COLLABORATIVE DIGITAL ARCHITECTURES:

A STUDY OF COMPANY-CONSUMER NETWORKS IN BRAZIL

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Abstract

Collaboration has proliferated in the market economy, with experiments involving production that is based on common properties, where there is no platform "owner" figure, and users cooperate because they are motivated by personal or social reasons and for no financial reward; and through collaborative digital networks between companies and consumers. These interactive models, known as mass collaboration or peering, were transformed into potential alternatives for many companies for creating value and innovation, and a source of income or recognition option for many individuals, enabling a new business to be boosted, a new professional introduced, or simply placing them in a community (a feeling of belonging). In order to identify how this practice - in different levels and forms - has been absorbed by the Brazilian market and to reflect on the results based on theoretical knowledge, producing standards and references (typology), Atopos (Research Center on Digital Media – ECA/USP] designed a research in partnership with a pool of companies (Google, TetraPak, Itaú, Abril, Tecnisa, Serasa Experian and Magazine Luiza). In this paper we present preliminary results.

Key words: collaboration, digital architectures, company-consumer networks.

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1. Digital networks and the new economy

The advent of a new communication technology, as declared by Marshal McLuhan (2007), promotes a totally new human environment, the greater relevance of which is not its impact on concepts and ideas, but on relationships between the senses and on perception structures, or in his own words, "societies were always influenced more by the nature of the media, by which men communicate, than by the content of communication" (IBID, 1967). Its meaning contradicts the interpretative paradigm adopted by social sciences at the beginning of the 20th century, which in analyzing the social function of the media, attributed an instrumental perspective to them, in which communication was seen merely as an activity for sharing information between players, formed by passive channels that did not intervene in any way in social processes. In the Toronto School[1], the media is thought of in terms of the capacity it has for constructing information structures that interfere in our way of thinking and have an influence on us at the cognitive level. For example, books should be read in a linear fashion, following the page numbers, in other words, printing technology is linear and sequential (DI FELICE, 2009). The transformation process occurs to the extent that each information architecture sensitizes certain senses and not others.

> Because all media, from the phonetic alphabet to the computer, are extensions of man that cause deep and lasting changes in him and transform his environment. Such an extension is an intensification, an amplification of an organ, sense or function, and whenever it takes place, the central nervous system appears to institute a self-protective numbing of the affected area, insulating and anesthetizing it from conscious awareness of what's happening to it. (MCLUHAN, 1969).

In the case of the digital revolution there is a change in the very architecture of the informative process, which substitutes frontality when passing on information (books, the press, the theater, cinema, television) for a reticular, interactive and collaborative transfer of information.

> We can no longer think about the media as "tools", instruments to be used, because when we use new media we start developing new ways of interacting and we experience new ways of communicating; social networks and smartphones, for example, bring innovation not only to the technological environment, but also the social, sensory, political, economic and cultural environment (DI FELICE, 2012)

The Internet has become the technological basis of the networked information economy. In 1998 Kevin Kelly was already declaring that communication based on digital

[1] One of the main representatives of the Toronto School in Canada, which originated at the beginning of the 1930s and continued into the 1950s, is Marshall McLuhan. He moved the center of interest of communication studies from the media message (content) to its impact on society.

technology is not just a sector of the economy, but the economy itself; it is the basis of society, of culture, of humanity, of our own individual identity and of all economic systems. Everything is information; all systems are information architectures in constant interaction.

Going further, Massimo Canavacci (2012) believes that digital logic contains a type of paradigm that is innovative when compared to analog paradigms, and one that requires a new way of being represented, which is capable of unifying information, while maintaining the peculiarity of each piece of information. Barcodes[2], for example, contain more than just information regarding the price of the goods in question. When a consumer takes a product from a supermarket shelf and goes to the checkout it immediately indicates to the supplier of that item that it needs to be replaced, thereby minimizing the costs the producer and distributor have with holding stocks. This is a communication process that has an absolute impact on the production and distribution chains. What we see here is the individualization of goods, which is one of the main effects of the peculiarity of the digital age. The QR (Quick Response) Code[3], which is an individual and/or special narrative system, exponentially expands the barcode's information transmission capacity, thereby providing another conceptual and perceptive view of communication. Both perform market research functions by indicating preferences, acting as an indicator of regional preferences and other inputs, thus altering the production chain and operational management.

