
Social Networks in the Information Economy

Rafael Rey

Department of Sociology, Faculty of Social Sciences, University of the Republic, Uruguay

Email address:

rafael.rey@cienciassociales.edu.uy

To cite this article:

Rafael Rey. Social Networks in the Information Economy. *Social Sciences*. Vol. 8, No. 2, 2019, pp. 62-66. doi: 10.11648/j.ss.20190802.14

Received: February 21, 2019; **Accepted:** April 1, 2019; **Published:** May 23, 2019

Abstract: In the present work we will analyze the role of the organizations of the information economy from the perspective of Manuel Castells, displaying a critical look around the concepts developed by the author. Although ideas such as the *company network*, the *informational economy* and the *new organizational logic* run through the work of Castells, it is in chapter 3 of Volume I, of his famous "The Information Age", where the theoretical bases are established and the most outstanding examples that would be corroborating the existence of a consistent renewed organizational culture, a correlate of the global informational economy. Castells believes that the idea of a network company represents the necessary innovative turn that business organizations had to adopt in order to face the challenges of competing within the framework of a new societal logic where the flow of information and the permanent transformation are the two key elements to consider. However, those who disagree with this approach argue that the informational economy and changes in the business model constitute a linear continuity of capitalist progress, trying to cover geographical areas with less development and achieve higher economic returns.

Keywords: Social Networks, Informational Economy, Network Company, New Organizational Logic

1. Introduction

1.1. Companies in the Information Age

Castells argues that the existence of a diversity of cultural contexts is not an obstacle to affirm that there is indeed a global informational economy and a common organizational matrix for the processes of production, distribution and consumption. When talking about organization refers to "specific systems of resources that are oriented to the realization of specific goals" while organizational logic understands "the ideational bases of institutionalized authority relationships" [2].

The central idea developed by Castells is that both the new organizational logic and technological change are the two fundamental factors for the rise of the information economy.

Following Piore and Sabel [11], he postulates that the crisis of the 1970s caused a break in the capitalist system: serial production began to show signs of exhaustion, as new organizational forms broke into the business scenario, in response to the profitability crisis. This break has four well-defined characteristics: the organization of production evolved from a *Fordism* model to forms of work generically referred to as *post-Fordism* ; Although information technologies contributed to this change, changes in the

organization of work are not a mere consequence of them, it can even be said that the latter are prior to technological change; there is a considerable increase in flexibility in production, management and marketing, and work processes are redefined, increasing automation, eliminating tasks and eliminating management positions.

When the demand becomes unpredictable in quantity and quality, the markets therefore become unstable, this factor together with the profound technological changes that inexorably progress makes the classic production systems, associated with *Taylor-Fordism*, become too rigid, the obsolete production equipment and consequently the control over the work processes is considerably difficult. Faced with this state of affairs, capitalism is oriented towards a flexible production system that is described by the experts in two different ways: as *flexible specialization* or as *dynamic flexibility*. The first of the formulations is defended by Piore and Sabel [11] and is based on the experience of the industrial districts of northern Italy, that is where what is known as industrial craftsmanship or personalized production is developed: the main idea is to adapt the work processes to the constant changes without trying to control them, offering customized products from industrial production. This readaptation is also observed in the services sector, especially in banking, which begins to operate with personalized

proposals to its customers.

Regarding the theory of *dynamic flexibility*, mainly supported by Coriat [5], he considers that changes in production systems are flexible to the extent that assembly lines in large industries are becoming more sensitive to market fluctuations. The new technologies allow to quickly reorganize the productive units to face the changing demands of the consumers. Unlike the previous interpretation, it is not that standardized large-scale production tends to disappear or rethink a model of quasi-artisan production, but that it begins to acquire the capacity to quickly adapt its standardized products to the changing demands of the market. For Castells the transcendent is the imperative need to readjust the production processes to a logic of permanent innovation and generalized uncertainty, regardless of whether this readjustment takes place within the framework of a flexible series production or by retaking certain principles of artisanal production.

1.2. From Fordism to Post-Fordism

Another of the controversial aspects of the changes that occurred in the passage from *Fordism* to *post-Fordism* is the importance that small and medium-sized companies have acquired. At this point two opposing interpretations are also observed, while Coriat (2005), among others, affirms that small and medium enterprises have been strengthened, basically due to their ability to adapt to the new context, Harrison and Weiss [7] defend the thesis that large companies are those that have continued to concentrate capital and markets. This aspect is perhaps one of the most controversial in the work of Castells [2], the underlying question is to what extent the informational economy does not contain a bureaucratic logic - vertical with large companies directing global production processes and imposing their criteria in terms of investments and production standards, or if on the other hand there is a substantial turnaround in terms of business decisions where a whole network of companies participates horizontally, helping to constantly reorient decisions on productive matters.

