

Systemic design's guidelines to implement organizational change

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# Systemic Design's guidelines to implement organisational change

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**Abstract:** In the future, organisations must face sudden changes and increase competitiveness. Firms need to have resources and competencies to set a strategic advantage in the business context to survive. This paper describes two management models used to define strategy and implement benefits for the firm and compares them with a systemic framework and the Systemic Design Approach. The comparison highlights the necessity to analyse organisations considering their complexity in terms of resources and interactions between spheres and roles. This evidence led us to sustain that Systemic Design can provide a better approach to organisational complexity and could be able to manage the multiple interactions that an organisational implementation requires. The result is defining Systemic Design guidelines to implement the Systemic framework better and developing a toolkit to support firms in their organisational processes.

**Keywords:** organisational change; Systemic Design; complexity; resilient organisations

## 1. Introduction

The variability of business context and the quick changes in the environment and trade-offs make enterprises more vulnerable than in the past. The unpredictability of the market makes companies strictly dependent on the definition of a strategy that can realise and satisfy external needs (Lester et al., 1998). The strategy is a theoretical element that is closely related to the organisational structure of an enterprise. The organisational structure is a central element in an enterprise's survival and prosperity and plays a crucial role in its evolutionary road. Therefore, the enterprise's capacity to answer the market and environmental needs depends closely on its internal organisation (Tilt, 2006).

More specifically, the quickness of an enterprise's change is linked to the flow of information within the organisation itself. Thus, if an organisation can structure itself inclusively and efficiently, its possibility of surviving within the business context will increase. The organisational elements are also essential because they allow the development and fulfilment of competitive advantage based on the resources and strategic orientation of the competitive environment (Acedo et al., 2006). The term organisational structure includes multiple aspects of an organisation and not only the graphic representation of the system; we could say



that the diagram of an enterprise structure is the final output of its structuring process. More precisely, an organisational structure is a dynamic interaction between its strategies and mission-oriented, the macrostructure and work organisation, human resources, personnel policy and the operative systems and technologies. Generally, the management and implementation of an enterprise structure are not easy because an enterprise is a system in which people, resources, and technology must be coordinated to achieve the best economic, social, and environmental aspects. The multiple elements that an excellent organisational asset needs to consider lead the question to be addressed from different perspectives of different disciplines. However, the disciplines that, more than others, deal with organisational implementation are led by management and human resources fields. Specifically, many consulting societies handle organisational development and manage the consequences of an implementation or a change.

A literature branch deals with the difficulty of actualising and accepting change, particularly on behalf of the workforce, which often faces change due to decisions taken by managers and boards of directors. An imposed changing process can bring an enterprise to face more critical problems than it would have faced in an emergency related to market changes. When intervening in the company structure, there are aspects so intrinsically linked to each other at hidden levels that, if not properly managed, they can heavily influence the company's fate.

In addition, structural and organisational change should meet several needs related to the variability of the context of action. For example, a company may change its structure to develop a product/service innovation. The issue of innovation is, in turn, interconnected with the availability of human resources capable of interfacing with new ways of delivering the service/product and using tools. Over the years, management disciplines have developed various tools to help managers and companies to address these issues in the best possible way. The tools have evolved with the needs of companies and have become an essential element in managing competition. However, the increasing complexity of the environment means the tools themselves are insufficient to sustain competitiveness in the long term (Crossan & Apaydin, 2010). Given the volatility of the environment and the complexity of the elements and relationships involved, we believe that it is necessary to pave the way for contamination between design and management.

This study aims to provide guidelines for implementing a systemic framework capable of approaching the issue of organisational change. First, we compare two managerial models used for organisational implementation, the McKinsey 7s framework and the Resource-Based View. Next, we will compare their analytical elements and define their limitations through a literature review of these two models. Then, we describe the systemic framework for organisational change as a first step to understanding the complexity of an organisational process. The next step will see Systemic Design as an approach for integrating the concept of complexity and the view of the enterprise no longer as linear sequences of cause and effect but rather as complex networks of interrelationships (Senge, 1990). Although the business

organisation has been a privileged area of management over the years, in recent decades, design has been able to bring its contribution and contaminate management with tools and methodologies (Cautela, 2019). Following this trend, we want to demonstrate through the definition of guidelines that Systemic Design, thanks to its holistic view of complexity, can approach organisational change and benefits companies in terms of resource management and resilience.

The article is divided into the first part of the literature review on the two models analysed; the second part will compare the two models. The third part will introduce the concept of enterprises as open systems, followed by a section on the systemic framework and Systemic Design. The last team will conclude by providing guidelines for implementing the framework.