Jeremy Rifkin (2011) believes there will be a new economic narrative, in which the scenario begins with the understanding that the major economic transformations in history have occurred because of a convergence between new communication technologies and new energy systems. Based on an unprecedented interaction between communication and energy he believes that the energy sector may also be completely rethought.

> …the fact remains that the IT sector and the Internet did not in and of themselves constitute a new industrial revolution. For that to happen, the new communications technologies would have to converge with a new energy regime, as has been the case with every great economic revolution heretofore in history (IBID, p.21).

This coherence, the unity between communication and energy, was present in the two industrial revolutions of the last two centuries. Illustrating this unity, in the second industrial revolution in the 20th century, the telephone, radio and television were centralized forms of communication, whose function was to manage an economy that was organized around centralized fossil fuels and their countless, also centralized, forms of distribution. His vision of the third industrial revolution implies the use of the technology of the Internet in transforming the electricity grid into an energy network, which is shared from small amounts of power generated locally in buildings and residential homes, the excess of which can be sold to this electricity network.

> The partial shift from markets to networks brings with it a different business orientation. The adversarial relationship between suppliers and buyers is replaced by a collaborative relationship between suppliers and users. Self-interest is subsumed by shared interest. Proprietary information is eclipse by a new emphasis on openness and collective trust. The new focus on transparency over

[2] Used for the first time in June 1974 in Troy, in the state of Ohio.
[3] This is a two-dimensional barcode that can be scanned by a cell phone that has a camera; this code is converted into text (interactive), a URI address, a telephone number, a georeferenced location, an email address, and a contact or SMS.

> secrecy is based on the premise that adding value to the network doesn´t depreciate one´s own stock but, rather, appreciates everyone´s holdings as equal nodes in a common endeavor. (IBID, p.116).

The economist and professor of USP's School of Economics, Ricardo Abramovay (2012), deals appropriately with the fundamentals of this new economy in his recently published book, "*Muito Além da Economia Verde*" [Beyond the Green Economy]. As the title suggests, the author's focus is on issues related to sustainability – society and nature, economics and ethics, constant growth vs. the limits of ecosystems, sustainability-oriented innovation – within the environment of the networked information economy. This author believes that this social new configuration offers opportunities for the advance of unprecedented forms of cooperation, opening up a way of overcoming the traditional antagonism that exists between the market and social cooperation (or any other form of separation coming from positivism, like nature science and economics)

> Just as important as expanding these forms of cooperation and reciprocity is the fact that they are not vigorously confined in parallel universes to their own sphere that obeys the logic of price. It is precisely in this mixture of domains, which until recently were stagnant and hostile (the market and direct social cooperation), that we find one of the most promising ways enabling social players to guide part of their behavior, even in a decentralized economy [...]. This is where the key to the transition to a new economy lies (IBID, p.131).

Direct, social, intentional and voluntary cooperation as the basis of prosperity "is the opposite of what, since the work of Adam Smith, but above all since the 19th century, the social sciences have conceived of as proper for an economy in which markets perform a crucial role in allocating resources" (IBID, p.190). For Abramovay, "the opportunities for the emergence of an economic system in which sharing, cooperation and the distribution of resources are at the service of sustainable development have never been as promising as they are today" (p.194), in which the reallocation of resources is no longer the exclusive attribute of the market and/or companies, but is shared by social players through collaboration.

