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Supporting Services Functionality in Brazilian Sectors: The Primacy of Banks

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Abstract

E-commerce can benefit companies by enabling new business models, improving efficiencies, and building competitive advantages. But there are some critical issues to be addressed in order to achieve those benefits, and one of them relates to the effectiveness of online customer servicing in e-commerce, also referred to as supporting services functionality (SSF). In this paper we discuss a subset of SSF in 110 large Brazilian companies representing 11 key sectors of the economy. Results enabled the ranking of sectors according to levels of SSF effectiveness, and the conclusion was that the nature of business may explain why general banks and telecommunications companies currently perform the better, while siderurgy and metallurgy, wholesale and international commerce, and chemical and petrochemical companies have the lowest performance in implementing the tools for customer support in e-commerce.

Keywords: **e-commerce; supporting services functionality; customer relationship; Brazilian sectors, bank performance.**

INTRODUCTION

Companies started to rely on a brand new vector of business competition – along with, for instance, the traditional issues of price, product features, and availability. Such a vector is represented by effective electronic commerce (e-commerce) processes. Connectivity empowers the customer to get in touch with a myriad of similar providers almost simultaneously, thus comparing attributes of decision variables in a more efficient manner. Some business websites even provide meta-searches that sort products by, say, price and delivery time. That is, the customer is granted precedence in contemporary commercial dispute, once he/she is assumed to be able to apprehend and compare the available offerings that address his/her personal needs, and appropriate tools are designed to help him/her in this task.

Research on e-commerce in the developing world is consistently reaching the global information technology (IT) management audience, as evidenced by studies in China (*e.g.*, Pei *et al.*, 2007), Russia (*e.g.*, Ouadati *et al.*, 2004, and Goreva *et al.*, 2004), Serbia (*e.g.*, Travica *et al.*, 2007) and the Arab countries (*e.g.*, Stafford *et al.*, 2006). Even underdeveloped countries in Sub-Saharan Africa already provide means to do business online (Okoli *et al.*, 2004). E-commerce is indeed assumed to be related to regional development (Molla, 2004).

Brazilian statistics on education are still poor (Unesco, 2007) and the digital and informational divides deserve pressing attention by government (Bellini & Pereira, 2008). For the sake of illustration, illiteracy among adults ranks well above the average in South America; cultural tradition and the manifest regional differences inside the country account for this and other phenomena that are still to be solved (Luna & Klein, 2006). Nevertheless, De Carvalho *et al.* (2007) and Macadar *et al.* (2007) believe that e-commerce – that requires at least some degree of literacy and sense of citizenship – is stepping steadily towards maturation. As a matter of fact, there are eight million online customers in Brazil, who spend on average R$290 (some U$130) per purchase, and demographic data about this clientele are as assorted as possible (E-bit, 2007). Brazil is, after all, one of the most important emergent economies (Luna & Klein, 2006), having been recently ranked among the top ten nations in purchasing power parity (World Bank, 2007).

Given the presumable importance of e-commerce tools for the customer, and the significant, growing share of Brazilians in e-commerce statistics, our study addresses the tools currently available for servicing the online shopper. We also rank industry sectors in the country according to the observed performance in each tool – *performance* here understood as the degree to which a sector implements a set of *supporting services functionality* (SSF), or "the extent to which a website uses IT to provide services that support a core product or service transaction, and to help customers reach their shopping goals" (Cenfetelli *et al.*, 2008, p. 162).

Although *user satisfaction* is among the most researched constructs in the IT field (Woodroof & Burg, 2003), being even considered a proxy for *information systems success* (Burns & Madey, 2001; Kim *et al.*, 2002), some studies on e-commerce focus on the company's perspective by characterizing the set of services it offers or reporting the perception of its technology managers. Contrary to that, we assume that consumer

satisfaction helps determine channel preference (Devaraj *et al.*, 2002) and thus we searched for a market perspective in the sense that objective customer demands were supposedly addressed by means of comparing companies and sectors according to the implementation of a given set of online tools – although personal traits of the buyer (as opposed to generally agreed-upon product or service attributes) also moderate trust behaviors and the fulfillment of a shopping transaction (Kim & Paper, 2004). Other critical issues for e-commerce in general, like security, fairness, trust and control in handling private information and making actions (Tan & Thoen, 2002; Conrad, 2004; Mollick, 2005), are not, however, covered by our research. Companies can make use of the findings to reshape their internal processes in order to better match the clientele's expectation.

