

## The Impact of the Holographic Principle Build the whole into the Parts on Organizational Performance

\* *Amani Al Jamal*

*Faculty of Business Administration, Beirut Arab University, Beirut, Lebanon*

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### ABSTRACT:

Researchers have studied and concentrated on Organizational metaphors chosen for organizations in order to reach better employees and organizational performance. This paper introduces a brief theoretical understanding of the metaphor “organization as brain”, the Hologram, and the principle “the whole into the parts”. The paper focuses on the benefits of the four ways of implementing “the whole into the parts” principle within the organization and how information flow among employees assists and improves their analysis and innovation. Application of the principle “the whole into the parts” facilitates processes of the organization as DNA does. This paper shows how this metaphor encourages working with skilled teamwork. It also demonstrates that in order to enrich the area of innovative ideas, understandings, and vision, there is a need to share the same image, culture, information, knowledge, targets, and increase learning organization through benefiting from the practical use of this metaphor within its strength and overcome its limitation.

**Keywords:** *Information processing, Decentralization, Learning organization, Sharing knowledge, Organizational DNA, Network intelligence*

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### INTRODUCTION

The holographic principle “build the whole into the parts” within the metaphor “organization as Brain” has significant implications on the organizational performance. The “Organization as Brain” metaphor presents the importance of information processing system as brain. The brain, as scientist depicted through research, can perform five different roles which system controlling, information translator, library of collective information, informative linkage, and overall image understanding using separates small pieces of information or data. These actions performed by the brain can depict what is happening around and this in turn helps organizations in analyzing information and choosing the optimal strategy and decision

according to data collection. The holographic organization includes five main principles which provide a different angle vision for the organizational culture, vision, information, and decisions. This paper sheds light on the first principle “build the whole into the parts” and explains its implication on organizational performance. The importance of holographic organization design and the implementation of its principles, specifically “Build the Whole into the Parts”, has a direct influence on the organizational cultural environment, strategy, leadership, information system, teamwork and the future of work in addition to the whole organizational productivity. Understanding this principle and metaphor is imperative to the

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\*Corresponding Author, Email: [amanijamal14@gmail.com](mailto:amanijamal14@gmail.com)

organization as it will improve employees' teamwork and organization productivity.

In respect to the Brain metaphor, Holographic organizations allow us to understand how the organization should work with a set of principles that attempt the importance of "information processing, learning, and intelligence" and provide a "frame of reference for understanding and assessing modern organization". The concept of Holographic Design was the main concept that scientists deeply worked on as the quality of the whole is enveloped in all parts. This paper reassures that the concept "build the whole into the parts" principle encourages the replacement of decentralization and the access of information systems within the whole organization. The need of multi-skilled employees is increasing and will expand more with the holographic concept in general, and more specifically under the principle of "build the whole into the parts". The more the parts are bounded in all, "the system can self-organize and regenerate itself continuously" (Morgan, G. 1997: pp.100). The goal of this paper is to present the importance of the application of the holographic concept "the whole into the parts" of "Organization as Brain" metaphor and its impact on the organizational improvement. In addition, this paper studies the concept of a Holographic organization within the metaphor "Organization as Brain" and its effect on the organizational strategy, performance and its employees' innovation.

#### Literature Review

##### Organization as A Brain Metaphor

##### Review of the "Organization as Brain"

The American psychologist Karl Lashley experimented with rats' brains and removed ninety percent of their cortex. His study led him to believe that there is a site of learning and memory storage and see that each part of the memory is spread throughout "brain as a whole". Scientists admitted that the organization can work more effectively. Gareth Morgan was influenced by Karl Lashley and tried to search and answer Frederick Taylor's intriguing questions about the design of learning organizations that would give the organization the capacity to be flexible and creative as a brain. In addition to Taylor's previous questions, Morgan noticed in his book (Morgan. 1997.: pp. 74) that Taylor also had