2. A natural propensity for collaboration

The vampire bat feeds on most warm-blooded animals, from birds to horses and cows and even human beings. The interest biologists have in the species lies in the fact that while the bat is a blood-thirsty, predatory animal it is also extremely altruistic. To survive the bat has to feed at least every 60 hours, which led the species to develop a collaborative practice: if one of them is unable to find a victim in this time, it immediately begins licking the lips and underneath the wings of another member of the colony; the two animals put their mouths together and the successful hunter vomits warm blood down the throat of its companion. Without this cooperation it is estimated that more than 80% of all adult vampire bats would die. In its turn leafcutter ants organize themselves into seven different functions; some of them cut leaves, others carry the pieces of leaf to the nest, while others cut them up into even smaller pieces. As these leaves contain toxic chemical substances they need to decompose. This is caused by a fungus that only grows in the colonies; a group of ants tends these underground mushroom plantations, keeping the chambers at ideal temperature and humidity

levels for the collective benefit[4]. In nature we find countless examples of collaborative communities; over and above those cited we have bees and various others that behave as a complex organism, governed by a collective intelligence. Collaborative communities, whether human or non-human, are nothing more than reticular information structures[5].

The conviction that in nature there is a consistent propensity to collaborate, especially among humans, is one of the fundamentals of collaborative digital networks, whether derived from cooperation initiatives outside the dominant market system (crowdsourcing) or as part of company strategy. Through empirical research of various sources, Clay Shirky (2011) states that if you offer individuals the opportunity to cooperate the result is generally positive. This is based on two blocks of social motivation: one around connection and/or participation and the other around sharing and generosity.

Yochai Benkler (2006, 2011), a professor at Harvard University, dedicated his two latest books to reflecting on the impact of new digital technologies, which characterize what he called the "networked information economy". From the empirical evidence of biology, psychology, neurology, sociology, economics and social sciences in general, the author argues that individuals are much more cooperative than common sense would have us suppose. A feeling of "belonging" to a community, the interchange of ideas, recognition and valuing, and connections with peers with whom we have interests in common are all motivators that are just as strong as, or stronger than financial reward. We act cooperatively or selfishly, based on two psychological pillars: the fact that we have a diversified set of needs and goals and the fact that the environment determines how these needs and goals are activated.

> Human beings are, and always have been, diversely motivated beings. We act instrumentally, but also non-instrumentally. We act for material gains, but also for psychological well-being and gratification, and for social connectedness. There is nothing new or earth-shattering about this, except perhaps to some economists (BENKLER, 2006, p.6).

Various experiences reinforce this belief, perhaps none more explicitly so than Wikipedia, the on-line, multilingual, free, collaborative, and not-for-profit encyclopedia, the entries of which are written by volunteers around the world and can be edited by anyone who has access to the site. There is no legal copyright figure and even the leaders (coordinators) are volunteers.

3. Collaboration in the market economy

The information architecture differential based on networks of networks is not restricted to a distinct form of media expression, but to the way in which this expression manifests itself in the public sphere or in social action. The central element in daily carpools is not the automobiles but coordination via digital networks. Threadless.com is an on-line t-shirt company, whose production is based on designs generated on its collaborative platform

[4] Johan Lehrer, *Genteliza em família*, *Revista Piauí*, July/2012. Available at: http://zelmar.blogspot.com.br/2012/07/gentileza-em-familia.html on August 4, 2012.

[5] Reticular, defined as something that is shaped like a network. In this case it refers to the structure of networked information/communication.

(those chosen receive a prize of US$ 2,500; in 2006, it sold more than 1.5 million t-shirts and had an active community of 600,000 users who drew up 800 new designs a week[6]). Camiseteria.com is the Brazilian equivalent, which has equally positive results. Small agricultural producers in various countries, through networked collaboration, are making it possible to have direct access to the end consumer without any middleman. Open innovation platforms are springing up, like InnoCentive that supplies solutions for companies like Boeing, Dow, DuPont, Novartis, Procter & Gamble, and others that are connected to a network of scientists and smaller companies in 174 countries. Lego uses the mindstorms.lego.com site to encourage experimenting with its software. Volkswagen in China created the People´s Project in May 2011, with which they won various awards, like Spike Asia 2012, which is a digital reticular architecture in which consumers are encouraged to contribute design ideas for future automobile models (http://www.zaoche.cn/welcome); according to the marketing director, Luca de Meo, automobile design will continue to reflect the Volkswagen tradition, but in the near future the cars produced will be a combination of consumer opinion and tradition. There are new innovation and value generation models. "The web no longer means idly surfing and passively reading, listening or watching. It means producing by peering: sharing, socializing, collaborating and, above all, creating within the scope of freely-connected communities" (TAPSCOTT & WILLIAMS, 2007, p.65).

