

From Organization Design to Meta Organization Design.

Organization design can be a fruitful inspirational source when doing research on contemporary organizations. The star model's first version was adapted so it matches the evolution of firm strategy. These adaptations far from signaling the star model's weakness show the real strength of a systemic framework where some of the firm's essential components and design evolutivity are built-in. Since the 1980s the increase in close collaboration between formally independent firms and legally autonomous actors poses challenges for our thinking about organizational design. If Meta-organizations involve multiple firms as well as communities of non-contractually linked individuals, an emphasis on intrafirm design may be incomplete. Because firms have partially moved from stand-alone organizations to meta-organizations, we propose to include meta-organization design enabling firms to collaborate.

1. Introduction

The world of organizations has evolved since the foundational theories of organizational design were first postulated. From the analysis of the seminal work by J. R. Galbraith (1973) organization design can be a fruitful inspirational source when doing research on contemporary organizations. The star model's first version was adapted so it matches the evolution of firm strategy. Over the course of the twentieth century, because of their environment's complexity and hostility, large firms adopted a complex organization (Galbraith, 2010). These adaptations far from signalling the star model's weakness show the real strength of a systemic framework where some of the firm's essential components and design evolutivity are built-in.

Since the 1980s the increase in close collaboration between formally independent firms and legally autonomous actors poses challenges for our thinking about organizational design. If new forms of organization increasingly involve multiple firms as well as communities of non-contractually linked individuals, an emphasis on intrafirm design may be incomplete (Gulati and al., 2012). Because firms have partially moved from stand-alone organizations to meta-organizations, we propose to include the new organization design that enables firms to collaborate.

The chapter is organized as follows. First, organization design and more specifically the star model (2.1.) and its contemporary applications (2.2.) are presented. Second, the notion of meta-organization and its dimensions are analysed (3.1) to introduce some principles, given the early stages of these new forms of organizing, concerning meta-organizations design (3.2.).

2. Organizational design

OD makes up one of the different brands in organization theory. OD theory appeared between 1973 & 1978 and its most famous figures comprise J. R. Galbraith, R. E. Miles, and C. C. Snow. This particular group has outlined the components of an organisation viewed as an open social system and shown that an organization may prove efficient only when its different sub components interact with each other in a congruent fashion. This part focuses more especially on J. R. Galbraith's star model starting with a presentation followed by the model's recent applications.

2.1. The star model

Following up on his initial work akin to the research by the firm's behavioral school, J.R. Galbraith (1973) worked out one model (the star model) that allows business leaders to conceive organization patterns which can positively affect behaviour. This presentation of the star model draws on Galbraith's most recent and generic book (2002). The firm's main components are examined.

The strategy targets the firm's objectives, values and assignments. It shows which path to follow up as it indicates what is on offer (products/ services) and which markets to be supplied. Thus the strategy provides the basis on which to rest the structural choices which inevitably include some way of compromise.

The structure targets the differentiation among the different units. Four sets of criteria are at play when setting up the structure, i.e., specialization, subordination range, power distribution (centralisation vs. decentralization), departmentalization. The units may be based upon on the function, product or geographic area etc. Whatever the structure — functional, divisional, matrix, or hybrid — all of them present their advantages and drawbacks.

The processes consist of the information and decision making fluxes running vertically and horizontally across the organization. Vertical fluxes allocate resources and usually include budgeting and forward planning. Horizontal fluxes aim to achieve units' integration. Five process categories may be put into force whenever the structure wants some flexibility: informal groups, artefacts, ie coordination through ICT (Information and communication technologies) and IS (information systems), formal groups, integrator managers positions and finally, the matrix structure. Besides, the process categories are not mutually exclusive.

The motivation system aims to align personnel goals with those of the firm. They provide the required motivation to move in the chosen direction and meet the strategy's objectives. It covers financial aspects (salaries, bonuses and allowances, stocks etc.) as well as other perquisites such as company car and parking facilities etc.

Personnel policy comprises hiring, internal mobility, training, and promotes the strengthening of the skills required for setting up the strategy.

As Galbraith put it “Organizational design is the search for coherence between strategy (domain, objectives and goals), organizing mode (decomposition into subtasks, coordination for the completion of whole tasks) integrating individuals (selection and training of people), and designing a reward system.” (Galbraith, 1977, p. 5) The conception approach first specifies the criteria originating in the strategy and then moves on to the choice of structural criteria. Once the structure that best fits the strategic goal has been selected, key processes are set up with a view to providing more flexibility to the organization’s functioning. The approach is then carried on by selecting the key managers and defining their role and responsibilities. The various IS are then examined along with the incentive system and the performance evaluators. Finally, training, career management and development are taken care of. Although the approach is sequential, it is often necessary to go back and forth. Moreover, it is suggested that whenever the strategy’s outline is ill defined the processes should be tackled first because they’re more flexible compared to the more rigid structure and a total overhaul is never a good idea. Organisation design is an on-going managerial activity as on the one hand the current organisation indeed needs upraising to make sure it is consistent with the environment and upgraded when necessary. On the other hand, the organisation of the future has to be groomed if tomorrow’s strategy is to succeed.

