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Identification and characterization of national and international Meta-Organizations related to the industry

Abstract

This paper proposes to identify and characterize national and international Meta-Organizations (MO) that operate in the industrial sector. Through the identification and characterization of some MO, it will be discussed such topics as, the functioning of Meta-Organization, its different forms of structuring, levels of stratification, as well as the relationship between members, among others. Through its characterization, based on the analyzed cases, it is possible to observe that, in terms of innovation and in the industrial sector, there is a tendency for the type of Meta-Organization structure used, all of which adopted by an open co-owner model (or managed ecosystem). After characterization, it was then allowed to understand the importance of Meta-Organizations in the economy, as they promote greater business competitiveness, using business mutual assistance, resulting in a constant evolution and development of new technologies and sustainable and profitable processes.

Keywords

Meta-Organization; Organizational Structure; Interorganizational relationships, Industry

1. Introduction

Currently, on a global scale and in all types of industries, organization have grown substantially and it is observed that there is an evolution at the structural level, from the primordial concepts taken as ideal in organizational terms, to the structures known and used in the day-to-day.

This way, there is an autonomy of organizations in relation to their management; some based on existing models, other innovating and trying to implement other new successful models, both in order to meet the demand for the products/services they offer. These more or less conventional approaches are necessary, so that organizations can survive and adapt to the competitive market installed in the industry, regardless of the sector in question.

Given the known management models, can it be said that there is an ideal model? Are Meta-Organizations the next step for organizations to take, in order to be successful in a competitive market?

This paper is intended to identify some Meta-Organizations and to characterize them based on the possible structure, in order to define a model that will most easily adapt and succeed in the industry.

2. Meta-Organization definition

Nowadays, organizations govern their structure in order to achieve the best possible efficiency and performance, according to their information processing capabilities that support decision making in management (Richter, Schlaegel, Midgley, & Tressin, 2019). (Selznick, 2011) argues that an organization is defined as a system that combines the strengths and activities of two or more people, through the delegation of tasks, in order to achieve the fulfillment of a previously defined objective. This also applies to Meta-Organizations (MO).

Meta-Organizations can be defined as high-level organizations (H. Castro et al., 2013) that currently presents a vast growth in number with the evolution of the industry (Ahrne & Brunsson, 2005). According to Ahrne & Brunsson (2008), MOs differ on a fundamental issue from traditional organizations, stating that the member of the organization have a possible influence on decision making in the organizations of its member, whether they are member, organizations or individuals.

The appearance of Meta-Organizations refers to the need to adapt to the environment, implying that organizations with common goals, ally themselves in order to overcome their individual difficulties, which would become much more difficult to surpass whilst achieving it as a standard company, thus aiming this way to become more sustainable organizations (Spillman, 2018).

2.1. Meta-Organization Members

In actual society, Meta-organizations are founded in order to treat their members as autonomous societies (Kerwer, 2013), allowing their members to be identified as entities/organizations (Heloise Berkowitz, 2018)(Ahrne & Brunsson, 2005) or individuals (Gulati, Puranam, & Tushman, 2012); being all of them an external entity to the organization. Regardless the type of members, it is assumed that all are treated as independent and autonomous actors, since every member are equally treated (Hélio Castro, 2018).

The members equality is a recurrent topic between this type of organization that is always aimed to be fulfilled, however, it may not always be seen, becoming a problem, due to the members intrinsic characteristics (e.g. their scale or type of structure). This kind of members may come to present a more influence power than the remaining member. Although the larger scale companies make the organization more attractive and sustainable, it is wanted the equal participation of the smaller companies since they also have potential for the organization growth (Hélio Castro, 2018).

The entry/departure of the members to the MO is completely voluntary, as they can't be bought to join, and only should do so, free-willed and if they can relate to its mission and see advantages to their development (Hélio Castro, 2018)(Lemyre, Pinsent, Johnson, & Boutette, 2010). Once the members have clear their mission and the type of technology/support that they need, they can aggregate to either MO focused on trading/selling products or services (Spillman, 2018) (known as sectorial organizations), or to MO based on development of new technologies, intergovernmental organizations (Nielson & Tierney, 2003), innovation or investigation (known as thematic organizations). Since the members are able to join or leave MOs voluntarily, there is always uncertainty about their future, which can impact projects in a negative way, as also, give insecurity to both parts. One possible way to prevent this case to happen, is recurring to a contractualization process between the Meta-Organization and its members, to clarify the tasks that should be done during the duration of the contract (Ahrne & Brunsson, 2005). Due to the possibility of the existence of gaps in those contracts, it is already being studied a theory of incomplete contracts (Hart, 2017), which allow the MO to add new clauses to the contract to secure their members from unpredictable situation that might occur.