concerns about the distribution of this capacity among the organization so that the whole organization will self-organize and evolve along with changes and challenges. To have the answers to these questions, Morgan initiated his theory based on a part of Karl's experiment's result. Morgan suggested using metaphors to contribute to the understanding and development of the organization. In his book "Images of Organization", which first published in 1986, he used metaphors as "Organization as Brain", which is one of the eight metaphors he suggested. "Organization as Brain" shows the convergent of both organization and brain. "Organization as brain" emphasis from life process to learning. It focuses on the source of information spread among system and employees, and how to collect understandably. Rao, V. (2010) mentioned, "Organization as brain is the source of information-theoretic ways of understanding collectives ("who knows what," how information spreads and informs systems and processes)." Therefore, it could be explained that "organization as brain" is about having access to the information to view it from different angles and improve learning and decisions. "Organization as Brain" can help companies predict and define effectiveness instead of gauging it according to information analysis as Örténblad, A. & Al mentioned (2016). This could be if the organization can benefit from previous experience with addition to new data. Boyd, S. (2013) defined organization as brain metaphor and stated, it's "a metaphor that emphasizes learning over other activities, and lines up with the perspective that places information processing at the center of organizational action." Thus, for the new organizational era, it is a must now to insist and focus on information process and analysis rather than to concentrate on learning and degrees only. Brain returns the main matter to increase innovative creators and problem solvers for any company or organization within globalization increasement and advanced technology in all fields and organizations. Within the metaphor "Organization as Brain" three concepts were established, Organization as Information Processing Brain, Creating learning Organizations, and Organization as Holographic Brain. Thus, the metaphor "Organization as Brain" is an organizational information and learning combined with a process that must be

improved according to holographic data and information to have continuous improved analysis and decisions. Within “Organization as Brain” metaphor, employees are considered main “management layers for wisdom and sense-making functions in the pursuit of developing a learning organization” as mentioned in Noble Academy (2019). This paper focuses on the holographic Brain which is a very profound concept that should be implemented in each enterprise, since it is related to the quality of information analysis in order to improve organizational performance. The main objective of holographic organization design is to create a business that can study, adjust, generate, and modify in combination with speedy changes in the environment - just like how the brain delivers, day-in, day-out (LC-Global).

#### **Review of the Organization as a “Hologram” in literature**

Throughout history, many attempts have been made to synthesize the holographic concept and its practice within and impact on organizational life. Dennis Gabor advanced the theory of holography concept through his effort to progress the resolution of an electronic microscope in 1947-1948. Hologram means the whole message in Greek. The Russian scientists N. Bassov and A. Prokhorov and American scientist Charles Tows (1960), Emmett Leith, Juris Upatnieks, and Yuri N. Denisyuk (1962), Dr. Stephen A. Benton (1968) went deep in the hologram too. S. Benton invented that hologram is mainly important since it made the organization conceivable to increase mass production using this technique. Dr. Rajiv in his blog in September 2017 mentioned, “Consequently, embossed holograms are now being used by the publishing, advertising, and banking industries”. Going on with the history, it shows that in 70s Lloyd Cross, Victor Komar and his colleagues advanced a prototype for a projected holographic movie. According to Amayea (2008) mentioned by Wilber’s (1982) suggestion, if we see holography as an organizing principle, the world will be the hologram, and the brain never could be isolated from the world. Smith, A. (1990) declared, “It views the processing of mental forms as occurring within the context of a part/whole relationship, where the identified part exists within the code of the whole.” Combination and overlap between

the hologram and learning and memory storage of Karl Lashley created the concept of a Holographic Organization with its principles.

With the expansion of information technology and how information can be reached and realized, the reality of holographic organizations increased. Thus, it can be explained that the power of technology leads to new ways of thinking to solve problems and challenges rapidly too. Scientists prefer to think about the holographic organization as a spider plant or hives that could simplify understanding the metaphor of the brain, where everything is working for the whole-body benefit. Bohm (1980) said: “our general forms of thinking”, shapes the problem; thus, a view that gives the theory of the whole and parts are considered great and important in our practical life. This means that Bohm believes in the concept “the whole is the real and the real is the whole,” which accepts the point of view that the parts show the whole also.

Due to the aforementioned organization as a Holographic brain is considered as the combination of five principles: Build the Whole into the Part, Redundancy, Requisite Variety, Minimum Specs, Learn to Learn. The first three principles (whole into the part, redundancy, requisite variety) give the organization the capacity to evolve, while the fourth (minimum specs) gives the organization the ability and freedom to evolve, while the last one (learn to learn) gives the ability to emerge effectively and more easily. The five principles are interconnected and combined.

