[Araştırma Makalesi / Research Article]

# ORGANIZATIONAL STRUCTURE AND DESIGN EFFECT ON PERFORMANCE

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***ABSTRACT***

*The main purpose of this article is to emphasize the importance of organizational structure and design effects on work performance. Accordingly, the article explains organizational structure and its definition on several organizational designs and eventually conclude the impacts on work performance. Organizational structures differentiate companies by enabling managers and employees to be more effective problem solvers and more productive in decision making processes in company' own benefit. The scope of this study is limited by the definition of organizational structure or organizational design on management and business literature. The research is supported by academic journals and books covered the subjects related to organizational structure/design. The key words and terms used are: 'organizational design', 'organizational structure' and 'performance'. Articles were chosen by distinguishing the key words on articles abstracts or introduction parts. The aim of this literature review has been to successfully explain the fundamentals of organizational design. Nevertheless, many research papers stated that there is no positive relationship between organizational structure and performance. Simultaneously, organizational design plays a significant role in organizational behavior.*

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***ÖZ***

***ORGANİZASYONEL YAPI VE TASARIMIN PERFORMANS ÜZERİNDEKİ ETKİSİ***

*Bu makalenin temel amacı, organizasyonel yapı ve tasarımın iş performansı üzerindeki önemini vurgulamaktır. Buna göre, bu makale, organizasyonel yapıyı ve onun çeşitli organizasyonel tasarımlardaki tanımını açıklamakta ve sonuçta iş performansı üzerindeki etkilerini sonuçlandırmaktadır. Organizasyon yapıları, yönetici ve çalışanların daha etkin problem çözücü olmalarını ve şirketin kendi yararına karar alma süreçlerinde daha verimli olmalarını sağlayarak şirketleri farklılaştırmaktadır. Bu çalışmanın kapsamı, yönetim ve işletme literatüründe organizasyon yapısı veya organizasyon tasarımı tanımı ile sınırlıdır. Dört veritabanına; EBSCO, Science Direct, Taylor & Francis ve Google Scholar'a internet üzerinden erişilmiştir. Araştırma, organizasyon yapısı/tasarımına ilişkin konuları kapsayan akademik dergi ve kitaplarla desteklenmektedir. Kullanılan anahtar kelime ve terimler şunlardır: 'organizasyon tasarımı', 'organizasyon yapısı've 'performans'. Makaleler, makale özetleri veya giriş kısımlarındaki anahtar kelimeler ayırt edilerek seçilmiştir. Bu literatür taramasının amacı, organizasyonel tasarımın temellerini başarılı bir şekilde açıklamak olmuştur. Bununla birlikte birçok araştırma makalesi örgütsel yapı ile performans arasında pozitif bir ilişkinin olmadığını belirtmiştir. Aynı zamanda örgütsel tasarım örgütsel davranışta önemli bir rol oynamaktadır.*

**Anahtar Kelimeler**: *Organizasyon Yapısı, Organizasyon Tasarımı, Yönetim, Performans, İş Performansı*

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## 1. Giriş

In order to secure long-term survival, organizations functioning in today's fiercely competitive and quickly changing business climate must constantly restructure themselves. Reorganization goes by many names, including flattening, reengineering, downsizing, and rightsizing, but the end objective is always the same: increasing worker effectiveness and production. Reorganizations sometimes include significant layoffs, with the hope that information technology will allow remaining staff to make up the difference. Moreover, the main purpose of this study is explaining organizational structure and its definition on organizational design literature also distinguish some effects on performance in order to find out the direct connection between the performance and organizational structure and design. The scope of this study is limited by the definition of organizational

structure or organizational design on management and business literature. Nevertheless, as many observers have noted, this strategy is limited by a person's capacity to manage extra needs for information processing, which ultimately results in 'information overload'. Organizations and individuals alike must learn how to absorb the additional information flows brought about by the environment's rapid rate of change and the rise in information communication. This problem led to the concentrate on creating organizational structures that facilitate the use of successful and productive learning procedures (Davenport, 1996). Moreover, data collection of this article have been made through searching databases online. Databases used in this regard include EBSCO, Science Direct, Taylor & Francis and Google Scholar. In these databases, 14 articles and 6 books were found which contain organizational structure studies and performance. Literature is examined through content analysis which is a widely-used way to analyze the terms and words in the texts and to find out the related contexts (Duriau et al., 2011). This method was used to determine the organizational design or performance in the term of organizational structure where it has a context in the existing literature.