## **2. Literature review**

Two essential elements of the present research are the McKinsey 7s model and the Resource-Based view, which will be described in the following section thanks to literature research on these models and their application to organisational change in the enterprise's environment. The evidence from the literature shows that several contributions to organisational implementation make the definition of the theme more difficult. Literature on these themes gathered contributions from many disciplines like sociology, anthropology, management, business, and economics. During the literature research, we have found that many tools and strategies have been developed to sustain enterprises in their growth and evolution in management history. The selection of 7Mc Kinsey's Framework and RBV is linked to their importance as tools in changing the perception of enterprise elements. Furthermore, the choice to analyse the systemic framework raises the need to understand how a systemic view could contribute to implementing organisational change. The analysed contributions come from Scopus and Google Scholar; in these databases, we used keywords such as \*7s model framework, \*or organizationalchange, \*strategyimplementation, \*RBVapplication \*changemanagement \*systemicchange. The combination of these keywords and the study of titles and abstracts provide reference literature to start the analysis of the models and make a comparison.

## **3. Structure and organisation**

Before exploring the two models, this research needs to clarify the concept of structure and organisation and their mutual connection. People in an organisation control and coordinate how to carry out the activities and use the resources. Collaboration between groups of people enables a formal system of tasks, relationships, and authority (Tasselli & Caimo, 2019). People in an organisation control and coordinate how to carry out the activities and use the resources. Collaboration among people enables the creation of a formal system of tasks, relationships, and authority. Organisational structures are made up of groups of people working together to achieve a common goal. The representation of the structure is usually expressed in an organisation chart, which shows the type of organisation adopted: the roles

and the hierarchical relationships between them (Crossan & Apaydin, 2010). The first difference between organisation and structure is that the former considers the whole set of hard and soft variables. In contrast, the latter considers above all the soft variables with particular attention to the interdependence relationships created within the company. Internal relations are based on a dependency scheme, whereby a superior gives directive to a subordinate who carries them out.

The structure is the first element in which managers act when there is a need to respond effectively to external stresses and thus find a solution to emerging problems (Wren & Bedeian, 2009; Cao et al., 2003). Over time, organisational structures, and the tools for determining reasonable and practical solutions have evolved.

### *3.1 The resource-based view*

The Resource-Based View theory began to emerge between the 1950s and 1960s. It was then strengthened in the 1980s when it implemented the previous management theories, and it took shape during the 1990s following the evolution of strategic studies (Acedo et al., 2006). Until the 1990s, classic strategy studies focused mainly on its positioning sector and market choices (Porter, 1980). The studies and paradigm proposed by Porter argue that strategy is determined by the enterprise's structure and the market's choice. The assessment of available and valuable resources to penetrate the chosen market segment(s) came later (Cabrera-Moya & Reyes, 2018). With the Resource-Based View, the company is considered a heterogeneous set of resources and specific competencies that enable the realisation of competitive advantage, which translates into profitability and prosperity for the company itself. Trying to understand this concept better, the Resource-Based theory, unlike the previous ones, shifts the focus from what happens outside the company to what characterises it inside (Zubac et al., 2010).

In this way, the variables that define competitive advantage must be identified within the company. Specifically, resources are divided into tangible, identifiable financial and physical, intangible resources such as technology, culture and organisation, and human resources. The latter are the resources that produce value for the company in terms of skills, know-how, communication skills, collaboration, and motivation. Above all, they are not limited to production capacity (Faturrohman et al., 2018). In this sense, what has been considered a mere workforce takes on an extension of responsibility towards the company. In this way, a new relationship between employees and employers is also configured since work changes connotation. It is no longer just a tool to support the production factor but an instrument capable of creating economic values for the company and personal values in terms of affirmation and fulfilment.

Thus, the need to identify a lasting competitive advantage that is difficult to imitate by competitors takes the form of a shift of perspective from the outside to the inside of the company, trying to understand what it can do or will be able to do better. Thus, leading it to trace a path towards creating a lasting competitive advantage.

The Resource-Based View approach, unlike other theories, investigates the processes of resource generation within the company and how these resources are used. Therefore, obtaining a competitive advantage is not imitating the most successful but rather grasping and knowing how to manage companies' differences (Regnér, 2010). The development of a firm's distinctive characteristics and the correct use of available resources are the factors that enable it to achieve superior performance. However, the Resource-Based View distinguishes between resources and capabilities because it represents the firm's ability to activate, integrate, and coordinate resources to achieve superior performance (Penrose, 1959). In this context, the Resource-Based View is a valuable tool to support business decisions and analyse the enterprise's critical resources. Among the most important contributions to the implementation of RBVs is that of Barney, 1991 who defines the VRIN model to categorise resources according to their potential to become distinctive and strategic competencies for the company (Barney, 1991). The criteria of the VRIN model are explained below.