The conclusion reached by Castells [2] is that although small and medium-sized companies seem to be in a better position to face the continuous fluctuations of the international economy in times of globalization, large companies continue to maintain control over the production, these are the ones that determine quantities and therefore prices and trends. Anyway this is not what concerns Castells, but the general crisis of the model of traditional organization of companies, what is known as the *scientific administration* and that emerged from the hand of Frederick Taylor and Henry Fayol among others, giving way to the *new management models*, which constitute the correlate of flexible production systems.

The origins of these new management models can be traced back to the organizational experiences carried out in Volvo's Kalmar complex in Sweden and to the work models developed in Japanese automotive companies since the 1970s. Some of the characteristics of these new models are the *just-in-time system*, which consists in decreasing the available stock of the

companies, giving way to a modality of delivery of the product at the moment in which it is required by the client and with the demanded specifications. ; the *total quality*, which proposes to reduce the defects to zero and optimize the available resources through the improvement of the production processes; the *participation* of workers in decision-making around the organization of tasks, enhancing teamwork, individual and collective initiatives, the decision autonomy of plant operators, the implementation of rewards for achievements and a hierarchy flat Perhaps the paradigm of the new models of management is *Toyotism*, archetype that is usually presented as the counterpart of *Taylor-Fordism*, but Castells [2] points out that in reality this model is not originally intended to capture the adaptability of production to the fluctuations of the markets, what it does achieve is to make the work processes more flexible on the basis of boosting the initiative and the participation of the workers, thus minimizing the loss of resources, while maintaining the characteristics of a production organized around a classic business plan. In short, it can be concluded that *Toyotism* is only a variant of *Fordism* in terms of the organization of production, given that although the way of working differs substantially in one and the other, both maintain the same principles of mass production. The key is in the organization of the workforce, *Toyotism* manages to de-*specialize* skilled workers and turn them into polyvalent specialists. It is also worth noting the strength that the group acquires in *Toyotism* from the moment in which knowledge begins to be shared in the workshop, the ability to face local problems and learning in practice is strengthened through the transfer of tacit knowledge and explicit knowledge. Anyway, the impulse given by *Toyotism* to new forms of work is remarkable. Based on the Japanese experience in different parts of the world, companies begin to adopt work systems where skills are privileged over qualifications, thus opening up a whole line of business *management* thinking oriented towards the labor competencies of workers.

But the reorganization of the forms of work is not the only considerable novelty in the global informational economy, another aspect highlighted by Castells [2] about the changes that have occurred in this period is the interconnectivity of the companies. One of the ways in which this interconnection manifests itself is through the model of multidirectional networks where small and medium companies work interconnected in a scheme of mutual cooperation within specific productive chains. The other mechanism is the franchise and subcontracting model. The franchise is a mechanism through which a certain firm, usually a multinational, grants the marketing of its product to small and medium-sized companies in different parts of the world, establishing a mutual exclusivity between both, that is, and the marketing company is the only one authorized to sell the products of that brand in an established region. In turn, this company is committed to meet the commercial criteria established by the parent company. One of the first firms to use this system was the Benetton textile corporation.

Outsourcing or outsourcing, meanwhile, is established when a company decides that part of its production is

performed by a third company. In both cases, what is attempted is to reduce costs and organizational complexity, but fundamentally to establish a network organization model.

These forms of business organization are halfway between what could be a horizontal network of small businesses and the disintegration of a large corporation into a series of subsidiary production units. Castells [2] defines them as *vertically integrated horizontal business networks*, horizontality is guaranteed to the extent that each of the companies is an autonomous productive unit, but is integrated vertically into a marketing chain that achieves the necessary cohesion through precise quality controls and enhanced by the emergence of informational networks capable of easily interconnecting the entire business network that makes up a certain network production.

Although the variability of organizational models is wide and can coexist in the same company characteristic of *Taylor-Fordism* with elements of new organizational forms, it is possible to describe certain characteristics in typical ideal terms. Castells marks seven fundamental trends in the horizontal business model: organization around the process, not the task; flat hierarchy; team management; measurement of results for customer satisfaction; rewards based on team performance; maximizing contacts with suppliers and customers; information, training and retention of employees at all levels [2].

1.3. The Productive Interconnection

In the global information economy it is also possible to detect different categories of productive interconnection: business networks, networks within companies, personal networks and computer networks. However, with a highly decentralized structure, management problems begin to manifest themselves with some persistence, Castells calls them *articulation errors*: the lack of coupling between what is desired and what is available [2]. Another problematic aspect is the need to articulate the participation of workers with a necessary change of mentality. Although organizational changes and the incorporation of information technology contribute to consolidate the new management model, for Castells, without the emergence of an organizational culture, the result of the consubstanciación of all actors with the mechanisms of participation and collective decision making, it makes complex the consolidation of the new business logic capable of facing the flexibility of the new global informational economy [2].