2.2. Current relevance of the star model

The star model’s first version goes back to 1973. It was adapted so it matches the evolution of firms. Thus five versions deal with: (1) the innovating firms (Galbraith, 1982), (2) the firms that are subject to a hyper dynamic global environment (Mohrman, Galbraith and Lawler, 1998), (3) the global corporation (Galbraith, 2000), (4) the client oriented firms (Galbraith, 2005) and, (5) the multidimensional reconfigurable organization (Galbraith, 2010). These adaptations far from signalling the model’s weakness show the real strength of a systemic framework where some of the firm’s essential components and design evolutivity are built-in with specific elements for each version.

First, J. R. Galbraith’s recent findings and then two recent OD-inspired studies are presented.

Because of their environment’s complexity and hostility, large firms adopted a **multidimensional reconfigurable organization** at the turn of the 2000s. The more dynamic the environment, the more frequently the reconfiguration of internal and external relationships should occur. In response, leading firms in complex, dynamic environments are experimenting with reconfigurable organization structures (Galbraith, 2010). The main characteristic of this organizational complexity is a multi-dimensional matrix structure on the one hand, and the setting up of a two-faced organization on the other, the first being more stable while the second is reconfigurable and in constant evolution. The organisation’s variable parts comprise the teams that are constantly forming and re-forming on the one hand and on

the other, the decision committees which allocate the resources and decide on the priorities. The reconfigurable part is made and unmade to better seize on and work out the planned or emerging opportunities. The decision processes are made of a stable core of participants on the one hand and on the other of a flow of participants renewed according to which opportunities need addressing. The integration of the reconfigurable multi-dimensional structure is achieved through various devices built in the star model's different components. The strategy's own pace is imposed on other components. As it indeed sits on the organisation's border, the strategy reflects the environment's complexity, dynamism and hostility perceived by the business leaders. The main obstacle lies in the components' ability to adapt to a complex strategy: "... many companies today are trying to pursue strategies that far exceed the capabilities of their organizations... ..companies are pursuing third generation strategies using second generation organizations that are staffed with first generation human resources... We need to invest in and develop the capabilities of our people and organizations before we can master today's complex global economy." (Galbraith, 2010, p. 124) All coordination-integration forms are widely developed and supported by ICT. Staff policy involves a highly selective recruitment procedure ("hire hard, manage easy"), brisk internal mobility, training programs — which include meticulous drilling in how to run the complex and reconfigurable organisation.

The star model has also been used over the last ten years for studying its impact on **call centers' productivity** (Rowe, Marciniak and Clergeau, 2011) and the evolution of **knowledge management during a merger** (Ben Chouikha, Marciniak, 2013). We move away from the star model on two important points. Unlike Galbraith's, our objective was not geared towards the setting up of organization units but the gathering within an integrating model of the elements often scattered away and originating from research prior to ours, it aimed to test the star model's framework in a contextualized field and to study the coherence between the model's different components along with its impact on performance. This abuse of objectives appears fruitful to us in so far as it provides an integrating framework that avoids dispersal and tests the model in different sectors and contexts. The second difference concerns the component called processes by Galbraith. It actually appeared essential to us that the distinction should be drawn between IT and communication processes. Although Galbraith looks on them as one single component, they make up two different constructs. As integrating units and coordinating tasks are increasingly supported by tools, it is becoming important to distinguish their relative impacts since no organization can currently ignore these tools and therefore all organizations have, to some extent, been turned into a digital organization. This distinction between process and technology has been clearly formulated in BPR studies (Davenport, 1998; Clark and Stoddard, 1996). In order to justify our deviation, it must also be noted how much Galbraith insists on the importance of toolled processes (ERP, Workflow, Project management systems etc.) and consequently ascertains the IS's prominent role.

Several decades after the star model came up, it still proves pertinent to either work out an organization's structure or study the quality and the specificity of the arrangement of the model's components in varied contexts. We believe that distinguishing between the information technology and other processes has become a must when the objective aims to conceive or re-conceive an organization because the tools likely to make it more efficient cannot be ignored, and/ or to study the tools' impact and how they link up with the model's other components.