1. Valuable (V) resources are valuable if they allow the company to exploit the possibilities present in the external environment and neutralise threats
2. Rare (R) is a rare resource that no competitor possesses, or few possess.
3. Imperfectly Imitable (I) a resource that is difficult to imitate either because of cultural factors or because of social complexity
4. Non-Substitutable (N), a non-substitutable resource, i.e., no resource other than the one in question, allows the firm to develop a given strategy.

However, although the Resource-Based View is correct in considering its cognitive assets, it is too static (Madhani, 2010). Once the resources have been identified, there are no indications for configuring and managing them to implement a competitive advantage effectively. Moreover, there is no evidence of how it can be used to change the organisational structure. Furthermore, the VRIN model is also a complicated model to apply. It can be hard for a company effectively assess whether the resources at its disposal meet the model's criteria. It is also challenging to find resources in the company that meet all four of the model's standards, which makes RBV challenging to implement (Teece & Pisano, 1994).

Based on these considerations, spin-off perspectives have developed, among which the Knowledge-based view emerges (Grant, 1996). According to the proponents of the Knowledge-based View, knowledge is the strategic resource par excellence that a company can possess. Thanks to a wide range of heterogeneous knowledge, the firm can create superior performance and, consequently, a sustainable competitive advantage.

### *3.2 The McKinsey 7S model*

From the 1970s onwards, there was an awareness that real organisational change could not only be achieved through structural change by merging, eliminating, or upgrading existing units. Instead, to ensure that internal changes meet the real needs of the enterprise and re-

alise the expected benefits, it was necessary to have a more inclusive vision of the enterprise. Along with this knowledge, in 1980, Waterman, Peter and Philips published an article in the journal "Business Horizon". They stated that "structure is not organisation", so organisational change must consider variables beyond structure to produce the desired effects. The result of their study conducted through interviews with large US companies led them to define the outline of a new organisational model, the 7S model (Lisiecka, 2004).

The 7s Framework is a management model according to which managers must focus on six components (the 7 Ss) to develop a successful strategy. In their study, Peter and Waterman found that for a company to be successful in outperforming, it must combine knowledge and implementation of factors, including Strategy, Shared Values, Competencies, Structure, Systems, Personnel and Style (Peters & Waterman, 1995). Then the model can be used to identify which of these factors needs to be realigned to implement performance or which elements need to maintain alignment during other types of change to avoid loss of performance. Types of change can include new processes, mergers, leadership changes and more. The 7S Framework allows understanding how changing elements have the maximum impact in one area and the impact within the others. The seven elements of the model are divided into two categories, Hard S, which are Strategy, System and Structure, and Soft S, which are Skills, Staff and Style. The Shared Values element is in the centre and relates to both categories. While Hard S are easily identifiable and describable, Soft S are more difficult to define because they are more intangible than Hard ones. The 7S are briefly described below:

- Strategy: to define the organisation's vision and goals and to understand how aware and focused stakeholders are on them
- Structure: what structure the organisation has, and how much it allows to take decisions quickly, define roles and responsibilities and finally understand if the structure is adequate to deliver the service/product.
- System: the activities and procedures that need to be carried out by staff to get the job done and the incentives from HR policies
- Shared Values: When the model was developed, they were called "superordinate objectives"; they are the company's core values highlighted in the company culture and ethics.
- Staff: the workers who do the work; this element also serves to understand if resources are sufficient and how they are used. It also considers how employees are recruited and hired.
- Skills: the skills possessed by staff to ensure that work is carried out according to the strategy. Moreover, whether they are used in the right way and what the possibilities are for growth.
- Style: defining what is the leadership style adopted by the company and how is information communicated and shared

This model has been applied in different contexts, all belonging to the non-profit sector, and has proved to be a helpful tool for analysing internal problems in an organisation. Since its implementation in the 1970s, it continues to be used today, demonstrating that it is still relevant (Mamun et al., 2020). Moreover, its application proves to be flexible in applying within an organisation or in a team or a project. However, there are some negative aspects to the use of this Framework. Firstly, it does not consider elements outside the company, i.e., it focuses on analysing the elements related to the 7 S's, which only constitute the company's internal environment. Its use is reserved for the most relevant stakeholders and experts, which means that the management levels of the enterprise decide on actions to be taken to align the seven elements (Faturrohman et al., 2018). Thus, on the one hand, the Framework simplifies the implementation of changes; on the other hand, it is superficial to the dynamics and sub-dynamics that make up the enterprise and of which the workforce is the main driver.

Table 1. Differences between management models.