### 1.1 Organizational Structure and Design

An organization means that there are people who work together to achieve the same goal or purpose instead of working alone (Fadeyi and Ajagbe, 2015). Mintzberg (2009, pp1-8) pointed out that organizational structure specifies 'how people can be organized or how their jobs are divided and coordinated'. Nelson and Quick (2011, pp1-8) emphasized that departments in organizations can be separated into various units, including manufacturing, sales, marketing, accounting and advertising. In addition to this argument, they also pointed out that 'departments are connected to shape the organizational structure. Nevertheless, Quangyen and Yizhuang (2013) stated that organizational structure gives the necessary shape in order to achieve the goal in the business environment.

According to Daft (2008), there are three main factors in order to explain organizational structure:

a) Organization structure needs to indicate formal reporting relationships involving the number of levels in the hierarchy and the span of control of managers and supervisors
b) Organizational structure help to gather the groups of individuals into the departments and then departments create all the organization
c) Organization structure employs the design of systems to see effective communication, coordination and integration of efforts between departments.

Rao and Rao (1999) mentioned that an organization is related to how well employees, tasks and facilities are within together in order to achieve the common goal. According to Allen (2021, pp9 ), organizing is a process of identifying and grouping the work to be performed, defining and delegating responsibility and authority and establishing relationships for the purpose of enabling people to work efficiently together in order to accomplish objectives. Therefore, organizing has features such as:

**1.1.1 Identifying the work:** It mainly needs to identify all necessary work to do in order to achieve the goals. Systematically, work needs to be grouped, so that the employees can get clear and separate their tasks. Tasks need to be separated and distributed to the employees equally, owing to the fact that no one is able to do all the work in the organization. Importantly, identification and classification help managers to concentrate on important issues and prevent them to lose time on duplicating, overlapping and their efforts.

**1.1.2 Grouping the Work:** Division creates the need for coordination at the work. All tasks need to be related to each other and the same ones need to be grouped together. Therefore, divisions and departments created under the arrangement of the manager.

**1.1.3 Establishing Relationships:** To get attached with the department directors, reporting relationships must be clarified. Subsequently, a formal relationship has been built and it helps employees to know which tasks must be done, how it will be done, to whom it will be done and how tasks are related to each other. Within a formal relationship, if there is no formal

relationship, it is difficult to manage and control all the work in order to achieve the objectives of the organization.

**1.1.4 Delegating Authority:** Authority means acting right, giving orders and being in charge. Meanwhile, it also means getting respect from others. Authority is necessary because it helps managers to finish the tasks with confidence and demonstrate the results. While managers give the tasks within clear authority and responsibility lines to his/her employees, they know what their duties and expectations are.

**1.1.5 Providing Coordination and Control:** Mutual relationships between different positions need to be clearly determined. Also, tasks of different people and their efforts must be clearly coordinated. Moreover, performance must be measured, evaluated and controlled from time to time. If a mistake is made, a quick separation must be made here and the necessary decisions and measures taken immediately.

### 1.2 Types of Organizational Charts

The main aim of this section is to explain the different types of information sharing design in organizations. In this regard, the most important information sharing designs include the *vertical* and *horizontal* information sharing. In addition to these structures, *bureaucratic design* should be stated as well. Bureaucratic design is known as a type of design that is usually used in large and more complex organizations. Bureaucratic structure has a definite standard and ideal processes for tasks and job performance. Thus, it is possible to say that is has a higher control mechanism.

**1.2 Vertical Charts:** In this chart type, the top has the main role where associates' roles are at the bottom within the organizational hierarchy. Authority is higher at the top compared to the associates at the bottom. In addition, positions are at horizontal level.

**1.3 Horizontal Charts**: In this chart, authority moves from left to right. Top manager is located extremely on the left and, for example, an accounting

employee is extremely on the right. Horizontal structure helps to reduce the effect of hierarchy which increases the functional relationships.

**1.4 Circular Charts:** In this type, top manager is in the middle of concentric serial circles. The different roles of the organization have closed each other in this way and in this chart each role plays an important function.

