

Flexible Work Model Based on Autopoiesis Principles: A Case Study

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Abstract

This article presents definitions on flexible work and presents the case study of a company in which its model is based on the principles of autopoiesis, having as main characteristics flexibility and autonomy in the accomplishment of work. Firstly, through bibliographical research, it is possible to observe that the evolution of new work formats challenges the conventional model of fixed physical offices and defined schedules, which are models adopted in the organization of work in the industrial society. Autopoiesis is also presented, which, although it is still in a process of theoretical evolution and application in other areas, brings the original contributions of biology to justify the possibility of implanting models that consider the autonomy of individuals in self-management and self-production, allowing the work in a flexible and autonomous manner, consistent with the demands of a knowledge-based society. Lastly, the case study presents a model that uses the principles of autopoiesis to form an organization that has flexibility as the main characteristic in the accomplishment of work, based on individual autonomy. The contributions of this study point to the need for the labor market to accept new models and formats that intend to meet the demands of individuals regarding the organization of work.

Keywords: Flexible work; Autopoiesis; Organization. Knowledge.

1. Introduction

When analyzing the organization of work starting from the Theory of Scientific Administration, which began with Frederick W. Taylor (1856-1915), it is possible to observe that work had, as its main focus, the increase of productivity. For this, methods and systems that anticipated rationalization, fragmentation, hierarchization and standardization of the work were employed, and the study of time and movements was applied in order to improve efficiency (Matos & Pires, 2006).

Still regarding the Scientific Administration, Chiavenato (2003) states that there was the presupposition that the employees were passive, that they received and executed orders, but were incapable of taking initiatives, with the objective of maximizing production. The focus of the work was on workforce, on the physical force applied in production.

Analyzing the work in the post-industrial organization, De Masi's (1999) view points to the requirement of an organization where information and the exchange of tasks are disseminated, maintaining the validity of

the specialization, provided the work, in this scenario, is multidisciplinary.

One of the elements that must be considered in the organization of work is the change of focus on the factor that generates value in the productive processes. According to Dos Santos (2005), the world is in the “knowledge economy” era, which is based on knowledge as a factor that generates value, productivity and economic growth, and not just capital and labor, as they were in the industrial society.

Thus, since knowledge has taken the place of the workforce, it is understandable that new models of work arise to meet the needs of generations that produce knowledge and that can produce it regardless of the time and place, bringing flexibility to the work, regarding time and place, as characteristic of such new models.

Social and demographic shifts also need to be considered in the organization of work. Fursman and Zodgekar (2009) point to changes such as the greater involvement of families in child education, the higher number of women in the labor market, and the new family forms, such as single parenting, among other aspects, as influencers for the creation of alternatives of flexible work.

Therefore, the movements that understand work flexibility as alternatives for a restructuring of work organization can occur in an isolated or in a propositive way in organizations. As a rule, such movements come either from the gradual change of the organizational culture, or from the appearance of new organizations that are already born with the purpose of promoting the accomplishment of work in a flexible way, and, in this condition, the knowledge of the individuals is considered to be the main factor that generates organizational value.

With the proposal to be a model based on autonomy and flexibility regarding the work format, Alfa – a company founded in 2013, which is studied in this article – provides services in the area of communication, innovation and strategy. The organization has a distributed self-management model, without centralization of power and with member autonomy, appropriating autopoiesis to shape its business model, which applies flexibility to carry out the work, among other peculiar characteristics.

In order to understand autopoiesis, it is important to know that its origin is biological and was presented by Maturana and Varela in the mid-1970s. In its conception, autopoiesis had as its main definition the ability of living beings to produce themselves (Calgaro & Pereira, 2010).

Over time, following the conceptual evolution, autopoiesis received contributions from other areas, being extended to the social and psychic systems through Niklas Luhmann, respected German sociologist, being one of the most important researchers of the social sciences in the 20th century (Kunzler, 2004).

In this context, where there is a shift from an industrial society to a knowledge society, with the consequent impact on labor relations, the research problem arises: In the knowledge society, is it possible to apply models that enable work on a flexible manner, ignoring the premises of the industrial society, especially regarding the time and place being pre-defined and determined?