Theory	Elements	Description
<b>Resource-Based View</b>	Resources Competencies and capabilities	tangible, intangible, human defining the core competencies as the source of sustainable competitive advantage
	Strategy	Develop a strategy based on the core competencies
McKinsey's 7S framework	Strategy	visions and goals of the organisations
	Structure	roles and responsibility
	Staff	availability of human resources and the method to hire them
	Skills	What are the skills within the organisations
	Style	What kind of leadership style is adopted

There may be some confusion about organisational implementation for this research. Both models under analysis, RBV and 7S McKinsey aim to create a lasting competitive advantage. Two models may not seem inherent to organisational change. Still, as seen from the analysis, both must necessarily interface with factors internal to the organisation and structure to de-

velop a strategy. Strategy implementation and organisational culture have a specific correlation since the way a company does business, i.e., how it organises itself, provides a competitive advantage. Organisational culture is reflected in how the organisation relates to its employees, customers, suppliers, and partners. According to Szekely and Knirsch (2005), managing these relationships enables the firm's better performance. In this sense, the organisational culture is connected to the organisation's implementation.

Furthermore, strategy implementation is closely related to organisational capacity, which is influenced by the structural form of an organisation (Fleisher & Babette, 2007). In this context, we cannot disregard the complexity of the organisation itself to carry out an efficient organisational implementation. The disciplines that have dealt with these issues have tried to obtain a comprehensive view of this complexity, developing models and theories that integrate elements that are also not directly related to the structure or organisation. However, some factors have been included superficially or are still too closely linked to linear cause/effect reasoning. For example, in the case of RBV, human resources are considered tangible resources that, if they meet the parameters of the VRIN model, are deemed necessary to the definition of competitive advantage. Unfortunately, this is a very mechanistic view of human resources that does not investigate the connections between resources and work. In the 7S model, the Staff factor is analysed concerning the actual availability of resources needed to do the job, its adherence to the company's behaviour and finally, how to incentivise people to keep them supporting the system. Although in both cases, the view of people is linked to labour and economic issues, there is no study of the relationships created internally in an organisation and the impact they have on the final performance. Although there has already been contamination of disciplines, see, for example, the application of design thinking to improve team project processes (Hugentobler, 2017), strategic design as a tool to create products and services that carry the company's values (Cautela, 2019). We firmly believe that Systemic Design can implement the way of analysing a company by integrating a more value-centred vision.

### *3.3 Organisations as Open System*

Before presenting the Systemic Design, an introduction to a view of the enterprise as an open system is necessary. Throughout history, we have seen that the perception of organisations has changed from a mechanistic view to a more organic one (Calabrese, 2011). Generally, the tools used to understand organisations are "diagnostic models", i.e., models, that describe the relationships between the elements of an organisation, its context and its effectiveness on the market (Cummings et al., 2009). Often, the models are simplifications of reality, and they necessarily must choose which elements or characteristics to investigate and for which purposes. According to Cameron & Green (2019), an organisation can be considered a complex system, as well as a change, can be defined as complex every time it considers and involves a high number of people, activities, and other related factors.

Nevertheless, in the management field, the most adopted thought foresees a mix of cognitive psychology and scientific methods to map and organise tasks, for example, process engineering and project management. Therefore, traditional management thinking does not leave space for complexity; rather, they tend to think more analytically and rationally. So, we can say that most management models analyse the organisation and link the analysis to specific processes, such as internal communication between managers and employees, employee motivation and the ability to collaborate and solve group problems. Instead of considering an organisation rationally and linearly, we want to apply a systemic vision of organisations (Senge, 1993) to show that organisations need to be analysed and diagnosed according to a systemic view rooted (Ackoff & Emery, 1972) in systemic Design for this research. Systems are unitary wholes composed of several subsets that, through the system, become a single functioning entity. If we translate this view to the organisation, we find analogies. For example, units, departments, and project teams compose an organisation, and they must be coordinated to achieve a specific objective. Therefore, we can speak of an open systems model. We recognise that an organisation exists within a broader context that influences how the organisation functions and how it relates to it.

In effect, an organisation takes resources from outside and, through social and technical processes, transforms them into outputs to be returned to the context. In this process, numerous variables relate to different thematic areas and need to be analysed (Cummings et al., 2009). For example, the organisational chart identifies the different hierarchical levels of which an organisation is composed. We can say that each hierarchical level has other sub-levels or sub-systems, not necessarily linked to official roles and tasks. The variability of the system changes as the level with which it is interfaced may concern different sub-systems, such as the non-official team or the non-regulated work dynamics.

#### **4. Systemic Design for organisational change**

Systemic Design is the result of applying systemic thinking to design. The union between design and systemic thinking has given birth to a discipline capable of dealing with complex systems, such as socio-technical ones (Bijl-Brouwer, 2020). Like Systemic Thinking, Systemic Design is an approach that does not limit itself to considering a single element but instead looks at how it interrelates with all the other aspects of the system it belongs to. Because of these characteristics, Systemic Design is a transversal approach capable of bringing together very different areas, from production systems to organisations. Based on Jones' statement (2018) about the four design domains, in the third domain, the organisational transformation characterised by a dynamic complexity requires Systemic Design principles and practices to deal with the design of work practices, strategies, and organisational structures.