BUSINESS STRATEGY

Business strategy is conceived in layers or perspectives. According to Porter (1998), it is the general plan of a diversified business that realizes results according to two strategic levels: the *corporate strategy* (the strategy of the whole business group) and the *competitive strategy* (the strategy of its business units). Johnson and Scholes (1999) add that *functional strategy* relates to how the organizational components effectively contribute to guide a company towards the strategy of its units and the overall corporation in terms of resources, processes, people, and skills.

Literature goes further when linking strategy to competitiveness. The assumption is that strategy should be targeted at the competitive advantage and its sustainability, and Porter (1985) is responsible for putting light on the concept of competitive advantage in the field of strategy. Hax and Majluf (1991) reinforce that Porter indeed championed in making the bridge between the two concepts and that he was responsible for the success of competitive advantage as the key factor for strategy. They have also set the premise that the essence of strategy is to frame competitive advantage as a continuous organizational goal. In the same line of thought, Henderson (1998) defines strategy according to a competitive perspective, in that strategy is the deliberate search for a plan of action to develop and adjust the organizational competitive advantage. And even Andrews (1987), who initially bounded strategy to the achievement of organizational goals, exhorts that it should target the transformation of the core competencies into competitive advantage.

Our research sees competitive advantage as a key component of strategy at the level of organizational units – here conceived as different companies within a larger business group. In this sense, well-defined internal processes, particularly those related to the online servicing of customers, are an important factor for competitive advantage.

ELECTRONIC COMMERCE

The new economy introduces conflicting trends that push the organization towards rethinking its business perspective, and the particular emergence of virtual environments would be among the vectors of new cost structures for large companies (Albertin, 2002). Reedy *et al.* (2001) include e-commerce processes in such a scene, which represent all online or electronic activities involved in the production and the commercialization of products and services to satisfy a customer's needs.

E-commerce can play an important role as part of new strategies and organizational initiatives, both inside the company – in the search for cost reductions and process improvement – and within the relationship with customers – by means of new sales channels, new products and services, new relationship agreements, and new opportunities for business. Porter (2001) combines strategy and e-commerce when he suggests that companies that already have a stake in Internet transactions should now espouse deliberate strategies that supposedly generate economic value for business (contrary to the fact that e-commerce was not formerly at all profitable); and companies that are still planning to go online should first fine-tune their actual business processes in order to increase the likelihood of later success in the cyberspace. That is to say that e-commerce, as it happens with any other business process, should be sharply aligned with the company's *raison d'être*.

In fact, there is a profound revolution taking place in the business realm, as a result of the electronic transaction technologies (Seybold, 2000; Straub *et al.*, 2002; Black *et al.*, 2005). The organization as a whole can now access the needed resources to directly interact with the customer, who theoretically becomes more influential in the business dynamics given the prompt availability of information and technology (Hoque, 2000). Customers are, for instance, empowered through the participation in commercially driven, virtual communities that enable processes such as members informing each other about product and service attributes and supplier reputation, and comparing offers from multiple suppliers on a real-time basis (Hagel & Armstrong, 1997). Thus, understanding the factors of desirable online shopping behavior is of interest (Black *et al.*, 2005; Changchit *et al.*, 2005), and this includes the provision of due online customer support; interface design is indeed key for the success of e-commerce (Burns & Madey, 2001) and companies are improving their online services in order to provide the customer with a richer and more effective shopping experience (Cenfetelli *et al.*, 2008).

Kalakota and Robinson (2002) and Ilsever and Kindra (2005) suggest that there are significant differences between traditional and online customers, like in behavior and effectiveness in the business processes. McKenna (1995) says that real-time organizations demand the focus to be put on the online customer, providing him/her with appropriate support, information and directions, thus broadening the provision of services and improving the likelihood of customer loyalty. Actually, SSF is an important predictor of customer perceptions and behavior (Cenfetelli *et al.*, 2008). Therefore, high-quality customer servicing is peremptory, given the needed interactivity in online environments (Lopes & Costa, 2003) and the fact that building relationships with customers through e-services is potentially based on good practices on information exchange (Nilan *et al.*, 2005).

As supposed by Reichheld and Schefter (2000), current IT tools seem to provide the organization with appropriate means to effectively address the online servicing enterprise. Typical tools include the following, which were considered in our empirical investigation:

- *Websites* are the company's online front door. When appropriately designed, implemented and managed, they can leverage the company's institutional presence and effectiveness in the market.