Although the network company model presented certain difficulties for its deployment, it had an extraordinary advantage: the explosive diffusion of personal computers, the transcendent development of software and above all the consolidation of a computer network model of generalized interconnection, which won the game to the projects promoted a greater centralization of digital information.

We can conclude then that the new organizational forms that give way to the network company are the result of the dynamic interaction between the crisis of the *Taylor-Fordism* model and the rise of the new information technologies.

Network company is defined as "that specific form of company whose media system is constituted by the intersection of autonomous segments of end systems" [2]. Organizations would be successful, according to this line of reasoning, to the extent that they are able to adapt quickly to the constant variations of the global economy, flexible enough to change their means to change their purposes and adequately dynamic for capture the news in the cultural, technological and institutional. Innovating seems to be the key element of the new economic system from this perspective.

According to Ernest, there would be five types of inter-firm networks in the global economy: provider networks: integrated by companies that sign subcontracting agreements with a central company; producer networks: conformed by co-production agreements; customer networks: established between manufacturing companies and distributors as a mechanism to improve reach to end users; standardization coalitions: tending to establish global norms about a product or a production process; technological cooperation networks: interested in facilitating the acquisition of production technology through shared developments of research and accumulated scientific knowledge.

Although networks usually tend to be asymmetric, a member of the network alone is not able to impose its will, the logic of the network is usually more powerful than the powers of the network. For Castells [2] there is still power but it is exercised fortuitously.

We can conclude then that to effectively face the challenges of the new informational economy, companies are organized around inter-company and intra-company networks, appeal to information technology and plan their strategies in terms of global competition.

2. Some Questions to the Idea of the Company Network and Informational Economy

2.1. The Capitalist Business Logic

The concept of the company network has been challenged tenaciously by various authors who understand that in essence there has been no substantial change in the capitalist business logic. They consider that what is really happening is that with the advent of neoliberalism, the processes of planetary expansion of large firms have accelerated and it has been necessary to rearrange certain operating practices, but both the power and the surplus obtained by global companies, continues responding to the same logic that inspired capitalism from its inception. Let's see the interesting statements made by Naredo (1998), Gámez (2004) and Barreda (2005), critics of the concept of the company network, around the global informational economy.

The key point for Barreda [1] is to study the phenomenon of globalization, in the level of business organizations, as processes of forming global factories, all organized in the manner of a great planetary automaton. Unlike the planning of

Castells, the interpretation that Barreda [1] performs is to understand the networks of companies as real world factories, within which, effectively, the informational network plays a very important role, as Castells correctly points out, but only as a tool of control and processing of information, and its introduction would not generate a new organizational logic. This global factory could not be achieved without these networks, he points out, but the physical transport network called the intermodal network [1] would play an equally important role.

The global factory is one in which the production of a product is no longer carried out in a locality, but production is delocalized and in different geographical places all or part of a product is produced, which is then marketed in a series of countries. For the real-time connection Internet is basic. For the coordination required by the system just in time, intermodality is as or more basic than the computer networks, this is one of the key differences with Castells' approach, given that throughout the development of his work the role of the informational network in front of georeferenced networks. Corporations such as Volkswagen, Ford or General Motors, or any company in the automotive, air, shipping or textile industry, would be reorganizing in the last fifteen years in the manner of global factories, using both advances in information technology, as of the geopolitical strategies set largely by these same firms. Therefore, it is not that the global informational economy leads large firms to establish innovative strategies to survive in a changing and unpredictable world, on the contrary, it is the multinationals themselves that lead the process of global expansion and diversification of their capabilities productive, after obtaining a significant opening of tariff barriers and a rapid expansion of international trade.

Proof of this is that, in recent years, not only has there been a substantial development of the Internet and information technology, concomitantly standardized freight transport systems and signed commercial agreements that favored the expansion and circulation of factories world these last two factors have been decisive, otherwise the production process would never have been globalized. Globalization is very old, it is five hundred years old if we see it as a mercantile globalization. Financial globalization, following Hilferding [8], arises in the late nineteenth and early twentieth centuries, has at least a hundred years of existence. But industrial globalization, that is, the fact that the production process is industrially unified as a series of factories on a planetary scale, is the novelty that comes with neoliberalism from the eighties and that wrongly, for Barreda [1] it is tried to nominate as a stage that breaks with the previous.