### 1.2.1 Centralized or Decentralized?

Organizing should be all about control and efficiency when it comes to important tasks, a hierarchical authority structure, rules, regulations, and feedback systems. Are problems all dependent on the top levels for a solution? Basically, it means all lines are concentrated in the center. On the other hand, decentralization is known as the opposite of the centralized structure. Decision making process and authority belong to the lower structural levels and there are more face to face communications, informal talks, more flexibility, less rules and regulations.

### 1.3 Mintzberg Theory

Mitzberg (1989) had renewed the classical theory behind the organizational design. According to Mitzberg (1989) there are five types of organizational structures in the 20$^{th}$ century:

**1.3.1 Entrepreneurial:** In this structure, managers behave more openly, creative-minded and also, the take significant risks. The strength of managers comes from the fact that they are more active, more optimistic and are the activists of the future in this type of structure. On the other hand, their lack of focus on the business, such as undisciplined tasks, lack of control over management and lack of efficiency can pose a major risk to this entrepreneurial structure.

**1.3.2 Machine:** Mitzberg (1989) stated that a machine is a highly bureaucratic within the organization. This structure includes government and big set-in types of organizations. The advantage of this structure is that they have a long life and they don't easily break. However, the disadvantages of this structure include the lack of openness to new ideas and the lack of efficiency due to the bureaucratic structure.

**1.3.3 Professional:** Professional type of structure is similar to the machine design. It has the advantage that it is run by highly skilled professionals who are overly qualified for economic management. Managers have skilled employees in their jobs and have more decentralized decision-making processes compared to the machine structure.

**1.3.4 Divisional:** This structure is used commonly in big businesses that have large product lines and multiple business sections. Frequently, companies separate their products into divisions and within these divisions upgrade certain managerial divisions. This format is called centralized and vice presidents are able to see all the divisional aspects in their sections.

**1.3.5 Innovative:** This structure is called as a 'cutting edge leadership' structure. It's a mutual structure in new industries or companies in order to be modern leaders in the market. Innovative design is a type of decentralization. Decentralized structure helps skilled people to take action with efficiency, however struggling on leadership and not being clear on authority are the disadvantages of innovative design.

## 2. Organizational Structure and Performance

Decades of organizational structure play important roles, such as financial growth and social relations in the company and efficiency. Walton (1986) stated that structure is the first step for organizing the company including roles and positions, hierarchical levels and accounting issues, not to mention problem solving and consolidation mechanisms. On the other hand, Ajagbe et al., (2011) stated that there is no relationship between employee performance and span of control. That being said, they also underlined that in decentralized organizations there is higher job satisfaction due to the span of control that gives employees authority over what they are responsible for.

### 2.1 Overview

An organization theory (also known as the contingency theory) examined the environments and components of various organizations in the 1970s in an

effort to better understand how organizational structures may be handled (Jung and Kim, 2014). Contingency theorists, drawing on the administrative theories of Taylor (2006), Barnard, and Fayol (2008), provided guidance to managers and leaders on how to enhance organizational performance (Lounsbury and Ventresca, 2003). Furthermore, Robinowits et al. (1977), highlighted two main purposes of organizational structure, which probably have an impact on worker conduct and organizational effectiveness. First, structures are developed to reduce or control the effects of individual differences on the organization; second, structures serve as backdrops for the exercise of authority, the making of choices, and the carrying out of operations.

### 2.2 Structure and Perceived Performance

Structure is made up of several ideas and is separated into fundamental components called structural variables or structural dimensions (Kimberly, 1976). Thus, physical and non-physical organizational structure aspects can be distinguished. The physical structural aspects of an organization include its size, breadth of control and tall/flat hierarchy (Jung and Kim, 2014). On the other hand, according to Dalton et al., (1980), organizational policies and practices such as formalization, decentralization, centralization, and specialization are thought of as the non-physical structural aspects that regulate the employee behaviors of the company.

### 2.3 Span of Control and Performance

The number of people that a first-level manager, such as a supervisor, directly controls is referred to in management science as a span of control (Gulick, 1981). The span of control has two ways:

1) Wider span control where managers control and deal with large amount of employees

2) Narrower span control where managers control and deal with small amount of employees

Nevertheless, Quangyen and Yezhuand (2013) indicated that organizational structure helps to diminish the unclearness between employees and also give assistance to understand their behavior.