Furthermore, the fourth design domain for complex social situations requires Systemic Design principles to manage stakeholder participation and decision-making. In this sense, applying Systemic Design implies looking at a system from above and seeing it in its entirety, then going into the details of its most minor connections and developing new synergies to create open systems. In addition, Systemic Design can also be a valuable tool in working with

governments and public agencies to design interventions and policies (Authors & Bicocca, 2017) that can be useful in supporting interventions aimed at involving different levels of authority to address interdependent decisions and consequently engage users, customers and stakeholder and their knowledge to practical change system dynamics. The main characteristic of Systemic Design is to look at problems in a holistic way. After identifying the system, Systemic Design defines its boundaries, carries out a qualitative analysis, and produces a holistic context mapping (Sevaldson, 2018). Through mapping, Systemic Design brings to light all the existing problems and then analyses them to identify the best opportunities for change, adopting a multidisciplinary approach. In this process, the designer's role is a mediator between knowledge from different disciplines or actors (Battistoni et al., 2019). In fact, by interfacing with various figures, the systemic designer can put in contact and create synergies between different areas and professions, thus creating relationships to solve problems and make the system more resilient to change. The evolution of the figure of the systemic designer reflects the transition of the design discipline over time, from product design for industries and freelancers to the creation of complex systems. Moreover, there is evidence of how perspectives relevant to Systemic Design can lead to organisational transformation in the public sector (Aguirre, 2020). From a systemic perspective, organisations are systems composed of human beings who interact with each other to achieve a common goal through the establishment of relationships.

Furthermore, thinking on Fox's point (1995) that the design of a socio-technical system must be able to integrate the social requirements of the people who work with the technical requirements needed to sustain the work system with their environments. With this in mind, we can argue that Systemic Design as a human-centred approach to co-design better policies, programmes and service systems is a suitable approach to meet the need to integrate skills and knowledge, to define new services and artefacts that can adapt to the ecosystem and organisation. According to Schneider and Somers (2006), we can say that an organisation is complex when it can evolve and adapt to its context. Therefore, adaptation over time and relationships are two crucial elements in the evolution of an organisation. Hence, Systemic Design can be a tool to analyse and identify new possibilities of relationships to meet adaptation. However, what emerges from the literature is that managerial approaches are often unable to interface with the dynamism of these processes (Lester et al., 1998; Hugentobler, 2017). Based on the limitations identified in management models and the need for organisations to find solutions to deal with complexity, we will define what contributions Systemic Design can make to support an inclusive and sustainable change process.

However, before defining guidelines, it is necessary to frame which dimensions of an organisation must be considered to structure efficient and inclusive change. For this study, the Systemic Framework developed by Cao et al., 2003 is a starting point for integrating systems thinking and Systemic Design methodology to support humanity centred and sustainable organisational change. The main four dimensions identified are processes, culture, structure, and policy (Cao et al. 1999). These four dimensions were the starting point for elaborating

the systemic framework by Cao et al. (2003). About their framework, the adjective “systemic” implies the awareness that a change within an organisation, even if made in only one of these four areas, inevitably entails changes in the others. Moreover, Cao argued that management of change is characterised by interaction and diversity, for which a systemic perspective is more suitable. This statement stems from the awareness that change is a dynamic and interconnected process that requires a holistic view (Valiris & Glykas, 1999; Flanagan, 2014). Furthermore, they refer to the ability of a holistic view to manage the interactions between the four areas.

#### *4.1 Systemic framework analysis and systemic guidelines for implementation*

This section explains what elements each sphere of the framework is concerned with, then analyses and compares them with Systemic Design and the managerial models.

The first sphere concerns processes, a change in this sphere implies the analysis of the raw materials and resources that the organisation takes from the external environment. The study by Gao et al. (2003) for the processes identifies two management approaches, Total Quality Management and Business Process Reengineering. Both methods are helpful for process efficiency from a managerial point of view but remain detached from the other spheres of change. Whereas Systemic Design, thanks to its holistic analysis, can analyse the company's processes and identify the main criticalities in the resource supply and its processing and disposal. In addition, Systemic Design integrates the detection of problems in the flow of information and its processing. The relationship between processes and information implies analysis and mapping of the roles and responsibilities of the company's structure, starting from the feedback and information collected directly in the field (Battistoni et al., 2019). Moreover, through stakeholder identification and a co-design process, Systemic Design can improve the process efficiency by framing possibilities for new synergies in the local dimension and by privileging flexibility (Author et al., 2015)

Then, two theories are identified in the Framework for the sphere of structural change: Contingency theory and transaction cost economics. The first one states that it is sufficient to define the critical variables of an organisation to manage a change effectively, but it does not treat human resources as crucial variables; instead, it deals with the environment, technology, and size of the enterprise. The second one looks for the causes of organisational change in market trends, leaving out the reasons linked to social variables. The identified approaches focus more on cultural change's purely organisational or market aspects than human elements. However, the cultural aspects of management risk provoke a set of values established by the organisation's tops management, which can become an instrument of ideological control. Systemic Design gives a solid weight to culture, understood as those linked to the territory, traditions and population that influence people's actions (Authors & Bicocca, 2017).