Collaboration has proliferated in the market economy, with experiments involving production that is based on common properties, where there is no platform "owner" figure, and users cooperate because they are motivated by personal or social reasons and for no financial reward;

> A series of changes in the technologies, economic organization, and social practices of production in this environment has created new opportunities for how we make and exchange information, knowledge, and culture. These changes have increased the role of nonmarket and nonproprietary production, both by individuals alone and by cooperative efforts in a wide range of loosely or tightly woven collaborations. […]. Together, they hint at the emergence of a new information environment, one in which individuals are free to take a more active role than was possible in the industrial information economy of the twentieth century. (BENKLER, 2006, p.2).

and through collaborative digital networks between companies and consumers, in which the former plays the role of mediator and the collector of benefits and the consumer expectation of reward is either financial or through recognition, which implies an expansion of social professional capital and/or improvements in the resume. These interactive models, known as mass collaboration, peering, crowdsourcing and open innovation, were transformed into potential alternatives for many companies for creating value and innovation, and a source of income or recognition option for many individuals, enabling a new business to be boosted, a new professional introduced, or simply placing them in a community (a feeling of belonging). It is largely agreed that the internal resources of institutions no longer respond satisfactorily to current demands; not even the biggest companies are capable of generating all the inputs necessary for developing their business or of retaining all the talent within their organizational boundaries. The current labor market is characterized by an enormous and growing mobility, particularly among more experienced and highly skilled professionals. The former ways of

[6] Source: ABRAMOVAY, Ricardo. Muito Além da Economia Verde. São Paulo: Planeta Sustentável, 2012.

organizing and innovating can no longer cope with the level of agility, creativity and connectivity the market demands for companies to remain competitive in the current environment.

It seems legitimate to consider that mass collaboration is a natural evolution of the open innovation model, which in turn is still being processed by the market. Successful experiences are relatively recent and are far from permeating the entire economy, according to Henry Chesbough (2012), a professor at the Haas School of Business of the University of Berkeley and an academic in the topic. Assuming the existence of an evolving line between open innovation and mass collaboration practices we would emphasize that even considering the tremendous impact caused by the opening up to the outside world of its Research and Development (R&D) activities, in the first case corporations still maintain a certain control over their production processes and, perhaps more importantly, still feel relatively protected from competition. Mass collaboration, with the transparency that is intrinsic to digital technology, finally breaks away from both: there is a real loss of control and companies are more vulnerable to competitor activities.

In this sense there is a paradox to be investigated: how, in a market society, have cooperative processes been assuming an importance not only on the periphery, but at the heart of the economic system? We still come under a capitalist regime, with private control over the means of production, in other words, in a proprietary economic activity, which leads to the second question: how can we reconcile a consumer who is apparently keen to exercise his/her new degree of freedom, and which originates from the new information architecture, with a competition model of production that is reluctant with regard to transparency and visibility? The challenge for society in this millennium is to reconcile these supposed conflicts and find a new way of producing value.

If we take as our benchmark for a collaborative network the Wikipedia encyclopedia, the most plausible finding is that the market is still far from behaving thus. To bring this model into the dominant market implies breaking a paradigm, because of the inevitable loss of control on the part of corporations, among other reasons. However, the first incursions of empirical research detected that companies were sensitive to the theme of collaboration with the consumer, reflecting the fact that current production and relationship models vis-à-vis the communication environment have been exhausted. We identified various (relatively simple and low cost) digital information structure initiatives that are unconnected to the operational structure and the dominant culture and that have no clear rules for encouragement and reward; they are present in social networks because of convention and not by (strategic) conviction, which denotes their embryonic nature.