There has been a shift in the focus of academic studies on the effects of span of control. Previously, researchers were interested in the extent to which span of control affected members' behaviors and activities within organizations (Gulick, 1981). The explanation most likely stems from the distinction between individual and organizational performance, which is regarded as a result of a supervisor's broad versus limited scope of control (Jung and Kim, 2014).

When the existing literature is examined, it reveals that the relationship between performance and span of control is not always consistent. The psychological idea of 'attention span', which describes how many objects the human brain can focus on at once, sparked interest in span of control (Jung and Kim, 2014). It is not clear whether a supervisor can manage the numerous group relationships and attain a higher level of group performance given the traditional understanding of span of control (Jung and Kim, 2014). According to Simon and March (2015) theory of bounded rationality, managers can perform better or be more efficient by limiting their span of control. From an economic standpoint, more control over an organization's operations translates into higher transaction costs, which lowers organizational performance (Perrow, 1986). However, if the subordinates have high levels of self-confidence and personal skills, a large span of control with many subordinates can give supervisors and their subordinates the chance to develop and maintain teamwork, cooperation, and high morale, as well as foster the skills of self-confidence and initiative (Jung and Kim, 2014). According to the findings of recent research, a broad range of control and the individual performance of scientists and engineers in an empirical study of a sizable electronics company are positively correlated. However, some empirical research revealed no connection between efficacy and span of control (Ronan and Prien, 1973).

In conclusion, empirical research on the correlation between span of control and performance is still lacking and more research is needed.

### 2.4 Importance of Organizational Design on Performance

The association between organizational size and performance has drawn the attention of researchers, however the findings have not always been consistent (Boyne, 2003). According to some empirical research, organizational performance and size are inversely correlated (Amirkhanyan et al., 2008). This makes sense because it costs more to coordinate work and relationships when an organization has more members (Steiner, 1972). Conversely, further empirical research has discovered a favorable correlation, suggesting that individual workers are valuable resources for enhancing performance (Jung and Kim, 2014).

Performance and organizational structure have long been studied in relation to each other, and they can be broadly divided into two categories. A model illustrating hierarchical authority relationships that vary according to important and quantifiable structural dimensions like formalization, centralization, span of control, vertical and horizontal differentiation, and specialization falls under the first category. This model has been incorporated into a wide range of theories and perspectives, such as executive and organizational cognition (Wood and Bandura, 1989), the resource-based view of the firm (Markides and Williamson, 1996), complementarity theory (Milgrom and Roberts, 1995), contingency theory (Donaldson, 2001) and the information processing perspective (Burton and Obel, 1998). Organization structure affects the behavior of the employees. Hall (1977) stated that there are two simple activities have an effect on personal behavior or organizational performance:

1) Structures are made for decrease or control the impact of personal fluctuations at the organization
2) Structures are positioned where power is placed; decision making and actions which organizations are already taking.

Moreover, Van de Ven (1976) stated that organizational design is important for both organization and its subdivisions due to the performance such as efficiency, physiologically and effectiveness. Structure means that policies and tasks that are already considered in the company as dictation or put restrictions into employees. On the other hand, dimension of structuring for example, span of control, size and administrative power is not the scale to explain the behavior of or limitations of the responsibility owners in organizations.

Organizational behavior can be explained as:

**2.4.1 Specialization/Complexity:** Specialization means there are a lot of divisions and divisional tasks in the organization (Payne and Mansfield, 1976). Furthermore, Huge and Dewar (1973) emphasize that complexity is a set of different distinctive occupations. Even though there is a strong relationship between specialization/complexity and performance, it's concluded as there is no establishment between specialization and performance at all (Corwin, 1970; Reimann, 1976).

**2.4.2 Formalization/Standardization**: Formalization means an extension of being suitable for any situation as outlined in writing. Standardization is similar to formalization. Standardization dictates or puts boundaries on behaviors and processes of employees in the organization. Formalization is also called as job description, such as description of tasks and activities, however it leaves job classification outside in this outline. Even though job classification is written to clearly outline the expected behaviors from employees; it is not clear about putting orders or boundaries on who is going to be in charge to take the responsibility.

Regardless, standardization can have a specific description about activities to see potential employees by testing. In addition, formalization is about *'what'* an employee is going to do; while standardization is about *'how' an* employee will do it.