In the systemic methodology, "acting locally" is one of the five fundamental pillars that direct the systemic design to prioritise the territory in which it operates. Thanks to the holistic

analysis and the importance of the local territory, Systemic Design can identify hidden possibilities to develop new activities and create new productive relationships, thus increasing the organisation's resilience. At the structural level, a systemic approach can highlight dynamics and sub-systems which compose the organisation and activate people at different levels as co-creators of new work modalities and design a multi-stakeholder system.

Moreover, Systemic Design can identify hidden possibilities through the holistic perspective to develop new organisational fluxes and synergies. Finally, the political sphere focuses mainly on the distribution of power and how this can influence the organisation and the actions and behaviour of people. Although an organisation is composed of people pursuing a common goal, it is also true that people belong to sub-groups with different interests. Thus, the danger of a political approach is that the people with the most decision-making power use it for personal ends, thus undermining the trust of the other members of the organisation.

Moreover, another danger is that political decisions are made to satisfy political demands while neglecting more critical decisions about structure or response to external changes. Systemic Design is an approach that puts people at the centre and is concerned with creating relationships to develop sustainable open systems. Therefore, from the perspective of the political sphere, it could facilitate internal decision-making processes by avoiding the centralisation of political interests. In this regard, Systemic Design provides evidence of how it can foster the co-designing and adoption of policy choices to stimulate new economic and regulatory tools to implement systemic solutions. According to Nohra et al., (2020), Systemic Design employs multi-methodologies to involve users and endorse a new decision-making process that boosts a user-focus policy-making system. Instead, the information and mapping provided would give organisations a complete picture of the fundamental needs to be addressed and resolved.

Table 2. Differences between the management models, the systemic framework, and the Systemic Design

<b>Sphere of organizational change</b>	<b>Resource Based View</b>	<b>McKinsey 7S framework</b>	<b>Systemic Framework</b>	<b>Systemic Design Approach</b>
Process change	Intangible resources	/	Identifying best Management approach to deal with the process: Total quality Management and Business Process Reengineering	Holistic diagnosis identifying all the components defining the current scenario, considering both the surrounding context and the flows of energy and material in the case of industrial productions.

				Moreover, it identifies the challenges of the current productive process and its flows
Structural change	Tangible and human resources	Staff and structure analysis	Identifying the theories to deal with organizational structure as Contingency theory and transaction cost economics	Holistic diagnosis can also be applied in the structure of an organization to underline the problems related to information flow and different needs among workers about the units' connections
Cultural change	/	Style	Identifying the management approach to culture diversity concerning the creation of a new value system in 1) unitary culture development 2) cultural diversity management	Act locally is one of the pillars of systemic design is to give priority to the context in which organization operates. This means, of course, considering the cultural attitude of the territory and the community
Political change	Strategy development	Strategy	Political approaches to organizations concern the detentions of power to fulfill specific interests among others and foster the competition between firms	Relations and humanity centered design are two pillars of Systemic Design, which means that through the identification of new possible synergies and the priority importance to human beings allow a balanced action to develop sustainably organizations

We can identify five guidelines for implementing the systemic design framework with the Systemic Design approach based on this comparison.

1. Applying the holistic analysis to the four spheres of change and their constituent elements. Moreover, adding a new sphere to the knowledge sharing process.
2. Identify the main issues within sets and subsets and determine the dynamic relationship among them.
3. Balancing change choices between benefiting the enterprise and benefiting the employees.
4. Stimulating a climate of cooperation and channelling it towards the correct issues. Define new rules for collaboration by stimulating new roles of leadership.
5. Encouraging group learning, enhancing the company's internal competencies thanks to a shared common purpose, and integrating diversity in terms of culture and approach to work.

## 5. Conclusions

The analysis of the most frequently used managerial models for organisational implementation has allowed us to understand that it is often challenging to have a complete view of the complexity of an organisation within the management field. Thus, a systemic framework has been developed to overcome this problem by combining critical systems thinking and change management. However, the systemic framework should promote different change approaches and manage them to meet the many facets of organisational change. In that perspective, although a step forward to better comprehend complexity in organisations has been taken, the necessity to manage interactions between approaches and organizational spheres remains. In this context, the Systemic Design approach could be the approach to figure out these interactions and manage them through its tools and holistic view. Therefore, the research wants to improve the systemic framework by identifying the guidelines and paving the way for Systemic Design integration as an approach to comprehending the complexity and fostering a sustainable organisational implementation.