To answer the question, the objective of this article was defined as follows: to research the relevant concepts about flexible work and present the case study of a company that has a model based on the principles of autopoiesis.

2. Theoretical Foundation

2.1 Flexible work

Knowledge has taken the place of physical strength and of workforce as the main value aggregator in the productive processes, characterizing the knowledge society. In such a society, the organization of work starts to rely on knowledge and not only the strength of the workforce to add value. Drucker (1993) recognizes this movement as an evolutionary process that requires the use of knowledge as a factor of productivity:

"When Taylor began to study the work, nine out of every ten workers did manual labor, producing or moving objects; this was done in manufacturing, agriculture, and transportation. (...) Forty years ago, in the 1950s, people that engaged in producing or moving objects were still the majority in all developed countries. In 1990 they had shrunk to one-fifth of the workforce, and by 2010 they will be no more than one tenth. The Productivity Revolution has become the victim of its own success. From now on, what matters is the productivity of non-manual workers. And this requires the application of knowledge to knowledge" (Drucker, 1993:20, translated by the author).

Corroborating the view of Drucker (1993) on the evolution of knowledge in the productivity revolution, Wiig (1993) argues that knowledge has become the main asset of organizations, including the perceptions (insights), understandings and know-how that belong to the individual.

Given the characteristics of the knowledge society, organizations need to dedicate efforts to organizational modernization in order to remain competitive and to meet the demands of this new society. The changes generated by the knowledge society go beyond the traditional factors of production, and involve also the need to identify and manage the knowledge of the people in organizations (Rossetti et al., 2008).

In this context, the work relation between organization and individual needs to be understood with the view that the individual earns an important role of generating, managing and storing part of the knowledge that will be used strategically by the organizations. Therefore, it is up to the organizations to understand the real needs of the individual as a value generator for organizational strategy.

Despite the theoretical understanding that it is necessary to update the concepts and practices regarding labor relations in the organizations, Sparta (2003) believes that the post-industrial society uses a discourse that defends the quality of life, but in reality still maintains the bonds of productive processes.

For De Masi (1999), despite work being essential and ennobling, it is not possible to see workers with cheerful expressions as they work. In order to justify and highlight the need for changes, the author points out eight pieces of accusation against the current organization of work, among which is the workplace and the counted time.

Thus, the author questions the work environments, which in many cases still appear to be those of 100 years ago, with heat, dust, dirt, discomfort. Despite the technological inventions that facilitate communication, millions of employees still move daily between home and office in search of information, rather than information being sent wherever individuals are (De Masi, 1999).

Counted time is another relevant piece of accusation, because despite all technological evolution, time models computed by day, week, month, chronologically planned without regard to human evolution and human availability for work persist. The intellectual production that happens at any time, generated by the

self-employed professionals, managers, leaders and knowledge workers has been increasing and yet the companies assess the quality and quantity of delivery according to the time that is measured and dedicated by the worker. Thus, the author points out as a solution mainly the work done at home or elsewhere, which reduces the time of commute and increases the quality of the work, which is referred to as telework (De Masi, 1999).

Goulart (2009) explains that flexible work has a broad concept and it is possible to observe some practices and different models, such as Home Office, which is the individual working at home; Virtual Office, where work is disassociated from defined place and time, but needs the necessary resources to work, such as laptops, cell phones, wi-fi and other specific tools; Telework (Telecommuting), which is when work is taken to the worker, instead of the employee having to move to the defined work environment, which may occur partially, some times a week or fully.

Regardless of the characteristics peculiar to each format, the general concept is in the change of the work having to be executed necessarily in a certain space and time. This shift has occurred over the years, following the evolution of technologies and the behavioral changes of society. However, it is important to consider that, since not all professions are systematically linear as on a production line, not all jobs can be performed outside the organizational environment.

Considering an environment where it is not possible to separate the dimensions of work and private life, following the models implanted in the Industrial Age, Sakuda and Vasconcelos (2005) highlight the great challenge of integrating the search for balance between work and personal life, considering that the division of time does not necessarily meet one or the other separately. Many personal issues occur during the time devoted to work, much in the same manner that work can be present during the time devoted to personal life.