There should be a minimum level of formalization/standardization in order not to have any 'role ambiguity' in the organization. Hence, 'role ambiguity' could affect employees' behavior and also performance (Khan et al., 1964; Rizzo et al., 1970).

Consequently, Hackman and Lawler (1971) and Hulin and Blood (1968), state that formalization and standardization can impose limits on the work environment and the result can be frustration, dissatisfaction, boredom, absenteeism and a lack of good results from employees. On the other hand, many studies reported that there is not a relationship between performance and formalization.

**2.4.3 Centralization:** Centralization includes the setting of authority in order to make decisions. Typically, one or a few people hold the control of decision-making mechanisms in organizations. In the literature, this setting is called centralized structure. The main point of centralization is that a single person makes all decisions. The minimum effect of centralization can happen by decentralization in an organization where the decision making process is evenly utilized by each employee. Nevertheless, many studies have shown that there is no positive relationship between centralization and performance.

### 2.5 Empirical Research Information Processing

Numerous empirical studies have looked at information processing and one of those studies analyzed the connection between formal structure variables and organizational performance. There are two crucial points to take into account, but the complete details of those studies are outside the scope of this article. The first has to do with how the analysis unit has changed. The layout of business units and divisions (Olson et al., 2005), departments and functions (Alexander and Randolph, 1985), and the organization as a whole (Nandakumar et al., 2010) are examples of organizational structures. The relationship between performance and the structural variables is the subject of the second point. The way an organizational structure is formed or aligned with other critical elements of the company always affects how well it performs. For instance, Geroulakos et al., (1993) claimed that, in accordance with the contingency model (Miles and Snow, 1978) performance would specifically improve when 'product-market strategy' and decentralized decision-making are combined. Return on investment and sales growth are two ways to gauge this. Additionally, Khandwalla (1973) examined organizational profitability as a function of the positive relationship between some organizational variables, such as vertical integration, decentralization, and organizational configuration types as divisional or functional; Jennings and Seaman (1994) looked into the relationship between performance and strategy (prospector, defender); and Olson et al., (2005) conducted multiple studies on multi-variable likelihood relationships of company performance from the perspective of the marketing function's structure, strategic significance of the function and overall company strategy.

### 2.6 Social Network Viewpoint

People are 'social beings' based on 'networks of relationships' with others that help fulfil 'numerous life tasks', including those that take place both inside and outside of formal organizational settings. This is the foundation for thinking about social networks in the context of organizational design (Kilduff and Krackhardt, 2008). Accordingly, business organizations are held together and assisted in achieving their goals by both 'formal authority relationships' and 'informal connections across departmental and hierarchical boundaries'. Numerous structural elements previously discussed in social network analysis have been incorporated into the network analysis method of organizational design. In this study, the ideas of centrality, connectivity, similarity and hierarchy are the most correlated ones. The relative significance or impact of links or actors within a network is indicated by centrality measures (Borgatti, 2005). Degree centrality and betweenness centrality are the two most popular metrics. The quantity of links or connections of an intersection to other intersections in the network is known as its degree of centrality. For example, the degree of centrality of link A to three other links, B, C and D, would be three. The rate of an intersection that extends over the shortest lines connecting all points of a network with all other links is known as the second measure of betweenness centrality. A link's betweenness centrality increases as the number of these routes on it increases. The degree of direct connectivity between links or actors in a network is measured by connectivity metrics. The most common and straightforward way to use a measure is density which refers to the ratio of the total number of connections to the total number of networks between pairs of crosses. There are ten possible pairs of intersections in a net with five intersections and undirected connections. The network density is 50% if there are just five pairs of these intersections connected. The diameter of the network, or the longest of the shortest paths between any two connections in the graph, is a second way to gauge connectivity (Hunter, 2015).