3. Meta-organization design

Beginning in the late 1990s and continuing to the present, firms began to move toward a new business model housed in a new organizational form, a form that incorporated both independent firms and their networks as building blocks. Within some industries, firms are currently exploring the community model for the purpose of assuring the full utilization of continuously developing knowledge (Miles et al., 2009; Fjeldstag et al., 2012). Other authors (Gulati, et al. 2012) point to an important phenomenon, the emergence of *meta-organizations*, having two manifestations. Since the 1980s, firms have entered into collaborative relationships; such partnerships typically span geographies, industries, and value chains. The rise of strategic outsourcing more broadly and business process outsourcing more particularly is another indicator of the strength of this phenomenon. A second manifestation is that the Internet and related technologies have become tools of both knowledge production and dissemination; this hastens the recognition that actors outside the traditional boundaries of the firm possess unique knowledge that may be applicable within the firm. The growing capacity for geographic work dispersion facilitated by communication and information technologies is an important determinant of meta-organizations. Catalyzed by falling communication costs, many organizations have developed sophisticated practices that enable the division of labor and the reintegration of efforts across geographies in ways that were inconceivable a few decades ago.

We first present the meta-organization and its dimensions (3.1.) then we work out a first draft for meta-organization design (3.2.).

3.1. Meta-organization (M-O)

The term meta-organization is used by Ahrne and Brunsson and Gulati and al. but we also associate to our work the research on collaborative communities, network firms, business ecosystems, and interorganizational relationships.

3.1.1. Definition and features of meta-organization

For Ahrne and Brunsson (2005) meta-organizations are organizations whose members are other organizations (firms, states or associations). They include well-known examples such as the United Nations or the Fédération Internationale de Football (FIFA), as well as others less well-known.

Gulati and al. (2012, p. 573) define meta-organization as “... *an organization whose agents are themselves legally autonomous and not linked through employment relationships. An agent in this definition could itself be an organization (within which there may well be employment relationships), but which can be treated as a unitary actor for purposes of analysis. Thus, meta-organizations comprise networks of firms or individuals not bound by authority based on employment relationships, but characterized by a system-level goal.*”

This second definition, including individuals as possible participants of meta-organizations, seems more interesting for analyzing contemporary on line M-O and social networks comprising the multitude of human beings.

Meta-organizations (M-O) resemble biological super-organisms comprising a multitude of individual organisms that coexist, collaborate, and coevolve via a complex set of symbiotic relationships which together form a larger organism. But, even if the system-level goal of an M-O can be emergent, as it is the case with purely self-organized systems, more often it corresponds to the goals of the architects of the M-O. For instance, there is no doubt that leading companies — such as P&G, ARM Holdings Plc, Dassault Systèmes, Apple or Google — have gained success by powerfully shaping (although not fully determining) the formation of the M-Os surrounding them (Williamson and De Meyer, 2012).

M-Os represent a particular kind of organizing relations among legally autonomous entities where central actors resort to substitutes for formal hierarchical authority when fashioning the M-O's design. They rest on expertise, reputation, status, access to resources.

There are other additional features besides the absence of formal authority, though not unique to M-Os. The incentive system other than financial plays an important part where most essential are the incentives stemming from intrinsic motivation, needs, and reputations. For instance, these self-motivated, self-selected and self-governed communities (Boudreau and al., 2011) have dramatic results in problem solving (Lakhani and Von Hippel, 2003). In the M-O, resorting to ICT technologies together with the partitioning of tasks that allows independence are substitutes for colocalization (Srikhanth and Puranam, 2010).

3.1.2. Dimensions of meta-organizations

Different alternatives to M-Os are generated and patterns within this variation may be understood by examining important dimensions of M-Os.

Permeability of boundaries, degree of stratification (Gulati and al., 2012)

Deliberation about the extent and limits of purposive M-O shapes the attraction and retention of its members. **Boundary arrangements** include: criteria for membership, duration and exclusivity of membership, how membership decisions are made, and how members' contributions are controlled. Closed boundaries are reminiscent of strategic alliances with an explicit and tailored definition of tasks, and are associated with fewer members. Open membership makes the timing of members' entry and exit difficult to control. They can result in unsolicited and unwanted contributions as well as in contestations of collective goals and agreements.