Tachizawa and Mello (2003) recognize that a significant change already is occurring in organizations, and mainly involves the issues of space and time where the work is done. The workspace is no longer a physical, tangible, and defined unit, where employees arrive at the designated time. This change is due to the contact with telework, which is executed anywhere and through the use of technologies.

In Gratton's (2013) view, the work performed outside the traditional corporate environments is called virtual work and is divided into three waves, each one emerging as a result either of the needs pointed out by the workers, or of the demands of employers, considering new technologies of communication and collaboration. The first wave began in the 80's, with work being done at home by so-called freelancers. This wave is characterized by the highly specific work of these professionals, and generally meeting the personal needs of those who could not leave their homes to work.

The second wave arose from the employees' desire to feel socially integrated with other professionals, as well as the need to enjoy the benefits that the traditional work model employed, but which the independent model had to give up: health care, career, equipment, technical support and others peculiar to each company. On the part of the organization, there was a need for the then virtual employees to engage with the purposes and values of the firm. In this wave, the structure of the company loses relevance and is replaced by mobile technologies and cloud computing (Gratton, 2013).

In the third wave, the companies needed to resume teamwork, to intensify coexistence, in order for the

latent knowledge to be shared, a process that was impaired in models of remote work. On the part of the worker, the restlessness was in social interaction, in the sense of community. Then the shared offices appeared, with a process called coworking. In these spaces, working hours are flexible, social interaction occurs with other professionals and because there is a wide range of coworking spaces in the market, it is common to find options that are located near the employee's home, thus avoiding the often exhausting commute to the workplace (Gratton, 2013).

It is possible to observe that labor relations have already been adapted by demands pointed out mostly by individuals themselves, creating work formats different from those practiced for decades, which were based on the production line of the industrial age. However, it is up to employers and individuals to identify the needs of companies, as well as to know the profile of employees to find the ideal model. Table

2.2 Autopoiesis

Of biological origin, autopoiesis is a concept presented by Maturana and Varela in the middle of 1970, having its origin in a search for answers to some questions about biology and philosophy of life (Calgaro & Pereira, 2010).

Maintaining the original definition through the view of biology, Maturana and Varela (2007) define that living beings are characterized as an autopoietic organization because they are capable of producing themselves, as well as producing themselves in a continuous fashion. The authors also state that autonomy is one of the most immediate properties of the living being, which is also what characterizes the autopoietic system. In other words, an autopoietic system is autonomous, self-producing and capable of autocorrection. However, the biological view of Maturana and Varela in the 1970s was only the beginning of the definition and use of the term autopoiesis. Despite the richness of the definition, it is understood that applying the original concept of the term in the study of the social sciences, without examining the definitions and unfolding of other authors, is somewhat limited. Therefore, it is important to understand the evolution of the term and its application in other fields of study, beyond its biological origin, especially with the evolution of the theories in the scientific world.

When inserted in a knowledge-based approach, such theories reflect a world model, the perceptions and values of that historical and social context, ie, they represent the language used to dialogue with the world, through a certain perspective, of a scientific paradigm. Then, a given paradigm can be expressed by different languages (Correa et al., 2015).

In this context, we seek to understand autopoiesis beyond the biological perspective of Maturana and Varela, since the term was adapted and used in other fields of study, such as in sociology. One of the authors who contributed the most to the advancement of the concept of autopoiesis was Luhmann, who presented other types of autopoietic systems, considering living, psychic and social systems (Rodrigues, 2012).

Kunzler (2004) considers that Luhmann brought from biology the view that autopoietic systems are capable of reproducing themselves, but extended the concept to areas of sociology and psychic systems, where he considered that the production is performed internally with the elements that make up the system, and in the case of social systems the element is communication, and in psychic systems, thought.

For Calgaro and Pereira (2010), the definition of autopoiesis by Maturana and Varela was an attempt to answer some questions of biology and philosophy of life, and Luhmann's use of the theory in sociology amplifies in such a way its application, that it can be considered a theory of autopoietic systems, enabling its unfolding for other areas. Luhmann freed the term from its origin associated with living systems and elevated it to an overview of systems.