#### **“Build the Whole into Parts” Metaphor & its implementation**

The main concept of using metaphors for the organization is to be structured and easily to be understood by its structure. “Build the Whole into the Parts” principle offers a powerful mindset for managing changes. Lashley’s experiment shows that specialized circuits exist in every part of the brain. Thus, the more you are as a part, evolved in the culture, knowledge, and information, the more you can face challenges and become flexible in and predictable to any situation. The concept of “Build the Whole into Parts” comes from the regeneration of the whole picture by any part of the broken holographic plate, Morgan (1997) mentioned, ‘so that every part represents

the whole.” Karl Lashley (1950) suggested that experienced information and memories are spread within the entire brain and not stored in a specific area (Lumen learning). It is now known that three areas of the brain play important roles to process and store diverse types of memories.

Gustav, C. (1992) explained that holographic storage is thus a special form of information processing, involving complex mathematical operations. The contribution of functions and character of the whole is involved in the process, signals, and impulses. Similarly, brain functions according to signals and impulses. That is why scientists mentioned that the two parts of the brain; the right and the left; could function as holographic and specialized according to the situation. One part of the brain can dominate the other regarding the function brought to play.

According to Morgan (1997) as stated, “the neuroscientist Karl Pribram of Stanford University has suggested that the brain functions by holographic principles: that memory is distributed throughout the brain and can thus be reconstituted from any of the parts.” (Morgan, 1997: pp. 75). This suggestion gives an understandable point of view that the brain can self-organize and relearn skills, emotion, and capacities that are needed to create new life. The central property of a hologram exists within the brain function that even if a holographic system is broken into several parts, each piece “may be used to reconstruct” its original, whole image. The function of a whole system is, thus, enfolded within its subsystems and the function of the subsystem is the same as the whole (Morgan, 1997).

When all parts of the organization; individual, team, or department; share their vision for the organization’s perspective, the responsibility of the whole seems common among parts to reach the whole purpose, vision, goals and organizational achievement. Peter Senge declared that “sharing vision is crucial for the learning organization because it provides the energy and focus for learning, and links people’s work to a larger purpose embodied in the organization’s products and services. It creates alignment between people and organization, creates trust and courage to do what is needed for the vision, and fosters a naturally long-term view in people” (LC-Global). Through holographic organization in general and “Build the whole into

the Parts” principle in specific, the growth of individual and organization increase together and in parallel. Through organizational daily work, an organization deals with different natures as customers, competitors, suppliers, labor unions, shareholders, government agencies, and other individuals and organizations that might influence the organization’s well-being directly or indirectly. Often, if the organization is examined, it is found that many of the needed qualities are already in existence, but there is no knowledge or no effective use of them, as a brain. Such a situation is the potential and the main point to be addressed.

To reach this effectiveness of unused existing knowledge, connection and sharing knowledge and effective ideas among the organizational parts should occur. This phenomenon is to forget the “I did”, it is about “we did, and we are”. The concept of knowledge and information pool will develop and reconstruct the function of the parts in special and the organization as a whole part. Peter Senge was influenced by Morgan metaphors. Peter Senge in his book “The Fifth Discipline” which the first edition was published in 1994, highlighted the importance of the principle “the whole into parts” and sharing learnings through information system flow to help groups of “people translate good ideas into an enhanced capacity for effective action-the true definition of learning”.

This explains the importance of focusing on the abilities of learning and processes that exploit or improve organizational intelligence. The essential information can be spread throughout an enterprise, where the influence of this information along with the technology help in the development of decentralized concept of organization that are at the same time worldwide and domestic.

#### **Four Ways to Implement “Build the Whole into the Parts” Principle**

The principle “Build the Whole into the Parts” could be realized and comprehended by exploring the culture of the organization, information system flow, role, and structure. (Morgan. 1997: pp. 102). The first way to implement the principle “build the whole into the parts” is make sure the culture of the company is well-thought-out and specific just as the DNA of the body. This “DNA” which links the vision,

values, and goal of the organization helps each employee to fully understand the mission and what challenges could occur for the whole organization. Izzet (2013) in his study stated, "organization DNA is both a hereditary and dynamic aspect of an organization in which roles, relationships and complexities create organizational dynamism and attitudes". Fred (1998) mentioned in his article that Senge, P.21 (1994) stated, "shared vision is vital for the learning organization because it provides the focus and energy for learning." The concept of being understandable and knowledgeable employees gives the feeling of power and creates the capacity to be a problem solver and have the capability to deal with any changes occur in or out of the organization. Peter (1994) focused on the importance of the principle "build the whole into the parts" for the whole organization in his book and added: "Building shared vision is actually only one piece of a larger activity: developing the "governing ideas" for the enterprise, its vision, purpose or mission, and core values. These governing ideas answer three critical questions: "What?" "Why?" and "How?". Corporate DNA is identical to human DNA by having and containing the needed requirement to complete the development and reproducing throughout years of processing (Dos, I., 2013). The increase of culture evolvement and involvement within employees creates corporate DNA and the capacity for each part to enable them to self-organize and take the most effective, reliable, and homogeneous decision in line with an organization's culture and goals. Corporate DNA empowers the evolvement reaction and flexibility with any changes that might occur internally or even externally, which in turn improve and increase organizational productivity.