4. Empirical research: description and analysis of two case studies in the Brazilian market[7]

The purpose of this ongoing research is to identify how collaboration in various degrees and formats has been absorbed by the Brazilian market and to generate a typology. We have seen no initiatives for creating collaborative ecosystems, just pilot or one-off projects. We initially chose to observe the interactive architectures of a pre-selected group of

[7] This empirical research is supported by Google, Abril, Itaú, TetraPak, Tecnisa, Serasa Experian and Magazine Luiza. Contractually, these companies fund the research and share its reflections.

companies. By immersing ourselves in these interactive architectures (typically of an unstable nature), we assessed their degree of interaction intensity, their ease of participation, their quantitative relevance, their feedback, the relevance of their content and the presence of any collaborative practices. The experiences were grouped into three categories:

a) Functional interactivity:
- Functional and/or commercial sites, blogs with the "service provider's" profile (focus on peripheral issues of economic activity);
- Social networks perceived and/or treated as "Customer Service" areas.

b) Participative interactivity:
- One-off co-creation actions, characterizing an intelligent marketing campaign;
- Open innovation, interactive architectures.

c) Collaborative interactivity:
- Conceived as a one-off or pilot project, with the intention of testing the relationship, or with no very clear initial intention.

In an attempt to limit our field of research to reticular digital collaborative practices, we encountered information architectures that we define as non-collaborative. They are:

- Market research: centered on the individual interviewee/interviewer interaction, or on a group under the control of a coordinator hired by the company, there is generally no transparency with regard to the purpose or content and in some cases to the product and company that is the object of the research. Its results go equally unshared. There is no direct and independent connection between the interviewees. The whole process is conducted under the strict control of the company;
- Open innovation: generally, its platforms are centered on the interaction between the company and the owner of the idea/collaborator, with explicit recognition of the intellectual property. It involves remuneration and in the majority of cases is similar to competition on a large scale. The dialogue between the company that is launching the "challenge" and the users of the platform has no visibility in the public sphere. As an example two sites are frequently mentioned: the Connect + Develop website, from the consumer products' leader Procter & Gamble (P&G), and the InnoCentive website, accessed by different corporations;
- Product test: restricted and one-off interactions, with results that are not shared. Immediate reward, with access to product or service experimentation;
- Branding strategies: these are information architectures with themes related to the product/service, and with "service provider" characteristics, the aim being to draw the consumer closer to the brand and generate greater familiarity. In this case we have two examples from Brazilian websites: the Brastemp (http://www.assimumabrastemp.com.br/) and Unilever (http://www.portalvital.com/) blogs;
- Collaboration with the production chain: this is a cooperative network that is restricted to players involved with the company's production chain, such as suppliers and partners. Its characteristic is that of a closed and excluding platform, without visibility in the public sphere.

As a narrative under development for collaboration, we considered practices that contemplate interaction in groups. In other words, collaboration is a construction of alliances and relationships between techno-players, who are both inside and outside the institution in question, and that have a strategic character when they include the techno-player consumer in the decision stages of a product, service or process. The typology is likely to include elements, such as: extension of the internal network connected to the external network; strategic architecture, pilot project, one-off project; type of technological platform; type of network (centralized, decentralized or distributed); type and intensity of the interaction between users; nature of company mediation; and level of transparency.

Below we present a brief description of two company – consumer collaborative digital networks from the Brazilian market:

- **Collaborative architecture – Fiat Mio** http://www.fiatmio.cc/

In August 2009 automaker Fiat launched a project for the Fiat Mio collaborative platform inviting people to think about an automobile for the future. It undertook to turn the inputs from internet users into a concept car that would be displayed at the São Paulo Motor Show in October 2010. Produced in a collaborative way with consumer- netizens, participants in the conception process in real and continuous time, like an open source[8] project, used Creative Commons[9] licenses. Fiat was prepared to make its most historically protected and ring-fenced strategic areas transparent. The inspiration for thinking about a more open development came initially from two sources: (a) the experience with the launch in Brazil of the Línea in 2008 (produced in Turkey), where the marketing team, breaking with sector tradition, revealed some of its elements thirty days early (design "tropicalization", etc.) and (b) reading the book, *What Would Google Do*? by Jeff Jarvis, which has a chapter in which the author speculates what the development process of an automobile would be like in a "Google automaker". The original idea was merely to show the "making of", without any interactivity with the internet user. The debate evolved to "participation/non-participation", and within a broader culture of open innovation the Fiat Mio collaborative platform emerged. For the first time in the automaker and probably in the automobile industry, the decision about a new concept car did not come from its steering committee.

There was no prior planning, and the teams involved were "learning by doing", with two challenges: managing the collaborative dynamic and time control (because of the date of the Motor Show). The internal network involved the style, marketing, engineering, innovation, product, research, legal and other areas. The biggest concern was not in conducting the process, but in mediating in a neutral way.

[8] An open source project derives from open code software, which can be modified by the user (insert new functionalities). In the case of projects, development is always carried out collaboratively.

[9] Creative Commons is a not-for-profit NGO, founded in 2001 by Larry Lessig, Hal Abelson and Eric Eldred with the support of the Public Domain Center, located in San Francisco, California/USA, with the objective of expanding the number of creative works available. Its licenses (Creative Commons licenses) allow for copying and sharing, with fewer restrictions than with the traditional *all rights reserved.*

The rationality attribute permeated most of the collaboration by internet users, who were concerned with the automobile's social role (mobility, sustainability, pollution, practicality). Fiat Mio in numbers: live for 15 months, 2 million individual visitors, 17,000 subscribers, 11,000 ideas and suggestions, 10,000 comments and 160 countries involved.

The materialization of an innovative project of this magnitude, especially in a traditionally conservative segment, was possible because of Fiat's previous culture and the unconditional support of its president in Brazil. Fiat Mio project had a profound impact on internal mentality, on process networks, on the interaction models of internal networks and on the very people who formed the teams that were directly involved.

The present effort is to identify the best strategy for continuing with this experiment. Various ways forward are being analyzed, based on the belief that the Mio is not just a concept car, but a collaborative architecture that will permeate the future relationship between Fiat and its consumers.

In the international market we identified another experiment in collaborative digital architecture in the automobile industry: Volkswagen in China, which started in 2011. The People's Car Project is a program developed to promote collaboration between users with design ideas for models of automobiles of the future (http://www.zaoche.cn/welcome in Mandarin, market focus of the location). In the two years that separate the two projects, there has been a significant change in the behavior of users in the digital environment, especially in social networks, with the corresponding technological evolution. Below is a comparative table.

	Fiat Mio	People's Project
Technology	More restricted, which is mainly due to the project having been developed two years ago. It was less visual, with the ideas being submitted in writing	Current; takes advantage of social networks in China and is very visual; all projects must be submitted as photos.
Proposals	To develop a concept car for the motor show made in a collaborative way on an online platform, where any person could contribute. To change the agenda of interactions with customers and mainly to change the current order that everything in the automobile industry takes time and is secret.	To develop a platform that would hear the opinion of the population, inviting consumers to contribute design ideas for car models of the future. It was not limited to one project and in this aspect is much broader, because by providing users with their own profiles they stand out on the network and produce a lot individually.

Interaction between users	Less, because it is mediated by the company.	Users exchange a lot of information; the platform is almost a social network, which means that users exchange ideas and comment upon and vote on the projects of others.
Market position	Sales leader	A rising market; there's a lot of competition from Chinese brands.
Strategy	Creation of projects for innovation and relationship with consumers. They promoted it as a way of developing a new model of thinking, working and organizing people around an idea.	Creation of a project for gaining market share and visibility with consumers, considering that in the Chinese market Volkswagen is not one of the favorites. They heavily publicized the project outside the Internet, particularly on television.