2.2. Meta-Organizations Structures

The structure of an organization can be created in several different ways. However, the rapid evolution of society and markets today create instability in companies if they are unable to adapt their products/services, that is, if they are unable to innovate in order to remain sustainable. In the scope of MOs, these can become an asset in this field, since it allows organizations to exchange values and expertise, cooperating to be possible to achieve sustainability more easily for both sides, also contributing to mutual innovation.

In order to achieve a sustainable innovation in Meta-Organizations, there shall be considered seven main attributes (Heloise Berkowitz, 2018): the risk anticipation (Stilgoe et al., 2013), flexibility (Stilgoe et al., 2013), accountability (Lemyre et al., 2010), resilience (Stilgoe et al., 2013), reflectivity and responsiveness to decision making (Stilgoe et al., 2013) and inclusion (Boström, Jönsson, Lockie, Mol, & Oosterveer, 2015). These attributes allow the Meta-Organization to easily adapt to changing environments, by identifying threats and opportunities (Heloise Berkowitz, 2018), to give members a wider response to their stakeholders, as well as sharing information and experiences between the members (Héloïse Berkowitz & Bor, 2018).

Based on the attributes mentioned on the last paragraph, the organizational stratification have three possible approaches: the internal analysis from the cluster, having its focus on the main company, highlighting the technology type, its goals, as well as the strategy and internal structure, trying to predict the impact and the performance it is going to have in the industry; The analysis of interorganizational relationships, having in its focus the relationships between the members according their character, origin, rationality and still having different interests (Chaudhury et al., 2016); And the analysis based on networking, emphasizing the documentation and the relations between the members, aim to analyze from a virtual structure that establishes the organizations activities, however, this last approach still is a concept (Chaudhury et al., 2016).

A present peculiarity in Meta-Organizations, is the fact that they do not have an idea structure, i.e, their structure is moldable, varying according to the decisions to be taken and objectives, however, some procedures must be included in order to connect all members (Chaudhury et al., 2016). The type of stratification of organizations and the limits (or borders) existing between members, are two aspects that be properly analyzed, taking into account the surrounding environment and the objectives to be achieved, which are therefore uncertain. These two dimensions, in terms of stratification, can be identified as organizations of high or low stratification, indicating respectively, whether the model is managed hierarchically or heterarchically; While in terms of limits between MO members, they can be assessed as open or closed, managing members to create identities with other actors, and the differentiation of organizations with others (Gulati et al., 2012).

In today’s society, new challenges are seen in a daily basis, and in order to be able to overcome them, MOs must investigate case by case to facilitate their adaptation in the environment and enable the resolution of their problems. Given the two dimensions for the organizational structures, interconnecting them, it is possible to determine four different models (Table 1):

Table 1. Possible Meta-Organization Structures

META-ORGANIZATION STRUCTURES	High stratification	Low stratification
Open limits	Open Co-owner / Managed Ecosystem	Open Communities
Closed limits	Owner	Closed Co-Owner / Closed Communities

3. Identification and Meta-Organizational Characterization

Over time, it is increasingly possible to identify Meta-Organizations that promote both fair competitiveness between companies, as well as the evolution of the industry. In a first instance, MOs can easily be identified due to, in most cases, they are non-profitable organizations, whose main objective is the sustainability and promotion of its members, making them competitive in the market.

For this paper, there were identified and characterized seven Meta-Organizations (being four of them located in Portugal and the remaining three internationally). These MO were divided in two major groups, the sectorial organizations and the thematic organizations, according to the sector of activity of each one of them. It is intended to evaluate the most successful model of Meta-Organizations in the industry, and for that, it was analyzed their structure (the type of stratification and borders), what they offered to its members to promote

their competitiveness, their mission and objectives, its constitution and the industry that they operate (Table 2). As case of study, the Meta-Organizations used as models were: AIMMAP, APMI, COTEC, EFFRA, EIRMA, EPTDA and PRODUTECH.

Table 2. Characterization and comparison of analyzed Meta-Organizations

Characteristics	Structure				Members	
	Stratification		Limits between members		Type of MO	
	High	Low	Opened	Closed	Sectorial	Thematic
AIMMAP (Metallomechanics and Metallurgy)	X		X		X	
APMI (Industrial Maintenance)	X		X		X	
PRODUTECH (Production Technologies)	X		X		X	
EPTDA (Power transmission and motion control)	X		X		X	
COTEC (Innovation and Entrepreneurship)	X		X			X
EFFRA (Innovation and materialization of factories 4.0)	X		X			X
EIRMA (Innovation, Research and Development)	X		X			X

According to the study made, it is clear to see that a specific model stands out between these successful MO (managed ecosystem), either in sectorial or in thematic organizations, being this model based in high stratification, i.e. using hierarchy in their management, and recurring to opened limits between members, allowing their member to join more than one project or MO in order to attain more experience that could be valuable for the Meta-Organization. By having these data as support, it is possible to claim that the managed ecosystem should be the chosen model to operate in the industrial sector. However, besides this management system, in order to the MO can stand out in the competitive market, it should have a well-defined mission, as well as having the sector that it want to ingress well-defined.