## 6. References

- Acedo, F. J., Barroso, C., & Galan, J. L. (2006). The resource-based theory: Dissemination and main trends. *Strategic Management Journal*, 27(7), 621–636. <https://doi.org/10.1002/smj.532>
- Ackoff, R. & Emery, F. 1972. *On Purposeful Systems*. Chicago, IL: Aldine-Atherton.
- Baishya, B. (2015). Mc Kinsey 7s Framework in Corporate Planning and Policy. *International Journal of Interdisciplinary Research in Science Society and Culture(IJRSSC)*, 1(1).
- Balogun, J. (2007). The Practice of Organizational Restructuring: From Design to Reality. *European Management Journal*, 25, 81–91. <https://doi.org/10.1016/j.emj.2007.02.001>

- Barbero, S., & Bicocca, M. (2017). *Design for Next 12th EAD Conference Sapienza University of Rome*. 12–14. <https://doi.org/10.1080/14606925.2017.1352853>
- Barbero, S., Tamborrini, P. & Dansero, E. (2015) "Systemic Design goes between disciplines for the sustainability in food processes and cultures." Giuseppe Cinà & Egidio Dansero (eds.). *Localizing urban food strategies. Farming cities and performing rurality*. 7th International Aesop Sustainable Food Planning Conference Proceedings, Torino, 7–9 October 2015, 517–525
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Battistoni, C., & Barbero, S. (2019). Systemic Incubator for Local Eco-Entrepreneurship to favour a Sustainable Local Development. Guidelines Definition. *The Design Journal*, 22, 10–12. <https://doi.org/10.1080/14606925.2019.1595851>
- Bijl-Brouwer, M. van der, & Malcolm, B. (2020). Systemic Design Principles in Social Innovation: A Study of Expert Practices and Design Rationales. *She Ji*, 6(3), 386–407. <https://doi.org/10.1016/j.sheji.2020.06.001>
- Bowman, C., & Toms, S. (2010). Accounting for competitive advantage: The resource-based view of the firm and the labour theory of value. *Critical Perspectives on Accounting*, 21(3), 183–194. <https://doi.org/10.1016/J.CPA.2008.09.010>
- Cabrera-Moya, D. R., & Reyes, G. E. (2018). *Resource-Based View (RBV) review, conceptual model and application methodology for the Integrated Public Transport System (IPTS) of Bogotá-Colombia Revisión del Enfoque Basado en los Recursos (RBV), modelo conceptual y metodología de aplicación para el Si*. 39(Nº22).
- Calabrese, M. (2011). *Il management nell'era della conoscenza*. Doctoral thesis, Sapienza Università di Roma.
- Cameron Esther, & Green Mike. (2019). Making sense of change management - A complete guide to the models, tools & techniques of organizational change. In E. Rausch (Ed.), *Management Decision*. <https://doi.org/10.1108/00251740910946769>
- Cao G, Clarke S, Lehaney B. 1999. Towards systemic management of diversity in organizational change. *Strategic Change* 8(4): 205–216.
- Cao, G., Clarke, S., & Lehaney, B. (2003). Diversity Management in Organizational Change: Towards a Systemic Framework. *Systems Research and Behavioral Science*, 20(3), 231–242. <https://doi.org/10.1002/sres.530>
- Cautela, C. (2019). *Design e Management : alla ricerca di un comune indice*.
- Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of Management Studies*, 47(6), 1154–1191. <https://doi.org/10.1111/j.1467-6486.2009.00880.x>
- Cummings, T. G., Worley, C. G., & Calhoun, J. W. (2009). *Organization Development & Change*. [www.ichapters.com](http://www.ichapters.com)
- Deserti, A., & Rizzo, F. (2014). Design and Organizational Change in the Public Sector. In *Design Management Journal* (Vol. 9, Issue 1). <https://doi.org/10.1111/dmj.12013>
- Faturrohman, F., Syah, T. Y. R., Darmansyah, D., & Pusaka, S. (2018). Application of RBV Theory and McKinsey 7'S Model on Start-up Company. *Scientific Journal of PPI-UKM Social Sciences and Economics*, 5(1). <https://doi.org/10.27512/sjppi-ukm/ses/a17012018>
- Flanagan, T. R. (2014). Social Systems and Design. In *Social Systems and Design* (Vol. 1). <https://doi.org/10.1007/978-4-431-54478-4>
- Fleisher, C. S. & Babette E. B. (2007). *Business and Competitive Analysis: Effective Application of New and Classic Methods*. Upper Saddle River, NJ.