Network intelligence or appropriate information system flow importance, which is the second way of building the whole into the parts, comes from the contribution of each with their different point of view regarding the same information. The difference among each will explore new horizons and brings out the innovation and creativity in them through hiring minds. The access to the information system flow, as Morgan declared, permits the employees to be full participants in the organizational memory and intelligence (Morgan, G. 1997: pp.104) that

encourage sharing to motivate the organizational mind. Accessing the information system flow increases knowledge among employee and encourage them to learn more. Stephen P. (1992) stated, "Knowledge workers were the new skilled workers, and their tasks and self-perceptions were different from those of manual workers. They used knowledge rather than physical force or manual skill and produced ideas rather than things. Each saw himself as a professional, if not as an intellectual, and collectively they saw themselves as part of management without being managers," Stephen cleared his point about the knowledge workers and added: "They do not command people, but their command of information influenced management." Proper decision and accurate prediction for the whole organizational growth could not be achieved without being a knowledge worker and having access to enough and reliable information. Great Prairie Group mentioned, "The organization must be able to rely on vertical flow, horizontal flow, and frontline flow of information to make sure the information is available where needed." With this understanding, senior management can close information gaps and greatly improve the chances of successful strategy execution. (Great prairie group; 2015).

The third way is the structure of the holography, which depends on being a part of the whole. Its concept is that the increase of growth secret is by maintaining small parts, teams, or departments. Thus, once an enterprise reaches a size that could be considered as enough sufficient in the region such as being 200 people, the only way to support and assist it to grow is by dividing them to another unit. According to the holistic role, mentioned before, it seems logical to stay as divided groups for reproduction and re-organization again and again. Morgan pointed, "when a unit reaches an optimal size, yet wishes to serve a larger customer base and break away to launch a new enterprise" (Morgan. 1997.: pp.104). In this way, the part seems to be a synonym and substitute of the whole that reflects the image of the whole organization through the engagement of the parts to the culture, vision, goals, and values. This structure allows the passage of organization culture and encodes it in all parts to reach the whole into parts principle. The purpose of the holographic structure is to coordinate among employees, encourage, help,

and engage them to be involved through the organization's culture and vision. This purpose supports the evolvement and increase in organizational productivity.

The fourth way to adapt the principle "Build the whole into the parts" is Holistic teams and differentiated roles. The fourth way, "is the basic unit of design is a work team that is made responsible for a complete business process" as Morgan mentioned (Morgan, 1997: pp 106). Organizations insist and emphasize on employees that they are required to do more than their jobs, but also to put the organizational goal upon their eyes. The importance of teamwork is according to the contribution to the decision and improvement of the process. Senge, P17. (1994) mentioned, "The committed person brings an energy, passion, and excitement that cannot be generated if he is only compliant. The committed person does not play by the "rules of the game." He is responsible for the game." Holographic organizations recruit employees who are multi-skilled and can handle multi-tasks without refusing to change and business developments. Teamwork can collaborate smoothly. The term teamwork involves reshaping the work carried. The team even recruit the new member of their team instead of the manager to be sure that the recruited member matches the skills needed to the team, value, projects, and the whole organization. Teamwork includes employees within the same organization and divided into teams based on the product or service itself and the tasks entrusted to the team. Thus, these teams are expected to provide the organization great results since they work with high degree of responsibility and flexibility. When the product is done within teamwork, the process will be accomplished efficiently and flexibly, and with full understanding and meeting customers' needs and demands. The concept here is self-managing workgroups (Morgan, 1997: pp.106). As mentioned before, teamwork handles together some issues as product improvement, problem and gap reduction, recruitment of new team member according to their needs to increase the growth of organizational productivity. These main factors are assessed within the team and with the presence of their multi-skilled leader or manager to coach and facilitate any issues.