Thus, it can be said that Luhmann's studies are consistent with the origin of the term autopoiesis, maintaining autonomy and ability of self-production as the main characteristics. However, the definitions came to be applied mainly under the optics of social sciences, extending the use of the term systems for purposes other than only the biological model, which allows it to be applied in other studies.

Calgaro and Pereira (2010) affirm that the theory of autopoiesis foresees an organizational enclosure, a self-referential closed system, by the fact that the autonomy of each organism derives precisely from a unit of its own organization.

Rodrigues (2012) understands that autopoiesis characterizes the system that self-references and self-produces, being seen as a closed system from the point of view of internal operations, but always operating in the midst of an environment that surrounds and feeds it.

Capra (2006) observes that the environment in which such systems are inserted is responsible for feeding, which through interactions with the environment provides tools and elements necessary for production, but without affecting autonomy, without directing or steering, only feeding.

Schatten and Bača (2010) provide a critical review of autopoietic theory, and find that, even in the face of much scientific research, there is still a need for consensus that builds a common ground of study. The authors' analysis broadens the visions beyond biology and sociology by bringing the autopoiesis approach to the point of view of biology, sociology, organization theory and information systems. They suggest the main contradictions and incompatibilities, which are devoid of further studies and definitions, and that can be applied to any system considered autopoietic, being it living, social, or organizational: 1_ The reproduction of structure (components), 2_ preservation of organizational identity (of the system), 3_ structural coupling, 4_ the life cycle of the system and of its dynamics (birth, evolving, reproduction, aging, death), 5_ distinction between structure and organization, as well as 6_ operational and organizational conclusion.

Bringing this view to organizational structures, it is understood that human beings who occupy their functions as collaborators are systems that, through autonomy, can be responsible for their own expected output as a result of organizations, as well as for the very production of the elements of the system, but not isolating themselves from the environment in which they live, since they seek in the external environment elements for their self-production.

However, like all theoretical constructions, autopoiesis is evolving, being applied and studied under different paradigms and worldviews. It is up to scholars to extract the pre-existing concepts as a primary basis, but seeking improvement with the inclusion of new definitions and their applications for corresponding purposes.

3 Methodology

The method used was the bibliographical research, which sought to answer the research question from the study of articles, books, theses, dissertations and other scientific publications. According to Cooper (1998), the bibliographical research seeks to integrate the contents captured from other authors, criticizing previous works, building links between related themes, as well as analyzing and identifying the central ideas of a particular study, being able to do this alone or all these actions at the same time.

Complementing the answer to the presented research problem, the case of the company Alfa was studied. The reported information about the firm was obtained through an open interview applied to the founding partner, as well as consulting the company's website.

It is important to note that the names of the company and its partners have been changed to fictitious names, in order not to reveal the real identities.

4. Case Study

Knowledge society requires dynamic and rapid adaptations, such as individuals adjusting to the market, or the market having to offer alternatives that meet the new needs of individuals. If, on the part of workers, there is a tendency to seek flexibility in the performance of work in the face of social changes, on the part of entrepreneurs there is a challenge for creating and offering models of work that meet these needs, in order to attract and retain talent. Both with knowledge as a factor that generates value.

With the proposal to meet the objective of this work, this third part presents a case study. The company which was studied has a work model based on flexibility regarding the hours and the place to perform the work, as well as on the autonomy of individuals. These two characteristics are based in the presented concepts of autopoiesis, which inspired the founder of the company. They are also consistent with the changes in the organization of work, which are necessary as a result of the transformation of the industrial society into a knowledge society.

The company Alfa was originally created in October, 2013 by professionals John and Mary. Both accumulated more than ten years of experience in consulting and agencies in the areas of planning and strategy. In the beginning, the business model followed the conventional standards of a company, with a staff still reduced to three employees, a headquarters in which the office was located and the work processes that also followed conventional wisdom, including payroll, an eight-hour workday, and a customer portfolio to be met.