## 3. A Model for the Impact of Organizational Structure on Organizational Design Effect

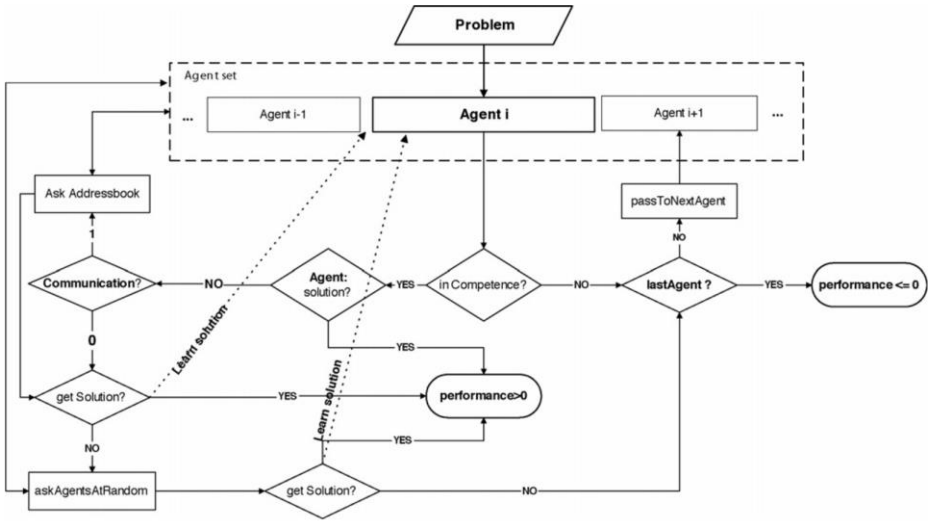
Organizations have come to understand how critical it is to evaluate the effects of suggested organizational structures on organizational learning at the design stage of a reengineering process. This is because these terms are used

widely in the existing literature and thus it is vital to clarify them in our context before examining the topic further. Descriptive and normative (or, prescriptive) approaches are the two basic methods utilized to research how organizations make decisions (Vroom and Jago, 1974). While normative research creates models that offer a reasonable foundation for decision-making, descriptive studies only explain the process of decision-making. The goal of descriptive research is to provide a clear picture of the situation and the activities that occur within an organization. This method's generalization is very challenging. Conversely, normative research typically concentrates on quantitative techniques that support reasoned decision-making. Despite their evident limits, their advantage is their ease of generalization.

The research community has created a number of organizational models to examine the connection between organizational structure and design effect. These models encompass an organization's decision-making process as well as its structure. Later, Ouksel et al., (1997) created a mathematical model that was even more detailed. There are four primary parts to the model: decision rules, memory, feedback and the framework of information processing. The primary presumptions are as follows:

1. Decision-making practices within organizations are rooted in history.
2. The boundedly rational decision-making practices of the individual agents that comprise the organization are the foundation for organizational learning.
3. Uncertainty absorption happens at every node in the system as subordinates condense their input data into output recommendations to their superiors. This information compression is lossy (March and Simon, 1958).
4. A consensus need not be obtained for general organizational choices. For example, it may be appropriate to allow the majority opinion to take precedence.
5. The choice made by the organization is binary (go/no go).
6. The company must make integrated decisions that are essentially repetitive: quasi-repetitive in that the tasks are usually integrated, indicating that the task is too complicated for a single agent to handle and comparable but not identical to the prior tasks.

Since it is expected that the jobs under consideration cannot be broken down into smaller tasks, it is possible that the right answer for the main task will not always result from combining the correct answers to each smaller task.




**Source:** Dupouet and Yıldızoglu (2006)

These models are used in one, multiple, or a combination by all decision-making structures. At some point, a hierarchy may deploy democratic teams and a committee may take the place of a single 'middle manager'. The models mentioned above are fundamental. Organizations, however, might not always match these 'clean' designs precisely. Organizations frequently have non-hierarchical connections and non-symmetric designs due to a variety of reasons. Applications of information technology, like email and workflow, for instance, create different structural forms in today's environment. While some organizational cultures place a strong emphasis on the chain of command, others promote lateral communication across functional boundaries.

Five essential criteria were used to investigate their effects on organizational learning and performance. A succinct explanation of each is given below:

**Number of agents**. The total number of people at the lowest tier of the organizational hierarchy.

**Bits per agent.** The quantity of evidence pieces that every agent considers in light of a certain organizational choice.

**Decision-making structure.** The system of organization that assesses person's capacity for learning. In the past, hierarchies, matrix organizations, democratic teams and expert teams have all been assessed.