#### **The Importance of Holography and The Principle "Build the Whole into Parts"**

Organizations that believe and have confidence in holography derive it to the similarity of the concept that each person in any organization or company is like a cell in the whole body. Each contains the probability to reconstruct the whole through the essential intelligence in their energy, knowledge, feeling and accomplishment. Amayea approved that when this concept is understandable, clear and honored, "the cells are healthy and happy and the collective body prospers" (Amayea, 2008), the same concept is recognized in any organization especially those which apply the holographic organization. Peter Senge & Al realized in their book (2006) the importance of learning through information system flow to build a bridge between teamwork and macro-creativity of the organization.

The holographic concept generally and "build the whole into the parts" concept particularly, are in contradiction to bureaucratic processes since as Michel Crozier explained that bureaucratic means that the employee follows rules and regulations, processes, procedures, and patterns that are formulated to reduce the complexity of organization's functioning with a specific amount of information needed to fulfill his job only (Crozier, 2010) . In bureaucratic organizations, they depend on the centralization of decisions. On the other hand, the holographic concept encourages and inspires decentralization. Through the holographic concept, especially the principle "build the whole into the parts", the employees at the opening must follow main and basic rules and guidelines, objectives, progressions, and actions that are framed as a basis of the company to start, but the perception of involvement within culture, vision, and values provide creativity environment and comfortability to decide the best for the part for the benefit of the whole. Within holography, reducing the complexity of an organization's functioning could be reached with access to any information needed (aside from certain managerial data) which helps to view issues from different angles in addition to focus on organizational goals and values. Those who are evolved in the organization of "the whole into the

parts" principle can accept and advocate for changes. Especially, those who understand the changes effect among all departments. George E. Reed (2006) declared that one-part changes affect others in a flowing and often unexpected way.

Holographic leadership is based on the understanding that the small number of members might be more powerful and energetic. It recognizes that leadership requires a multi-intelligence approach anchored by virtues, values, vision, and volition with the pattern or holographic image being present in every sub-component as well as the whole (Flude, R. 2016). Leadership in general needs to be decentralized, and this could be accomplished through many tools and in this context through the principle of "build the whole into the parts" Holographic leadership creates an energetic and positive environment based on the concept of understanding and accepting others' ideas and decisions, in addition to a wise environment that encourages self-organizing and self-solving problems. George E. Reed said, "We need leaders, therefore, who can see both the parts and the big picture; to this end, some of the concepts of systems thinking are useful." Bohm stated, "The activity that is directly recorded is the movement itself, in which information about the whole object is dynamically enfolded in each part of space, while this information is then unfolded in the image." Thus, the whole image is the result if implicit and explicit data. Bohm, D. (1980a) believes that the whole is not the parts in interaction, but the whole organizes the parts and that the whole is enfolded into the parts. The connection among parts with each other and among the whole and the part should not be within the same time or location, it could be a way of interaction and connection among the powerful system of information exchange.

The holographic concept is analogous and can be compared to the body, both have parts, and the parts affect the whole performance. Therefore, as George E. Reed (2006) declared, it is important to clarify the performance or belongings of the whole system and process and to explain the performance or belongings in terms of roles and functions for both parts and the whole. To reach the benefit of the holographic concept, the plan or model of working starts from having knowledgeable and skilled members who suggest ideas and listen to other ideas. Then, each

team member analyzes and negotiates the information, data, and ideas which were suggested before reaching acceptance of the innovative idea and followed by the plan to spread approved idea(s) among all employees that empowers them to start the activation process of the new product or demanded product. To reach this result of products and innovation, a commitment of employees is a must, and this first is due to understanding the organization's culture and connecting and sharing intelligence knowledge.

The other principles of the holographic concept rather than "Build the whole into the parts" could not be reached without sharing the vision and generally the DNA of the organization. The moment the employees know and believe in this DNA with the addition of specifications needed, a powerful system of information exchange will be created. This powerful information system exchange of implicit and explicit dimensions is generated and learned, among holographic structure, though feelings, experience, and conceptual process of multi-skilled team members.

