in 2008 (see below) and the provision of ready-to-use online selling systems to fashion brands since 2006 (see Section 5). Yoox can be defined as a virtual boutique for multi-brand fashion and design. However, further elaboration is required. Indeed, a significant part of the company's business is selling a selected range of end-of-season clothing and accessories by global brands, such as Armani, Gucci and Prada, at accessible prices. Nevertheless, particular attention is dedicated to small brands unheard of on the international scene, as opposed to the brands readily available in department stores. In this way, Yoox opens up the international market to include niche labels with smaller distribution channels. As a part of this initiative, in 2008 Yoox launched a new web site, www.thecorner.com, in Europe, the USA and Japan. At this web site, not only the end-of-season items are available, as on the main web site, but also current season fashion. Besides, the items by any of about 40 available brands are collected in a virtual mini shop where online shoppers can get a closer look at the available clothes and accessories with digital look books, runway photos, videos and images from advertising campaigns.

Even though end-of-season clothing and accessories constitute, and will continue to constitute, Yoox's main business (Tate, 2006), the launch of thecorner.com signifies a differentiation strategy. Yoox differentiates itself by offering exclusive collections by prestigious Italian and international designers, vintage collectibles, collections by new designers, a selection of design objects and rare books. For such items, a discount policy was not adopted, instead a full-price one was favored. All of these factors indicate that one of the main objectives of this dot com company is to build a virtual environment for experiencing the evolution of fashion. Yoox wishes to be more than another web site selling discounted items.

To detail the activities run by Yoox, items are purchased or charged to the company with the formula of "payment upon sale" by fashion houses, manufacturers, licensees and boutiques. The items are stored in Italian warehouses, where they are classified and photographed in order to be put on sale on the web site. A digit code is assigned to each item. The code contains the important retail information, such as size and color, and also enables tracking during the selling process. At this point, the item can be identified through a radio-frequency technology for stock selecting and packaging. This platform was designed internally, however by 2000 market technology was neither responding to the needs of the company, nor was considered sufficiently reliable. These activities were eventually outsourced: Norbert Dentressangle took charge of selecting and packaging the stock, whereas delivery was delegated to the UPS.

In Yoox's business, UPS plays an important role. On the one hand, UPS is responsible for the sorting of goods between the Italian centre and the hubs in the USA and Japan. On the other hand, UPS guarantees a time definite delivery or scheduled delivery to customers. In addition, in the case of a purchase return, a frequent occurrence due to the nature of the items marketed, UPS picks up the goods to be returned free of charge for the customer. This was the situation at the end of 2010. At the beginning of 2011, Yoox established a partnership with GEODIS for restructuring the entire supply chain. The effects of this partnership will be quantifiable only in the coming years.

So far, this analysis has focused on the selling process. Now we turn to the purchasing process by customers. It is not easy to select the right item amongst over 100,000 items sold by Yoox. In the promotional displays, items are subdivided according to the seasons (autumn-winter collections, and spring-summer collections) and gender

(male and female). Items can be searched by the designer or category (footwear, denim, coats and jackets, etc.). Additionally, a research engine can search items by specified detail. This allows for sifting through the bulk of end-of-season clothing and accessories. Another part of the home page is dedicated to such categories as “new arrivals,” “sale items,” specific fashion styles or particular fashion categories. Moreover, the home page draws attention to the differentiation categories: vintage collectibles, new designer collections, design objects and rare books, which are all clearly highlighted.

Product searches are aided by a series of instruments. The viewed items are tracked and are promptly made available for refining the selection process, and shoppers can take advantage of the so-called “Myoox” feature. “Myoox” is a personal home page accessible by a user ID and password. A Myoox account holder can mark desired items (an e-mail will inform the purchaser on the supply status of each item), save selected items which were not purchased (these items can be shared with others as gifts, for example) and keep record of previous purchases.

Each item is displayed from the front and from the back; the zooming capability enables shoppers to view the item from different perspectives and scrutinize all the details. Selected items are regrouped in the basket, and two kinds of shipment are offered: standard and express. The former is cheaper and guarantees delivery within 3-4 working days. The latter is more expensive, the goods being delivered within 1-2 working days. Payment can be made by credit card, PayPal or by cash on delivery (in which case a small fee is charged). If purchased items do not fit the customer’s tastes, it is possible to return them free of charge, and the customers are reimbursed the full amount within 30 days upon receipt of goods.

Having described some of the ways that Yoox conducts its business, it is important to investigate the strategies that Yoox adopted to be recognized on the net. In other words, in which ways are potential customers made aware of Yoox and its web site?

It is obvious that the diffusion of the internet is fundamental and a broadband internet access would certainly favor the surfing of pictures and other procedures typical of shopping with Yoox. However, this is only the first step in a range of interventions. At present, Yoox follows the policy of dedicating a specific web site for different locales, as tastes, habits, needs and market conditions vary by country. In particular, the point is to build a specific company profile to capture main local fashion trends. Indeed, several countries worldwide representing, presumably, less important markets, share the same web site. Language is another problem. Italian, French, German, Spanish and Japanese web sites are now in their respective languages, whereas all other localized websites are in English.

Yoox follows two main strategies for promoting and marketing its web site. The first strategy, an affiliate programme, allows anyone with a web site to host links to Yoox and receive a commission from 5 to 12 percent on the sales generated by referred visitors per month and by country. At present, there are about 90 web sites which collaborate with Yoox in this way. The second strategy involves Google and other search engines. In particular, investments are focused on the number of clicks on the niche labels, rather than on big brands, in order to target sophisticated customers looking for particular fashion trends. At the same time, the Yoox banner is present in the online versions of important fashion magazines. Yoox also collaborates with museums, beaux arts academies, art exhibitions, fashion institutes, cinema and other cultural organizations to promote its image as a research centre of fashion and expertise.