- *E-mail* is the ability of the organization to asynchronously interact with customers within the electronic medium (either to answer demands or to proactively get in contact with the market). This is said to be at the root of getting prompt information and feedback, building strong ties, and doing business – all that with lower costs.
- *Electronic forms* are forms with structured fields that are made available for the sake of clarity, objectiveness and efficiency when the customer wants to communicate personal or business-related information.
- *Automatic replies* are a first step towards promptly managing the volume of electronic communications received daily, but with an eye on personalized interaction with the customer.
- *Frequently Asked Questions* (*FAQ*) are a set of available answers to the questions most commonly asked by customers, thus saving human time and technological processes to handle a customer's request. This may also serve as an introduction to the online services.
- *Auto-service* occurs when the customer is able to autonomously handle the website's information and functionality with no need for external support. Examples include downloading and uploading files, simulating financial applications, and so on.
- *Chat* is a mode of conversation technology that enables a customer to conduct real-time talking with other individuals (say, the vendor's representatives or other customers) through the website.
- *Website customization* occurs when the website enables one to make his/her online experience more personal, what is usually implemented by providing product and service recommendations, redesigning the interface and adjusting the range of technological functionalities based on the customer's profile. This is assumed to have a direct impact on sustainable relationships.
- *Website maps* provide the customer with a comprehensive, quick method to access the desired information, functionality or section within the website.
- *Newsgroups* put company and customers in contact with each other in an asynchronous mode for exchanging rich and focused information about products, services, suppliers, standards, and virtually all other subjects of interest. That information benefits the company in the sense that it can navigate through the database of messages and find opportunities for business or simply make appraisals about its effectiveness in what comes to customer relationship. Since the advent of the Internet, newsgroups or virtual communities became really popular, be they commercially driven or not.
- *Video-conference* puts together real-time sound and image to make the online experience as vivid as possible, since cyberspace seems to suffer from the lack of face-to-face interaction.

DATA COLLECTION

The investigation on the availability and expediency of SSF tools in large Brazilian companies started with the purpose of identifying and describing the tools currently provided by those companies for use by the online clientele, as well as estimating their efficiency. The original questions to be answered were:

- What are the tools used the most by the largest Brazilian companies for online customer servicing?
- How do industry sectors perform in each tool?

- Is there any important difference between sectors in terms of how they implement each tool?

By means of a qualitative research, companies in 11 sectors were selected from a prestigious annual directory of "500 largest and best" Brazilian companies, and the top ten companies in each sector were investigated (110 companies in total) in terms of the implementation of online tools. Companies were ranked according to the following criteria and corresponding weights (Revista Exame, 2008): sales growth (10%), investment in fixed assets (15%), market leadership (15%), current ratio (20%), return on equity (25%), and value added per employee (15%). Some companies received a bonus for having been included as leading companies in other partial rankings (on quality of life at work and sustainability). Sectors and companies are listed in Table 1.

Table 1. Sectors and companies.

Sector	Top Ten Companies
Wholesale and International Commerce	Petrobras Distribuidora, Ipiranga, Shell, Esso, Texaco, Copersucar, Coamo, Atacadão, Makro, Ipiranga Distribuidora
Retail	Pão de Açúcar, Carrefour, Casas Bahia, Sonae, Ponto Frio, Bompreço, Sendas, Lojas Americanas, Wal-Mart, Pernambucanas
Food, Beverage, Tobacco	CBB/Ambev, Bunge, Cargill, Nestlé, Souza Cruz, Sadia, Perdigão, Coinbra, Kraft Foods, Friboi
Automotive	Volkswagen, General Motors, Fiat, Embraer, DaimlerChrysler, Ford, Moto Honda, CNH, Bosh, Toyota
Chemicals and Petrochemicals	Petrobras, Braskem, Refap, Copesul, Bunge Fertilizantes, Basf, Petroquímica União, Dow Química, Monsanto, Bayer Cropscience
Siderurgy and Metallurgy	CSN, Gerdau, Usiminas, Cosipa, CST, Gerdau AçoMinas, Acesita, Alcoa, Belgo, CBA
Telecommunications	Telemar, Telefônica/SP, BrasilTelecom, Embratel, Vivo, Oi, TIM, BCP, Telemig Celular, Intelig
Public Services	Eletropaulo Metropolitana, Cemig, Itaipu Binacional, Agip, Correios, Light, Furnas, CPFL Paulista, Sabesp, Copel Distribuição
Technology and Computers	IBM, Xerox, Itautec Philco, Hewlett-Packard, Unisys, Microsoft, Serpro, LG, Computer Associates, Cobra
Electrics/Electronics	Nokia, Siemens, Motorola, Samsung, LG, Ericsson, Alcatel, Nortel, Gradiente, Epcos
General Banks	Bradesco, Banco do Brasil, Itaú, Real, Unibanco, Banestado, Santander, Caixa Econômica Federal, Banespa, Mercantil/SP