In order to Meta-Organizations can grow in the industry, by having a sustainable development, they need to have present three main characteristics and resources: the innovation, continuous research and development of new processes and technologies, the internationalization of their members and the Meta-Organization itself, as well as the cooperation between its associates, and these must be included in the projects (Figure 1). Noticing that the entry of a new cluster to the industry might be tough, the Meta-Organization must be resilient and flexible to adversities that it might face and, it is also a must for the organization to have adaptability to the environment since the industry is in constant evolution.

According to the managed ecosystem being chosen model as most indicate to succeed and the attributes that the MO organization must have to be sustainable, there is still one more important point to analyze, their members. Since this structure is based in the hierarchy and there is a group of members that represent the MO development (having the power to decide the next steps), there might have some misunderstanding in the decision process, due to some elements present a bigger influence among the group. In order to solve this issue, there must always be formed a group of representatives with a number of odd elements to prevent ties in the decision. Also, to avoid bigger influence among them, the weight of each member decision should be the same, i.e. equality in voting must be implemented. Regarding this topic, another problem might occur in the

selection of the representatives of the MO, due to their dimension and stake of the market, being more probable to being chosen to take responsibility of the management of the MO. A possible way to avoid this influence, is to limit (based on the number of representatives chosen for each MO) the number of vacancies for multinational companies. This limitation allows the implementation of vacancies in similar number for multinational companies, SME's as well for individual members, allow every member to contribute to the organization. These representatives must be in charge of the Meta-Organization ideally for three consecutive years, and should only be again eligible for another mandate if other two mandates has passed, so it can promote rotativity between the members.

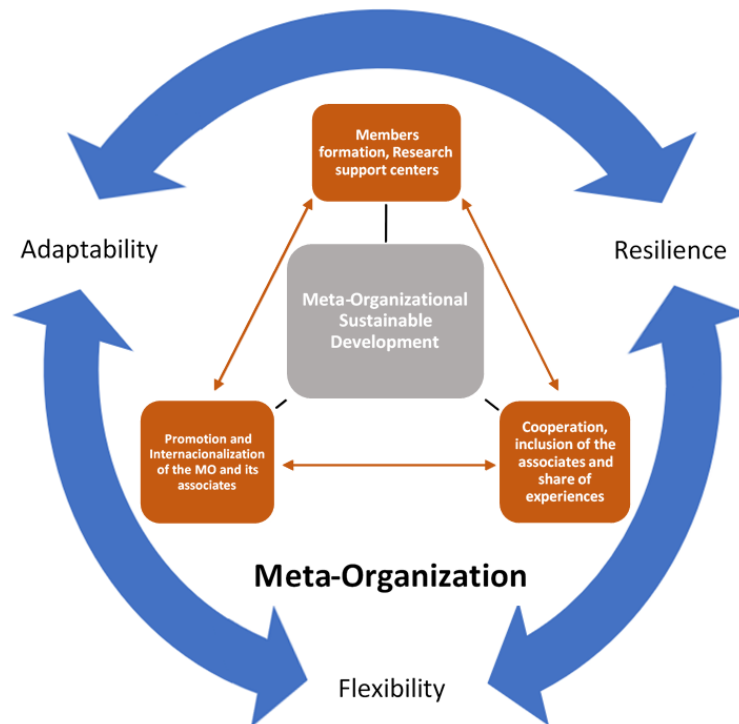


Figure 1. Scheme for a sustainable development of Meta-Organizations in the industry

Despite the chosen Meta-Organization model, the members should contribute annually with a share to support the organization funds to invest in members formation, research centers, technologies developments, etc., in order to help the financial sustainability of the MO. Also, it should be imposed a contract that define the role of each one of the entities that have interest in joining the MO, which the possibility of adding new clauses during the duration on the contract if those new terms are needed. Since the departure of the members from the Meta-Organization is voluntary, this type of incomplete contract guarantees greater security for the organization and eases control in people management at the interorganizational level.

4. Conclusions

The value of joining a Meta-Organization in the revolutionary and competitive market is increasing, benefiting all the companies that associate. It has secured a place in market by promoting its evolution, due to the existence of organizations with constant search for knowledge, new technologies and processes that can ensure products and services quality, efficiency at low cost.

As a final conclusion, it can be said that in this paper, it is intended to promote Meta-Organizations since they have a innovative and sustainable approach to the industry, helping their members to adapt to every situation. It also allows to claim that, by having an open community format, both multinationals and SME's can have a faster growth in the market since MO promote the share of experiences, formations to the members, new technologies that allow companies to differentiate and the constant help between their members.

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