- **Collaborative Architecture: Magazine Você** https://www.magazinevoce.com.br/

Magazine Você is a new sales channel from the retail chain store, *Magazine Luiza*, which was developed in 2010 as a test platform that was available only to employee relatives. From January 2012 it was accessible to any user of social networks, especially Facebook and Orkut. Its fundamentals are based on the concept of social commerce[10].

Motivation:

1. Demand expansion: in 2005, economic Class C (middle class) comprised 34% of the population, while Classes D and E together represented some 51%. In 2012, Class C in

[10] Social commerce uses the interaction dynamics that are characteristic of social networks to foster online commerce (or e-commerce). The concept arose in mid-2005 with the launch of "the Shoposphere & Pick Lists" by Yahoo!, a context within which the term was used to indicate tools of a "social" nature for online selling in a collaborative way. Another site that adopted pioneering practices in this environment in the USA was Amazon.com, which popularized "wish lists" and tools for sharing opinions about the items bought ("Tell a friend about this item"). BEACH, David; GUPTA, Vivek. "Social commerce via the Shopophere & Pick Lists". *Yahoo! Blog*. 14 nov. 2005. Available <http://www.ysearchblog.com/2005/11/14/social-commerce-via-the-shoposphere-pick-lists/>. Access in Sept. 2012.

Brazil represents 55.05% of the population, while Classes D and E together have reached 33.2%. Prospects: the consumption of Class C will tend to grow to 47% by 2020[11];

2. Expansion of access to the Internet: in April 2012, 29.5 million Brazilians over 12 years old connected to mobile Internet, most of them (74%) via a cell phone. The main form of connection is domestic, with 43.5 million Brazilian users[12];

3. Massive presence in social networks: in the worldwide ranking of on-line social networks, Brazil is in fourth place and 97% of all Brazilians who use the Internet are already on social networks (Facebook, Twitter and Orkut)[13];

4. On-line retail expansion: the 32% growth in e-commerce in 2012/2011. According to the E-bit information ranking, *Magazine Luiza* (site: magazineluiza.com) falls into the "diamond" category, the maximum category in the ranking, with criteria such as facility when buying, product quality and privacy policy.

Magazine Você

The starting point was the development of an exclusive application for the main social networks in Brazil: Facebook and Orkut. This new sales channel explores the potential of the network of contacts that each user has on the social network. It is underpinned by the idea that the buying process becomes easier and possibly more trustworthy when the seller belongs to the consumer's network of contacts. Users are encouraged in this channel to create their own online "showcases" with products from *Magazine Luiza* that they are capable of giving recommendations about and tips regarding their benefits to their own digital relationship network. The Disseminator (name given to the "owners" of the showcase) presents himself/herself as a specialist in the selected products and earns commission on the sale.

Collaborative networks are formed at three distinct moments:

- In the Orkut community, via a direct communication channel with and between the Disseminators (feedback about performance, improvements in the logistics system, operational doubts, etc.).
- On the Fan page of Facebook, where Disseminators exchange commercial tips about the sales application, thereby boosting the efficiency of the project.
- In the conception and development of the platform itself: Disseminators cooperate by providing solutions regarding interface, usability, new applications and a reduction in barriers between the on-line and off-line world.

[11] http://www.fecomercio.com.br/arquivos/arquivo/estudo_da_classe_media_fevereiro_2012_ljiaiah9aa.pdf

[12] Research undertaken by Ibope Net/Ratings.

[13] Intel Brazil. Available:<http://newsroom.intel.com/community/pt_br/blog/2011/09/27>. Access in Sept. 2012.

The project broke with traditional practices by innovating in technology and management, which enabled it to be made available on the Internet in record time. The internal network involved marketing, IT, on-line sales, legal, infrastructure and management. The project was tested and improved over a six-month period when it was made available only to employees' relatives; however, even so, *Magazine Luiza* considers that it was launched in the market in "Beta", constantly evolving in collaboration with the users. In the first year it was expected to generate 20,000 "showcases", a target that was reached in the first two weeks (it subsequently stabilized at 30,000 "showcases" in 5 months). In parallel, the project added qualitative values to the retailer's brand, such as recognition of the innovative brand (significant brand expansion in the media as a counterpoint to the historic visibility associated with the entrepreneurial profile of the store's founder, Heloísa Helena), and the positive impact on processes and the internal culture, including the setting up of a Research and Development area.