4.1 Model based on autonomy and flexibility

The change of model happened with a practical provocation, when a candidate interviewed by John to join the workforce proposed a model of work in which he would be available only for six hours per day, as well as he would do the work in his house, without commuting to the office. The offer made by the candidate, which was not initially accepted by the partners because it did not fit into the policies of the company, coincided with an issue that was relevant and caused some discomfort from the standpoint of the founders: the projects that Alfa proposed to deliver to its customers were innovative, requiring creativity and

unconventional models to seek solutions and responses to customers. But, at the same time, the work model of the company itself was not flexible, creative and innovative, but rather traditional, rigid, conventional, just as the common labor market. With these questions, the founder of Alfa was faced with a desire to also have greater flexibility of time and place to carry out his own work. This situation created all the questions about the current work model and, in August, 2014, on the initiative of the partners, there was a change from a conventional model to a model that could be flexible and adaptable to the needs of the work teams. However, before making any decision that would impact on the day-to-day of the company, as well as on the format of a new work model, John reports that he sought models practiced in the market, in order to find something that could be replicated or that could be at least an inspiration. He cites some of the formats he studied, which are trending in the market, bringing to each model his point of view regarding the positive and negative factors:

- Freelance: it presents flexibility, but with low commitment of the professionals, which are involved in extremely punctual deliveries.
- Partnership: it has a high commitment, because the partners themselves respond for the results, but with low freedom, since reporting to the other members for all decision making is required.
- Model of holocracy: it has a lot of autonomy, but it maintains the figure of the owner in which it formalizes the existence of hierarchy.
- Business model of the company called Patagonia: a sporting goods company that has adopted an exclusive model of community-based management, marked by a sense of belonging and a high degree of involvement with company values. However, this model presents low scalability as the organization grows.

Despite the innovation of such models, the search was still for a work format that presented flexibility of time and place, but maintaining the commitment of the teams, with a sense of community and belonging and with a lot of autonomy. None of the studied "ready-made" models addressed these issues, which had become the driving force behind the creation of an innovative and flexible working format.

The sources that have brought in the necessary insights for the creation of the new operating model used in Alfa came from the concepts of Maturana and Varela (1974), with the definition of autopoiesis cited in this article, which originally has its root in biology in the mid-70s, and was later reinforced by other authors, also receiving the contribution of Capra (2006). Both authors are cited by John as inspiration for creating the Alpha model of activity.

Thus, with the understanding of the concepts presented by the aforementioned authors, John defined his management model as an autopoietic entrepreneurship, and conceptually the changes followed some previously defined principles:

- The principle of Common Goods, which provides the view of sharing, construction based on networking, and collaboration considering the common good of all involved.
- The second principle is that it would be an open model, in which entering and leaving the projects could be a reality, as long as there was alignment with the principles, the culture and the company proposal.
- Another principle that guided the model was that of distribution, ie, without hierarchy or definition

of leadership, and no centralization of power.

- The freedom to act in other projects, as long as it does not jeopardize assumed deliveries, represents another guiding principle.
- And finally, the collaboration, treating the projects as a result of work done in teams, together.

4.2 Practical Changes

The first change suggested was the extinction of a headquarters to carry out the work. The office ceased to exist and the employees were invited to work by projects. Payment was also changed and the proposal was that the partners would receive a higher percentage on the revenue generated by the team, as a way of compensating the property of the company and the responsibility over its creation. Therefore, without an office, the teams were organized over projects, and the partners were rewarded with a higher percentage because they officially represented the company's owners.

However, the rule regarding partner payment still caused discomfort, which was not yet acceptable in the idealized model. The image of leadership represented by the partners caused the centralization of decisions, and the principle of autonomy did not exist. Another change was necessary: leaving aside the higher wages of the partners in all projects. Thus, a model that allows for maximum autonomy, sense of freedom, flexibility and the power of the collective union has been implemented.

4.3 What is Alpha, after all

The company is classified by its founders as a shared organization, which provides services in the area of communication, innovation and strategy. All members collectively undertake projects in a distributed self-management model, in which there is no centralization of power and hierarchy.

