

USING CHAOS THEORY AS A FRAMEWORK TO EXPLAIN THE NATURE OF COMPLEXITY IN CONTEMPORARY ORGANIZATIONS.



USO DE TEORÍA DEL CAOS COMO MARCO DE REFERENCIA
PARA EXPLICAR LA NATURALEZA DE LA COMPLEJIDAD EN LAS
ORGANIZACIONES CONTEMPORÁNEAS.

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Abstract

Purpose: The main purpose of this article is to explain the complex nature of contemporary business organizations, using the visual narrative of *Cube* (1997) as a metaphor. The article attempts to answer two main questions: 1) what makes contemporary business organizations complex? and 2) what research approach could provide an alternative explanation on the complexity of contemporary organizations?

Design/ Methodology/ Approach: As the answer to the second question, the paper follows a metaphor analysis approach. It is suggested in the analysis that a contemporary business organization can be seen metaphorically as a group of people trapped in a cubic maze that consists of many small cubes (the enterprise system) - some of these cubes in the maze have deadly traps, as in *Cube* (1997). A business organization's existence and functioning have many characteristics similar to the group's journey through cubes in the maze. Chaos theory is used as a foundation to support arguments made using *Cube* (1997) as a metaphor. To analyze organizations, three binary oppositions are used: 1) self-interest versus organizational objectives, 2) stability versus instability, and 3) internal and

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external environments.

Findings: The article makes three main claims: 1) being a member of a business organization is a result of a social choice (choice of a system), rather than an individual choice, 2) organizations are unstable entities, and dependence among organizational members results in organizational members working as a group, and 3) changes in internal and external environments make strategies irrational and irreversible. Organizations exist as long as individuals in organizations move forward by choosing the safest way.

Originality: This article provides an alternative perspective to understand contemporary business organizations. As opposed to verbally defining organizations, a context is suggested to understand complexities in organizations. Moreover, this study adds to the growing body of literature that uses films to understand contemporary organizations.

Resumen

“Usando la Teoría del Caos como marco de referencia para explicar la naturaleza de la complejidad en las organizaciones contemporáneas”, tiene como propósito principal, explicar la compleja naturaleza de las modernas organizaciones empresariales, apoyándose como una metáfora, en el film “El Cubo (1997)”.

El artículo intenta responder a dos preguntas principales: 1) ¿Qué hace que las organizaciones empresariales contemporáneas sean complejas? y, 2) ¿Qué enfoque de investigación podría proporcionar una explicación alternativa a la complejidad de las organizaciones modernas?

Diseño, Metodología y Enfoque: Como respuesta a la segunda pregunta, el artículo sigue un enfoque de análisis metafórico. Se sugiere que el análisis de una organización empresarial moderna puede ser visto metafóricamente como un grupo de personas atrapadas en un laberinto cúbico compuesto de diversos cubos pequeños (sistema empresarial), algunos de los cubos en el laberinto tienen trampas mortales, como en la película El Cubo (1997). El funcionamiento de una organización de negocios tiene muchas características similares al viaje que los protagonistas realizan a través de los cubos en el laberinto. La Teoría del Caos se utiliza como base para apoyar los argumentos presentados haciendo una metáfora del argumento del film.

Para el análisis de las organizaciones, se utilizan tres oposiciones duales: 1) El interés en comparación con los objetivos organizacionales, 2) La estabilidad frente a la inestabilidad y 3) Los entornos internos y externos.

Resultados: El artículo propone tres argumentos principales. 1) Ser miembro de una organización empresarial es el resultado de una elección social (elección de un sistema) en lugar de una elección individual, 2) Las organizaciones son entidades inestables, y la dependencia entre los miembros de la organización da como resultado que los miembros trabajen como un grupo, y 3) Los cambios en el entorno interno y externo convierten a las estrategias en irracionales e irreversibles. Las organizaciones existen, siempre y cuando las personas en las organizaciones se muevan hacia adelante, eligiendo la vía más segura.

Conclusión: Este artículo proporciona un punto de vista alternativo para entender a las actuales organizaciones empresariales. A diferencia de definir tradicionalmente una organización, el contexto es sugerido para entender las complejidades en las organizaciones. Además, este trabajo se suma al grupo creciente de estudios que usan películas para entender a las organizaciones contemporáneas.

1. Introduction

Understanding business organizations is challenging at best. It is difficult to explain the nature of business organizations precisely as they are ever-changing, complex entities. Mintzberg (1990, 12) explains, “[t]he classical view says that the manager organizes, coordinates, plans, and controls; the facts suggest otherwise”. There are overt and covert aspects in business organizations, making it difficult to suggest an all-inclusive definition. Although there is heavy emphasis among scholars on covert aspects of organizational behavior, many authors still depend on hierarchy-based approaches in defining business organizations. While traditional definitions still dominate the field of popular organizational behavior, many scholars have suggested alternative approaches to understand the nature of contemporary organizations. For instance, using chaos theory, Thietart and Forgues (1995, 19) argue that organizations are “nonlinear dynamic systems subject to forces of stability and forces of instability which push them toward chaos”. Brown and Eisenhardt (1997, 1) extend the ideas put forward by the chaos theory, suggesting the ideas of “semistuctures,” “links in time,” and “sequenced steps” to explain the nature of contemporary organizations. They suggest that these three ideas explain the properties of ever-changing organizations.