- Fox, W. (1995). Sociotechnical system principles and guidelines: Past and present. *Journal of Applied Behavioral Sciences*, 31, 91–105.
- Galli, F., Maiocchi, M., & Pillan, M. (2014). The strength of olistic design for organisation, between effectiveness and disruption. *2013 IEEE-Tsinghua International Design Management Symposium: Design-Driven Business Innovation, TIDMS 2013 - Proceedings*, 64–69. <https://doi.org/10.1109/TIDMS.2013.6981216>
- Grant, R. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17, 109-122
- Hugentobler, H. K. (2017). Hacking the organization: Organizational Transformation by Design. *The Design Journal, Design for Next 12th EAD Conference Sapienza University of Rome*. <https://doi.org/10.1080/14606925.2017.1353001>
- Jones, P. (2018). *Contexts of Co-creation: Designing with System Stakeholders*. [https://doi.org/10.1007/978-4-431-55639-8\\_1](https://doi.org/10.1007/978-4-431-55639-8_1)
- Kummitha, R. K. R. (2019). Design thinking in social organizations: Understanding the role of user engagement. *Creativity and Innovation Management*, 28(1), 101–112. <https://doi.org/10.1111/caim.12300>
- Lester, R. K., Piore, M. J., & Malek, K. M. (1998). Interpretive management: what general managers can learn from design. *Harvard Business Review*, 76(2), 86–96. <https://hbr.org/1998/03/interpretive-management-what-general-managers-can-learn-from-design>
- Lisiecka, K., & Czyż-Gwiazda, E. (2014). *BUSINESS EXCELLENCE MODELS IN MANAGEMENT – BENEFITS AND LIMITATIONS*.
- Madhani, Pankaj M., Resource Based View (RBV) of Competitive Advantage: An Overview (March 26, 2010). RESOURCE BASED VIEW: CONCEPTS AND PRACTICES, Pankaj Madhani, ed., pp. 3 -22, Icfai University Press, Hyderabad, India, 2009, Available at SSRN: <https://ssrn.com/abstract=1578704>
- Mamun, M., Syah, T. Y. R., Pusaka, S., & Darmansyah, H. S. (2020). Implementation of Mckinsey 7S Management Strategy Concepts for Startup Business: Fruit Combining. *Russian Journal of Agricultural and Socio-Economic Sciences*, 97(1), 133–141. <https://doi.org/10.18551/rjoas.2020-01.17>
- Michael E. Porter (1980) Industry Structure and Competitive Strategy: Keys to Profitability, *Financial Analysts Journal*, 36:4, 30-41, DOI: 10.2469/faj.v36.n4.30
- Nohra, C. G., Pereno, A., & Barbero, S. (2020). Systemic design for policy-making: Towards the next circular regions. *Sustainability (Switzerland)*, 12(11), 4494. <https://doi.org/10.3390/su12114494>
- Penrose ET. The theory of growth of the firm. New York: Wiley; 1959.
- Peters T., Waterman R.H. Jr. (1995), In Search of excellence. Lessons from America’s Best-Run Companies. Harper Collins Publishers, London
- Regnér, P. (2010). Strategy Process Research and the RBV: Social Barriers to Imitation. In *Handbook of Research on Strategy Process* (pp. 90–108). Edward Elgar Publishing. <https://doi.org/10.4337/9781849807289.00011>
- Schneider, M., & Somers, M. (2006). Organizations as complex adaptive systems: Implications of complexity theory for leadership research. *The Leadership Quarterly*, 17(4), 351–365. <https://doi.org/10.1016/j.leaqua.2006.04.006>
- Senge, P. M. (1990). The art and practice of the learning organization
- Senge, P. M. (1993). Transforming the practice of management. *Human resource development quarterly*, 4(1), 5-32.
- Székely, F. & Knirsch, M. (2005). Leadership and Corporate Responsibility Metrics for Sustainable Corporate Performance. Working paper series on responsible leadership and sustainability

- Tasselli, S., & Caimo, A. (2019). Does it take three to dance the Tango? Organizational design, triadic structures and boundary spanning across subunits. *Social Networks*, 59, 10–22.  
<https://doi.org/10.1016/j.socnet.2019.04.002>
- Teece, D. and G. Pisano, The dynamic capabilities of firms: an introduction. *Industrial and corporate change*, 1994.
- Tilt, C. A. (2006). Linking environmental activity and environmental disclosure in an organisational change framework. *Journal of Accounting & Organizational Change*, 2(1), 4–24.  
<https://doi.org/10.1108/18325910610654108>
- Valiris G, Glykas M. 1999. Critical review of existing BPR methodologies: the need for a holistic approach. *Business Process Management Journal* 5(1): 65–86.
- Wren, D. A., & G. Bedeian, A. (2009). *Management Thought*. John Wiley & Sons, 125, 210–234.
- Zubac, A., Hubbard, G., & Johnson, L. W. (2010). The RBV and value creation: a managerial perspective. <https://doi.org/10.1108/09555341011068921>

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