### **Theoretical Strengths and Limitations**

#### **Theoretical Strengths**

Any concept especially the Holographic and "Build the whole into the Parts" Principle has some strengths and limitations. Through the discussion in this paper, we can mention some strengths. The main strength of holographic and the first principle "Build the whole into the parts" is the requirements of "learning organizations" in a wide-ranging way and how elements need to and must support each other. Spreading information among teams or departments will increase the possibility to increase innovations and overall performance with minimum mistakes. This principle necessitates an influential way of thinking about the applications of new information technology and how it can be used to support the growth of learning organizations. To do that, generating a system of interactions that can self-organize and designed by everyone involved will be a new strength. The strength of the holographic concept is also that it insists on developing and imposing systems from all top-down and shows how to move forward on a comprehensive front. This development will occur according to periodic updates and

information. Furthermore, the development happens because departments and teams' typically display improvement and growth, thus, the system development must occur in line with employees' development, innovation, and intelligence expansion in account of updated information that is spread to them.

#### **Theoretical Limitations**

Even though holographic and the principle "Build the whole into the parts" has strength, it has also some limitations. First, the main limitation that can be a concern for all is that it is hard to find or develop a common and shared image of the brain to which everyone can contribute since any image might differs from the angle each individual views it from and resulting from issues related to it regarding an individual's priorities. These differences will lead to a variety of images instead of a common one. Another limitation found is the difficulty of elimination of the hierarchy especially the hierarchy, which is directly related to the organization's main rules and regulation set from the time of establishment. This limitation may be hard to change. Mainly, hierarchy is considered for optimal application of rules and regulation. Finally, some might consider the process of learning and self-organization as an authority and controller process, rather than a degree of openness and self-criticism. This consideration might limit employees' way of thinking and improving their performance, which then will limit the overall performance of the organization and its innovation.

#### **RECOMMENDATIONS**

The importance of having "Organization as brain" as a strategy to improve organizational performance by helping organizations predict and define effectiveness is a value-added tool in organizations' management. Nowadays, this concept is doable as digitalization has eased the way to construct holographic organizations which facilitates the implementation of "build the whole into parts" metaphor as mentioned above. It is imperative to implement the holographic design through the concept of "build the whole into parts" as this facilitates the decentralization and the access of information systems within the whole organization. Based on the literature

review and from the perspective of the researcher on this topic, the importance of having a shared vision within the organization is the responsibility of the whole parts of the organization to reach the ultimate organizational achievement. It is a collective process such as DNA building of the culture of the organization as a whole part. It is a shared process of having a proper holographic structure to capitalize on motivation of proper teamwork through involving employees to engage in the whole organization's vision which will eventually increase organizational productivity.

#### **CONCLUSION**

It is preferred to use metaphors to understand comprehensively the organization deeply. Organization as Brain is considered an important and main metaphor since organization could be comparable to the process of the brain. The importance of the principle "Build the Whole into the Parts" of Holography in this metaphor is shown smoothly by the strong bonding between information systems and teamwork capabilities and performance. Team members usually interact and work with other teams through pervasion of learnings and information across teams, which facilitates the process of self-organization regarding its design so that all will have the same goal, objective, vision, and mission. The principle "Build the Whole into the Parts" is rated important because of its generalization and specialization in the organization, where its process is a main and general matter within all departments and deeply specialized for specific departments which is directly affected with any information that could be missed without this principle. Thus, the whole employees, teams, departments, decisions, unit, and overall performance should be characterized by the concept "the whole into the part". Accessing and sharing information within the whole organization that creates a connected environment is another character of holography. The principle "build the whole into the parts" is preferable for many organizations due to its benefits that could be reached if applied appropriately. The study recognized that different employees will surely see the organization and its culture, goals, and information within different estimation and conception. For this purpose,



"build the whole into the parts" tools are measured as DNA of the organization, network intelligence, holographic structure, and holistic teamwork that assist their employees to view the organization from different angles and perceptions. Understanding different angles' visualization of the same image help to reach common culture, vision, value, and goals among all employees, units, teams, departments, and the whole. According to what is mentioned, the study assures that recognizing the economy could not be reached without human intelligence, creativity, and innovation that is performed by understanding that organization's key source which is the concept "the whole into the part". The benefit of the holographic concept and the principle mentioned is through long term thoughtful and innovative members who help avoid mistakes and deliver the best results and decisions within a suitable time and accessible information and data. The holographic concept encourages teamwork rather than a one-man job, in the condition that the team should be harmonic and skilled professionals.

Teamwork collaborate and encourages connectivity to reach competence that improves organizational productivity and growth. Thus, the holographic concept encourages or requires decentralization instead of centralization to retain control for every part and unit for the whole interest, productivity, and growth. According to the literature review, it seems that creating brain-like organizations, or in other word, using the metaphor Organization as Brain will become an important concept in real life.

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