4.4 About the brand and company constitution

Alfa is not registered as a brand, because the goal is for it to be perceived as a "common good" of all those who participate in it through its projects. Conceptually, the brand is considered to be a temporary property of all those who are collectively working with it at any given time. Alfa is an organization without its own CNPJ (the Brazilian federal business registration number), there is no legal constitution through a company name or a CNPJ. It consists of all individual CNPJs of its members. Therefore, it can never be bought by a person or company.

4.5 The work dynamics

The professionals themselves are responsible for prospecting clients and projects, for the formation of the team, the schedule, the result that will be delivered, and for the dynamics in which the project is developed. The person that prospected the client and the project receives a commission bonus of 10% on the total value of the project, as an incentive to acquire new clients, as well as a form of recognition. The remaining total revenue is equally distributed among the professionals who worked on the project. Because it is a model based on self-management, there is no definition of positions or hierarchy. But there is a sense of belonging and responsibility for deliveries, regardless of who prospected the project.

Meetings are held every two weeks in order to maintain contact between members, keeping everyone informed about the clients and the progress of projects. The meeting place, the organizer and the topics to be discussed vary with each meeting, again without a defined hierarchy. Communication technologies like WhatsApp and Facebook are used for sharing information and content, as well as for communication between members.

The operating and common costs of the members are maintained by a monthly fee, which has been set to cover Alfa's regular communication costs. Also, 3% of the revenues of all Alfa's projects is also destined for the common good of the organization, being managed by common agreement among the members.

4.6 Other relevant informations regarding the model

Alfa can not be considered a network, nor a model of work of professionals who act as freelancers, working punctually for unique projects. The idea is flexible, but it requires commitment and dedication of time, and there is a process in order to be accepted in the group. All who are part of the group are considered entrepreneurs of the business, people who intend to expand activities, prospect new projects and generate revenue for the group. If one of the members accepts any proposal for formal work in another company, it is necessary to leave Alfa, as this commitment calls into question the willingness to endeavor collectively with the other members.

4.7 Negative points of the model, from the point of view of the founders themselves

For the partners, there are not only good points. There are issues that require attention and care so that the model is not weakened exactly on such issues. One of the points that were raised is the tendency for loss of control, precisely as a result of lack of centralization. Because there is no leadership and hierarchy, it is necessary to trust the collectivity to make things happen, but there is a risk that they will not happen because there is no single direction. But despite being a point of attention, it is a characteristic of organic, decentralized and horizontal models.

Another issue that deserves attention is maintaining the commitment and motivation of all members in an autonomous way, as each one is responsible for the results of everyone, for attracting new clients and projects, and for delivering results.

In addition to presenting the work model of the company Alfa, the description of the characteristics and practices is intended in order to place the model at the disposal of new studies and adaptations, in order to be considered as an alternative to organizations that want to adopt new forms of work in a sectoral, partial or integral manner, based on flexibility and autonomy.

5. Final Considerations

With the bibliographical research on the terms flexible work and autopoiesis, and with the presentation of the case study, it was possible to achieve the objective of this article, which is to research the relevant concepts on the respective themes, and to present a work model based on flexibility and autonomy, which differs from the basic premises of the work organization in the industrial society.

The reading of articles, books, theses and other publications made it possible to conclude that there is a

movement occurring on the part of individuals, based on the changes generated by the transformation of the industrial society into a knowledge society, and by the search for models of work that present greater flexibility and autonomy. Such changes also become relevant from the point of view of organizations that need to adapt to new needs in order to remain competitive.

The case study is based on the principles of autopoiesis to create a model that considers as basic pillars the common good, an open and distributed model, with freedom and done through collaboration, while the fundamental concept still focuses on autonomy, self-management and self-production. The presentation of this model is not intended to cause a radical change in the organization of work, as it has specific peculiarities of the activity for which it is intended. On the other hand, the appropriation of a concept that is still evolving and presents divergence among scholars, such as autopoiesis, is something of boldness. However, the Alfa company model can inspire the creation of other companies that have the same purpose, depending only on an adaptation to their own reality. One can also use autopoiesis as a theoretical reference, making the boldness of appropriation a provocation of thinking, in order to construct new developments, enriching the theories and proposing new practices.

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