Decisions about the boundaries and the openness of membership alter the behavioral dynamics within M-Os, as well as the range of feasible governance arrangements. The **degree of stratification** concerns the differentiation in the roles of membership. Stratification helps reduce complexity by subdividing the M-O into smaller groups and exploiting the innate hierarchy of tasks (Simon, 1962). Stratification can also serve as a motivational device. The material and symbolic benefits associated with higher status or role-based authority can create incentives for M-O members. A low degree of stratification is likely to support the emergence of a community of equals who are more likely to adopt peer-based approaches to coordination. Minimizing stratification within M-O also permits to avoid, for example, some debates about the criteria and processes for determining status, and encourage widespread participation. Where broad participation based on involvement and identification with M-O is critical, lower degrees of stratification may be preferable. Decisions about stratification within M-Os have significant impacts on both motivation and coordination.

Purposes, actors, infrastructures-protocols-processes, commons (Fjeldstad et al., 2012)

An actor-oriented scheme comprises four dimensions of M-Os: purposes, actors, protocols-processes-infrastructures, and commons. The specific **purposes** are “la raison d’être” of the M-O. For instance, established in 2006 by IBM and seven other founding firms, Blade.org is a collaborative community of more than 200 firms whose purposes are the development, manufacturing, marketing, and distribution of solutions based on the blade server technology invented by IBM. Rather than attempting to exploit its blade technology through its own business units, IBM chose to form a meta-organization for accelerating the adoption of blade server solutions. **Actors** –organizations, associations, individuals–, members of the M-O, have the capabilities and values to accomplish the purposes. For example, Blade.org membership comprises 70 complementary firms representing the different capabilities required to develop solutions and 180 firms that are their customers. **Protocols processes and infrastructures** enable multi-actor collaboration. Protocols are codes of conduct used by actors in their collaboration activities. A category of protocols deals with the division of labor. Other protocols deal with inter-actor coordination. For instance Blade.org has 9 technical committees, and solutions are developed through 4 forms. Infrastructures, or technological platforms, are systems that connect actors. **Commons** refers to resources (knowledge, common awareness, code source, data...) that are collectively owned and available to the actors. For example commons comprise standards, solutions, shared situational awareness and tracking of property rights. Taken together, these elements create and function within contexts consisting of various combinations of transparency, shared values, norms of reciprocity, trust, and altruism.

Control, interdependence (Koenig, 2012)

The centralised or non-centralised **control** over the ecosystems' essential resources allows us to distinguish between M-Os that are controlled by a leader firm from those that are not. Control in the firms' networks translates into a con-

tinuum varying from an asymmetrical network to a symmetrical one (Gandori and Soda, 1995). The **type of interdependence** linking up M-O members influences the size of the network and its topology. When one moves from pool interdependence to reciprocal interdependence and when demands on communication coordination increase, the number of actors likely to interact directly decreases. The actors' interdependence conditions the M-O's development mode: pool interdependence favors a multi dimensional quantitative development whereas reciprocal interdependence facilitates the qualitative development based on deepening relations.

Platform, business model, leadership (Edouard and Gratacap, 2011)

Business ecosystems (BE) are structured around three elements: the technological platform, the business model and leadership. The **technological platform** is a set of technical solutions and services available to each M-O member. The platform makes up the BE's structuring architecture. It is the device with which the pivot firm organizes value creation by offering manifold opportunities and collecting many types of contributions. It also distributes value among the different members (Iansiti and Levien, 2004, Evans and Zschmalensee, 2007). Platform strategies multiply on dual faced markets – video games platforms put players and game developers into contact — or multi faced whereby the Amazon Webservice platform brings together publishers, bookstore keepers, reviewers, readers and application developers. For its own part, Microsoft develops its platform according to the number of communities it wishes to target: PC for Windows, Cloud computing for Azure and video games for Xbox. Different platform categories can be distinguished : those that allows members to exchange — eBay, Amazon , those which bring into contact an audience likely to be valorized by it — Google, the platforms which produce products or services generating indirect network externalities – Blade.org, games platforms (Iskia, 2011). The **business model** incorporates partner networks as an element structuring M-Os. « Having a business model for your firm is not enough. Executives must become ultra-sophisticated at developing business models for their respective communities. » (Moore 1996, p. 57). A business model only performs if it creates value and if it manages to capture some of that value. Its objective is to establish consistency between creating and distributing value among partners — for each dollar earned by Microsoft \$8.70 are earned by its partners. The business model describes the parts, the relations and the partners' flux of information, knowledge, skills, revenue and products. **Leadership** is a competitive advantage and is gained over time through the firm's aptitude to combine key competences and to share common values.