5. Yoox: a reconfigurator of value space in the fashion sector

At this point, the objective is to interpret the case of Yoox through the lens of dematerialization, rebundleability and different sources of competitive advantage to consider the reconfiguration of the value space. In other words, is Yoox an imperfection-based invader or a prime mover? Has Yoox harnessed a dematerialization process? What kind of rebundling has Yoox implemented?

First, let us see if a dematerialization process has taken place, particularly, in relation to the customer. Differently from traditional shops, the internet enables Yoox to overcome the time and space constraints (unbundleability according to time and place). In fact, Yoox's items are available 24 hours a day and in countries around the world. Further, shop assistants have disappeared and have been replaced by a web site (unbundleability according to actor). The main management concern becomes to create a virtual environment that enables online purchases. To this end, customers are supported by a green number and a customer community (liquification process).

The dematerialization process has influenced providers as well. They can easily control the price of items they sell through Yoox and, in this way, they can avoid the excessively low prices during end-of-season sales, which damage brands' image (liquification process). At the same time, providers take advantage of the seller's distribution channels, which reach more than 60 countries and enable end-of-season sales 365 days a year (unbundleability according to time and place). The supply chain and delivery have been subject to a dematerialization process as well, due to both the pervasive role of information technology (radio-frequency technology (liquification process)) and the externalization of these services to third parties (the UPS, Norbert Dentressangle, and more recently GEODIS (unbundleability according to actor)).

The question now is if Yoox can be considered an imperfection-based invader, a technology path-breaker, or a prime mover. It is an imperfection-based invader owing to its capacity to carve out a niche market selling end-of-season fashion products online. However, it is a technology path-breaker as well. Breakthrough technologies have been introduced both on its web site and in its warehouse management systems. Satisfactory financial results that have been reached since Yoox's foundation are due to these two aspects in the reformulation of the value space. Nevertheless, Yoox can be considered a prime mover, too. Yoox has completely reconfigured the selling activity for the fashion sector. Undeniably, brick-and-mortar shops vanish in the face of a virtual web site, whereas local customers of traditional shops have been substituted by global internet surfers. A new value constellation has emerged. Business models of traditional shops are completely different in comparison with Yoox, even though they sell the same items. The role of technology in this respect is relevant as it supports both the dematerialization process and the rebundleability process. However, technology is not determinant. It is the reconceptualization of economic activities that led to these new modalities of doing business.

Finally, we should consider whether Yoox has been the protagonist of an ecogenesis. Has the fashion sector been in fact reorganized? Is it indeed governed by new game rules? Surely, the role that Yoox plays in this sector is marginal in comparison with department store chains and global brands. Nevertheless, it is a protagonist in the online shopping phenomenon and is emerging as a provider of e-commerce platforms.

Yoox decided to expand by producing the technical and logistical backbone for labels that wish to move online, in exchange for a commission. In 2006, Yoox Services

unit was founded with its two divisions: Yoox Agency, which offers web marketing services, and Yoox Design, which specializes in interactive design and digital experience. The objective is to provide a ready-to-use online selling systems to fashion brands. Marni in 2006 and Armani in 2007 took advantage of Yoox's logistic and front-end platform in order to directly sell their full-price products online. In 2010, 23 companies took advantage of Yoox's e-commerce platform, and it is expected that their number will grow to 27 by the end of 2011.

In 2010, Yoox earned €50.6 million from third-party e-tailing, in comparison with 28 million in 2009 (+80.5 percent) (Borsa Italiana, 2011). This means that almost one fourth of its sales come from providing an e-commerce platform to fashion brands. In only four years, a significant portion of the turnover has come from this business differentiation. Further, Yoox has a right of option on unsold goods; the management of these goods is simplified as Yoox is already in charge of their supervision. A transfer of data is sufficient in order to put them on sale on the Yoox platform (this part is OK as data came from the stock exchange). These practices represent a significant change for leading fashion houses such as Armani. At first, Armani was a provider to Yoox, but now it is also a customer. The rules of the game in the fashion sector have been, albeit marginally, modified. Yoox can, in fact, play a diverse role as it is no longer confined to being a virtual boutique for multi-brand fashion and design. Its role has been redefined and broadened to provide a ready-to-use online selling system for high-end fashion items.

6. Conclusion

The Yoox case study throws light on the fact that information systems can be a useful instrument not only for reformulating business models but also for changing dynamics that characterize entire business sectors. Even though, our analysis is limited to marginal aspects of the fashion business, global brands, such as Armani, have been involved in pursuing new online distribution channels and outsourcing these services to a dot com company like Yoox.

This phenomenon is important. A business such as a virtual boutique for a multi-brand fashion and design is imitable due to the worldwide competition. The competitive advantage accomplished by Yoox in this period is subject to aggressive competition as it is mainly based on the exploitation of market imperfections and technological breakthroughs. The possibility to become a provider of an e-commerce platform and take charge of the logistical side of the online marketing strategies changes the scenario significantly. Yoox mission is not only to sell fashion online but to provide a technological platform for e-commerce, which is a completely different business. In other words, such a competitive advantage is more sustainable in this business, and global brands, like Armani or Valentino, by becoming customers, represent a starting point for a reconfigured and innovative business model.

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