**Evidence weighting.** How the weights of the evidence are distributed to influence organizational decisions. Weighting can be applied in an intelligent or randomized way. It may be dispersed uniformly or grouped. One of the three approaches is usually used to assign weights: uniform, non-uniformly distributed, or non-uniformly clustered. Each piece of evidence has a weight. This process is repeated until all bits have been assigned a weight. When using non-uniformly clustered weights, a weight of one is assigned to the first third of all bits, a weight of five to the next third and a weight of one to the last third.

**Breaking down Tasks**. Evidence can be viewed by multiple agents simultaneously (overlapping) or by just one agent (non-overlapping). There are two ways to look at overlapping task decomposition: (a) partial, where multiple agents see only a portion of the evidence; or, (b) blocked, where the overlapping is done entirely within a restricted area of the organization, or distributed, where the overlapping occurs throughout the entire organization.

### 3.1 Organizational Design Performance Model

In their study, Lin and Carley (1995) created 7680 instances that were examined for organizational performance using a total of seven factors. Task environment, organizational structure, task-decomposition scheme, training scenario and agent style are the five factors that determine the type of organization. Proactive agents made an effort to plan ahead for decisions, while

reactive agents responded to inputs. Two internal circumstances were examined: the kind and intensity of tension inside. In addition to the matrix organizational structure, Lin and Carley (1995) looked at the three organizational structure types that were studied by Mihavics and Ouksel (1997). Their goal was to ascertain how agent style affected the functioning of the organization. In comparison to elements like organizational structure, job decomposition scheme and work environment, Lin et al. (1995, p. 284) found that 'agent style is a relatively weak factor in organizational decision-making performance'. Differently put, whether an agent is proactive or reactive has much less impact on organizational learning and performance than other variables, suggesting that organizational architecture is more important than individual agent characteristics. More than 460,000 potential structures can be created by a complicated model that was developed in a recent study by Carley and Lin (1995). The organizational design, task environment, stress, training and agent style characteristics are all included in the model. The simulation of each model is limited to 1,000 decisions, which may not fully display the asymptotic behavior or nearly stationary periods associated with the structures' performance potential. The findings show that making more decisions can occasionally lead to making better ones. There are two possible explanations: either organizations' learning potential is slowed down or limited as the volume of information increases (due to the increased number of possible evidence patterns) or information overload occurs (people are unable to process larger amounts of information).

### 3.2 Hierarchy

The formal structure of the Exploration and Product Division in this case study predictably fulfils all the requirements of a 'fully hierarchical structure'. The highest possible score, 1, is therefore equal to the sum of the scores for each of Krackhardt's (1994) four graph-theoretic dimensions. Since every employee in the network can reach every other employee, albeit through different paths, the informal structure's connectedness score is likewise 1. Since all connections were taken to be bidirectional, the exchange or hierarchy score is 0, the lowest value that can be obtained. The exchange value would have been higher in this network if the connections were directional. Because the efficiency value (0.924) is less

than 1, it can be concluded that there are more outgoing relationships on average than 1 would anticipate given the corresponding formal structure.

## 4. Conclusion

The aim of this article is to successfully explain the fundamentals of organizational design. Nevertheless, many scholarly work stated that there is no positive relationship between organizational structure and performance. Simultaneously, organizational design plays a significant role on organizational behavior. According to Dalton et al., (1980), the crucial point is that differentiation between span of control, formalization/standardization or other types of structures may not be able to affect behavior at all. Hence, organizational designers design functional structures.

First, it has been shown that the mathematical model proposed by Ouksel et al., (1997) is reliable and capable of producing outcomes that are more broadly applicable. It will be able to investigate more intricate groups with intricate relationships and decision-making powers because of this foundation.

Second, it has been discovered that there are unique phases of organizational effectiveness when dealing with new problems: startup, learning and stability. To ascertain the elements that enable scholars to pinpoint the onset and stabilization points of learning, more research is required. Relaxing some of the model's assumptions about the accuracy and timeliness of input and feedback will increase the realism of the experiments. Understanding a priori assessment of some of the effects of switching organizational designs would be made possible by the knowledge of how different organizational design characteristics affect performance, although the present study extends the knowledge of how organizational design affects to some extent.

There are at least three areas related to organizational learning and performance where more study is required but which are outside the scope of this article. First, it is necessary to assess the influence of the complexity of the decision functions. Second, the modification of decision functions. And, lastly but equally important, the final results could be significantly impacted by the primacy and recency effects.

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