In Castells [2] it can be said that globalization is presented in Hegelian terms, arguing that we are essentially before a globalization of messages, or a globalization of new organizational logics. What would actually be happening, concomitantly with the informational globalization, following Barreda, is a great conformation of global automata, represented by large global companies articulated through informational networks and intermodal networks as proposed

by Marx [9] in chapter XIII of *Capital*: automata are articulated in networks of automata that produce automata.

Two centuries ago, at the beginning of the industrial revolution, around 1800, globalization was essentially commercial, the location of industries was mainly concentrated in Europe. One hundred years later, the external or peripheral zones of the system had diminished, the industry had spread to North America, it was the golden age of the British Empire, and there were connections between commercial areas through steamships, with coal as a technological standard and the laying of telegraph cables as intercommunication networks. Not only merchandise was exported, but, as Hilferding [8] already pointed out, it was also capital: it was a financial globalization. By the year 2000 there are no longer any areas of the planet that can be considered external, no area is intact: in the Northern Hemisphere, a large industrial belt has been established in three large nuclei: North America, Europe and Japan.

This integration has as a correlate a powerful network fabric. Those networks were originally rail networks that were built around the planet. They were developed mainly in the second half of the XIX and beginnings of the XX, basically they are concentrated in Europe and in the East of the USA. In the rest of the world they did not prosper much, except in the regions where the English had a certain commercial presence (India, South Africa, and the Rio de la Plata). These networks stopped their development when capitalism changed its technological pattern, from coal to oil, the new transportation networks that now predominate are those of automobile transportation. The contrast is remarkable, with oil the automotive industry develops, which in turn enables an extraordinary mobility of goods and services in a much more dynamic and flexible way.

2.2. Companies in the Information Age

Throughout the twentieth century we see that capital has been weaving networks of networks, and not only informational networks, which Castells [2] talks about, such as the fiber optic cable network (physical networks), more recently, or the satellite networks that surround the planet in three layers. There is a physical fabric of networks, installed and promoted by leading global companies in different segments and that are not necessarily the consequence of the irruption of the global information economy. While the economy is flexible, essentially through processes such as outsourcing or outsourcing of activities, what these authors question is that the entire global economy becomes services and dematerializes. Capitalism has produced important rearrangements in the last three decades, but it cannot be said that it has become immaterial. Quite the opposite: we have a hyper materialized capitalism that weaves physical networks that serve as support to other networks, as it has been doing for more than two centuries.

Beyond the proposal made by various theorists of globalization, including Castells, public policies around the world what they talk about is to organize and promote the places where the great corridors of the global economy will be installed and how to influence so that be in one region and not

in another. In short, try to influence the decisions that determine where the processes of capital accumulation are directed. Not in vain the governments of the region try to close investment protection treaties with nations that eventually have capital or companies willing to relocate their production. In short, these are plans to reorganize the physical fabric of network networks.

Authors such as Benjamín and Veblen [14] already saw that trade was called to replace war as a means of appropriation of wealth in the world and that the instrument to exercise it would be, according to the latter, the current nomadic business model. But to achieve this fully, we had to wait for the current telecommunications revolution to end the so-called transport revolution that began in the last century. At the same time, the idea of the market as a panacea gained new strength and that the markets were in fact extended over the States [1]. Now, what is the basic unit of economic organization: the subject, the company, the State, the capitalist class? For Castells, the unit is the network, made up of diverse subjects and organizations, which is constantly modified as it adapts to the environments that contain it and the market structures [10], for Barreda [1], Gámez [6] and Naredo [10] is the nomadic company, the postmodern company or the global factory. That is, business organizations that maintain intact the logic of vertical integration and have little to do with the horizontal structure that supposedly emerges with the information economy.

3. Conclusions

To what extent an alleged network structure does not hide a strategy to broaden the power of a company and only one, is one of the remaining questions. Or seen from another angle, the flexibility of the informational economy and the need for constant innovation, in effect, have led to the emergence of a system of network organization capable of dispersing the power concentrated by the large firms and thus expanding the spaces of participation of small and medium-sized companies and of the subjects themselves in the promotional and marketing chain? Participation in decision-making by workers is definitely a mechanism designed to better adapt to these market fluctuations and at the same time enables more effective organizational functioning than vertical integration, or is a simple smokescreen to continue controlling the processes and the markets?. The answers to these questions constitute an open ending, where each theory will continue to observe events in different ways. If the informational networks allow to generate greater labor autonomy or on the

contrary they are a renewed mechanism of vertical integration, it is perhaps one of the most controversial aspects of the approach of Manuel Castells in "The Information Age". It should be observed in the coming years if production network effectively broadens the range of participation in global production chains or conversely large multinationals continue its successful strategy of global integration and anything that is placed outside these will count as a viable alternative.

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