Differently from other studies (*e.g.*, Palmer, 2002, and Ilsever & Kindra, 2005), we made no particular inferences on the relation between tool attributes and performance criteria such as customer satisfaction, likelihood of return or frequency of use, what is left for future research. Tool attributes that were considered for the analyses comprised the provision, the functionality and the effectiveness of e-mail replies, electronic forms, frequently asked questions (FAQ), auto-services, chat, customized experience, website's map, newsgroups, and video-conference.

RESULTS

In order to classify the 11 sectors according to the assumed performance of their SSF tools, we adopted a simplified scoring rule that took into account only the precedence of each sector in the 11 partial rankings (the performance in each tool). That is, sectors scored according to the observed performance in each tool (normalized by means of the partial rankings), and scores were summed up to build the rough final ranking of sectors.

Scores in each partial ranking ranged from 10 to 0 (from the first to the last sector, respectively). If two sectors ended up scoring the same, the ranking priority would be given to the sector that scored higher in more tools. Finally, a measure was developed to account for how much of the maximum possible score (110 points) was achieved by each sector. Full results are available upon request to the authors.

Table 2 shows that general banks and telecommunications companies were the best sectors in performance (with three private banks ranking first in overall performance), possibly motivated by the need to alleviate the other customer support channels (like call centers and physical offices) and reduce the volume of customer complaints in regulatory state agencies; in fact, such companies champion the list of complaints in Brazil. Retail companies – the driver of e-commerce in late 1990s – deploy not as much as possible the available tools for online customer servicing, although ranking third according to the data collected. This is indeed provocative, since the surveyed retailers are department stores that attract all sorts of customers with all sorts of demands. Finally, companies operating in the sectors of siderurgy and metallurgy, wholesale and international commerce, and chemicals and petrochemicals performed poorly in our investigation, what is no real surprise; as a matter of fact, the nature of the businesses hypothetically explains the data, since factors such as presumable lower levels of competition, voluminous exchanges, and type of customers serviced (large companies) make room for the online interaction and negotiation becoming not as attractive in these cases.

Table 2. Overall results.

Item	Results
Best performing SSF technologies	Website responsiveness, e-mail replies, FAQ, and website map
Worst performing SSF technologies	Video-conference, newsgroups, and website customization
SSF Technology:	*Best performing sector:*
Website responsiveness	Technology and Computers
E-mail replies	Telecommunications
Electronic forms	General Banks / Telecommunications
Automatic replies	General Banks
FAQ	Telecommunications
Auto-service	Telecommunications
Chat	General Banks
Website customization	Telecommunications
Website map	General Banks
Newsgroups	General Banks
Video-conference	(none)

CONCLUSION

This study patronizes e-commerce as a possible source of strategic factors for organizational effectiveness in the market, as defined by business measures like customer satisfaction, financial performance, or institutional image. Moreover, it promotes the online customer support technologies, or supporting services functionality (SSF), as key in e-commerce, and this explains the need for estimating the extent to which such technologies are currently implemented.

We found that large Brazilian companies implement to some extent the most usual SSF

tools to interact with the clientele, while advanced technologies and some good business principles are still neglected (like providing the customer with a more personal experience through video-conference, chat and customization, or empowering him/her by means of the participation in newsgroups or virtual communities).

It is important to note that the nature of business differs greatly among the 11 sectors, and this played a role in the overall results. In fact, companies that predominantly provide services to individual customers (as opposed to other companies or even to large corporations) clearly deploy more tools for online customer servicing than their counterparts in other sectors; cyberspace, thus, does not seem to be already a medium for complex negotiations. Finally, the regular incidence and effectiveness of online tools in general banks and telecommunications companies is maybe related to the fact that these companies lead the list of customer complaints in regulatory state agencies – thus they may feel the need to interact more effectively with the market.

Future research may identify the more demanded SSF technologies by the customer in each sector and estimate their impact on e-commerce performance. Also, assessing the quality of current tools – and not just their availability – is of interest.

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