Overview of *Magazine Luiza*

Magazine Luiza is currently the second biggest retail chain in Brazil, with 735 stores nationwide. Its history started in the 1950s in Franca (up-state São Paulo). As from the 1980s, the company adopted a strong policy of organic expansion and acquisitions and today it has a presence in 16 Brazilian states.

Throughout its history, *Magazine Luiza* has placed its faith in innovation, oriented towards the use of technology, which has given it a comparative advantage and the expertise needed for operating in the internet today. In 1981, the company was one of the first to introduce a computer system for controlling sales and stocks in its stores. In 1992, the chain created the *Loja Eletrônica Luiza* [Luiza Electronic Store] (today called *Loja Virtual* [Virtual Store]). The initiative consisted in stores with no products on show and no stocks, just virtual terminals for serving consumers, where the salesperson's role is to humanize the service and provide the customer with advice. In 1999, the experience acquired with the virtual stores was used in e-commerce, with magazineluiza.com, one of the biggest online sales sites in Brazil.

5. Final comments

Digital reticular architectures lead to changes that transcend the production and the sharing of information, by generating a new environment of communication, thinking and work in society. There are strong indications that one of the most important consequences of interaction in networks is an expansion of the degree of freedom that individuals have. Its horizontal logic promotes a more homogenous distribution of power, by granting more egalitarian access opportunities. This new situation is particularly relevant within a context in which knowledge predominates and the individual is at the center of social and economic processes. While in the industrial economy consumers conquer a degree of freedom of choice regarding which products and services they wish to consume, which places them at the center of the dispute of producers for their preferences, in the networked information economy, consumers gradually conquer the right to participate in the development of the products and services that will be consumed.

There is a synergy between this new degree of individual freedom and social development as advocated by Amartya Sen (2009), Nobel Prize in Economics, when he

questioned the value of GDP or individual incomes as unique and not even important indicators of development. Sen argues that "development consists in the elimination of the deprivation of freedom that limits the choices and opportunities for people to exercise their condition as agent, deliberately" (IBID, p.10). By interfering actively in the generation of value, the individual assumes this condition of agent, who for Sen (2009) is someone who acts and brings about change. There is a move from the concept of "human capital" to "human capability", expressed in the substantive freedom of individuals to have the life they wish for, being able to value and improve their real choices, such as collaborating towards the conception of the goods they would like to consume, for example. Freedom must be placed center stage, where "in this perspective, people have to be seen as actively involved – given the opportunity – in the formation of their own destiny and not merely as passive beneficiaries of the fruit of ingenious development programs" (IBID, p.71).

Interactive models, such as mass collaboration, crowdsourcing or open innovation, have been transformed into potential alternatives in the creation of value and innovation for many companies and an optional source of income or recognition for many individuals. The old ways of organization and innovation proved to be limited when faced with the level of agility, creativity and connectivity that the market demands in order for companies to remain competitive in the current environment.

Mass collaboration via digital networks is still a relatively new and obscure phenomenon, both from the point of view of its practices as well as its concept. We are far from understanding the apparent contradiction between the appearance of a collaborative culture in a highly competitive market economy environment and how this coexistence will behave in the future. Drawing a parallel with media consumption in contemporary society, where there is practically consensus on the idea of the non-division between the issuer and receiver of information, the same has been progressively happening with the producer and consumer of goods and services. The routine that precedes the launch of any new product or service includes extensive consultation with potential consumers and the so-called "product tests". Up to a point, the complexity and extension of this scenario make the consumer an integral part of the production process, which is in line with a better informed consumer who has ample access to sharing experiences and references with his/her network of contacts. But to invite the consumer to collaborate in their strategy, management and production, means that companies have to be prepared to be pioneers in making significant changes in their business model and to face up to losing control of their platform.

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