3.2. Meta-organization design

The term of architecture constitutes the synthesis of form in response to function. Structure should be consistent with the purpose activity system as form must follow function. An M-O is a finalized system that is effective if it has been designed in a coherent manner. Meta-organization designs are emerging in which

rich sets of resources are made available to a large set of actors who self-organize on unlimited sets of projects. Reliance on self-organization and local decision making in the development of products & services requires mechanisms that allow actors to become aware of problems and opportunities and identify and form relationships with suitable co-actors. The collaborating parties must be able to manage their common resources and goals and overcome the agency problem of free riding. The lateral nature of decisions about which projects to pursue, which resources to share, and how returns will be divided is a preeminent characteristic of the architecture of meta-organization forms.

We propose six components of the M-O design: purposes, membership & governance, actors, structures & processes, technological platform, and commons.

3.2.1. Purposes

Here we mean the overall objective of the meta-organization's assignment, the reason why it exists. This assignment was initially formulated by its founders, yet it may evolve and its evolution is taken into account in the governance principles. Purposes guide the design of membership and governance principles.

3.2.2. Membership and governance principles

A majority of M-O can be classified using the predominant means of participation –closed vs open– and the predominant governance structure –hierarchical vs flat– (Pisano and Verganti, 2008). The options concerning membership are: who decides on the selection criteria, who select the actors, the duration for participation. The option choices depend on the assignment and impact the meta-organization's structure. The governance principles provide regulation rules for the M-O's evolution and running. They aim to guide the actors' behavior to make sure their specific goals are congruent with those of the meta-organization. The governance principles cover the following topics. How are the M-O's investment and running costs financed? Where in the M-O is value created and how is this value captured and shared? Members' code of conduct (rights and duties) Meta-rules concerning the evaluation and decision-making processes, the management of commons. M-O's evolution system –of which the scalability or the adaptation to the rise of the meta-organization.

3.2.3. Actors

A status-based actor's taxonomy is necessary so as to conceive relevant incentive systems and avoid inconsistencies. For instance, Blade.org has five types of actors: (1) founding firms, (2) firms developing and distributing hardware, software, or services for the blade platform, (3) firms providing consulting or distribution support for blade-based solutions or products, (4) firms using blade platform solutions, and (5) firms being customers or end users. Fashioning the M-O's design implies using substitutes for formal hierarchical authority such as expertise,

reputation, status, access to resources and the stratification of members helps the M-O design.

3.2.4. Structure and processes

Organizing involves dividing and integrating resources in order to control and coordinate activities (Mintzberg, 1983). The meta-organization seems to be functioning with a structure lighter than that of other organizations. Membership & stratification of actors are guides for dividing activities inside an M-O. Governance principles help to design M-O processes and most of them are incorporated in the technological platform. M-O organization evolves over time by adding new ways for members to collaborate or inputs into the decisions process. Structures can be patterned on what the architects consider the best practices and on what members need to meet certain task requirements. Three basic features of the M-O structures seem to be durable: a light team of architects working closely together, few levels of management under the team and, individuals organized into project teams work within designated areas.

3.2.5. Technological platform

The platform coordinates actors and favors collective value creation by sharing resources. Coopetition management is supported by the platform's strategy which involves architectural choices and setting up the platform. Thus technological bricks can be integrated into a new offer so they allow the M-O to explore several trajectories and expand its network. The M-O's rules of the games are either partially or totally incorporated into the platform. The ecosystem members' participation are likely to prompt the platform to change as they open up a certain number of strategic options. The platforms may indeed develop the M-O's market spaces through two levers : (1) depth by creating new product/ service functionalities that will saturate the existing clients' needs and (2) the spread by seeking new value source through adding new faces or recruiting new economic agents' communities on the platform.

3.2.6. Commons

All manner of resources both tangible and intangible can be shared by the M-Os' members. Those resources' management rules lie within the M-O's governance principles. Besides, many common resources are managed through the structures and processes and integrated into the technological platform.

4. Conclusion

Born in the early 1970s, the organization design stream proved robust and flexible enough to conceive the organizations in spite of their economic and technical environment's important evolution. To this day the star design model's principles remain relevant to these organizations' conception and analysis.

However from the 1980s onwards different research fields like network firms, strategic alliances and business ecosystems etc. have underlined the importance of developing inter-firm relations. But scholarly work on the various forms of multi assemblages has been disconnected. Each era's theories, in part reflects the managerial preoccupations of the times and coevolves with them. Because to day, a lot of organizations are involved in close collaboration while their managers wonder about the potential strengths and weaknesses of this strategy, an integrative objective of conceptualizing all these types of collectives as meta-organizations constitutes at the present time a relevant research programme. This programme has to treat a cluster of legally autonomous entities as an organization and must acknowledge that such a M-O, like any organization, embodies key structural elements that can be designed in a coherent manner.

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