The nature of contemporary business organizations should be looked at from multiple perspectives, using new

approaches. There is increasing interest among researchers to use movies to understand social, political and psychological contexts and processes. As Panayiotou (2010) puts it, “[s]ince films are an essential part of the way in which economic actors are constructed and their behavior and attitudes represented, focusing on films is thus crucial to making sense of both cultural and economic forces”. Barbour (2004) explains how film contexts can be used to understand chaos theory and leadership. According to Barbour, films provide contexts for students to understand multiple realities in organizations. Films reflect social settings and interpret complex issues in numerous ways. Not only can films provide contexts for readers, they may also provide metaphors to understand different phenomena. Mateos-Aparicio (2008, 1) analyses the symbolism of *Cube* (1997), and notes, “[t]he cube is a multiple metaphor that allows for the fictional exploration of the territory of the unconscious, of the contemporary social and political coordinates and of the general framework of reality”. This paper takes this idea as a starting point and uses *Cube* (1997) as a metaphor to suggest an alternative approach to understand contemporary business organizations.

Cube (1997) was directed by Vincenzo Natali, and it was released in 1997. It is a sci-fi thriller about a group of strangers who seem to have been put involuntarily in a cubic maze. The maze includes many cubes of similar size- some of which have deadly traps. Each cube has a different color and doors to adjacent cubes. The

group of people put in the cube consists of individuals with different personalities, attitudes, skills, and behavior. The film is about their journey from one cube to another until they find the exit from the whole maze. This paper uses the cubic maze of the journey of the group as a metaphor to provide an outsider’s perspective to understand contemporary business organizations.

2. The Cube Metaphor: Approach

This study seeks to answer two main questions: 1) what makes contemporary business organizations complex? and 2) what research approach could provide an alternative explanation on the complexity of contemporary organizations? The discussion in this paper attempts to answer the first question, and the method used provides an answer to the second question. The complexity of business organizations is caused by many micro and macro factors such as diversity in personalities of organizational members, complex nature of operations, changes in interpersonal relationships, ever-changing macroeconomics variables, and policy environment. Traditional hierarchy-based approaches exclude this complexity and explain business organizations as logical entities. A metaphor, as opposed to traditional approaches, would better serve the purpose of explaining organizations. Qualitative, subjective analyzes are becoming increasingly popular among researchers. This article uses metaphor analysis as the methodological approach

to analyze organizations. Metaphor analysis has become a popular approach to analyze social phenomena. According to Sloan (2011, 413), metaphorical thinking is a well-established pedagogical tool, and it has been used to explain organizational dynamics. As Black (1962, 236) noted, a metaphor is used “to bring two separate domains into cognitive and emotional relation by using language directly appropriate to the one as a lens for seeing the other.” Metaphor analysis uses an object or a phenomenon to analyze the object or phenomenon being studied. According to Polley (1997, 445), “[t]he successful use of metaphors depends on the ability to identify comparisons at a general level between a source and target.”

Many popular theories have suggested metaphors to understand organizations. For instance, Lewin’s (1952) change model that used the metaphor “unfreezing-moving-refreezing” has become a widely used theory in the study of organizational change. Morgan (1986, 2007) provides one of the most detailed explanations on how metaphors can be used for analyzing organizations. Morgan explains that organizations are often seen as machines, organisms, brains, cultures, political systems, and psychic prisons. Metaphors help uncover previously unexplored (or perhaps ignored) aspects of organizations by providing a platform to discuss similarities and differences. This paper suggests that a complex business organization can be explained using the group of people in *Cube* (1997) that are trapped in a cubic maze which consists of

many small cubes- some of these cubes in the maze have deadly traps. We argue that a business organization’s existence and functioning has many characteristics similar to the group’s journey through cubes in the maze.

We use *Cube* (1997) to explain the nature of contemporary business organizations from three dimensions. First, we argue that being a member of a business organization is a result of a social choice, rather than an individual choice. Second, based on the chaos theory, we argue that organizations are unstable entities, and we suggest that dependence among organizational members helps organizational stability. Third, we argue that changes in internal and external environments make strategies irrational and irreversible. Organizations exist as long as individuals in organizations move forward (by choosing the safest way). Strategies may seem logical and rational, but they may be misleading, as organizational members have limited capacities in understanding the ever-changing world outside of the organization. Since the focus of this study is to explain the nature of complexity of contemporary organizations, we use chaos theory as the conceptual foundation for this article. Sloan (2011, 416) notes that, metaphorically, chaos theory serves as a good paradigm to study companies. Chaos theory views organizations as potentially chaotic entities that undergo conditions of stability, instability, development, failures, and success.

3. Chaos Theory

Chaos theory has its origins in the field of science, and it is the study of non-linear dynamic systems. It is closer to the postmodern paradigm since it highlights complexity and diversity of experience (Levey, 1994, 169) According to Kellert (1992, 34), ““chaos theory is the qualitative study of unstable aperiodic behavior in deterministic nonlinear dynamical systems.” As Kellert (36) further explains, the core of the notion of chaos theory is that complex and unpredictable phenomena (e.g. turbulence) can be understood by studying simple dynamic systems. Edward Lorenz is considered as the pioneer of chaos theory. Lorenz studied dynamics of turbulent flow in fluids. In his classic piece, he noted “[i]t implies that two states differing by imperceptible amounts may eventually evolve into two considerably different states. If, then, there is any error whatever in observing the present state—and in any real system such errors seem inevitable—an acceptable prediction of an instantaneous state in the distant future may well be impossible” (Lorenz, 1963, 133). Kellert (1992) provides a detailed explanation on the chaos theory. He highlights that chaos theory focuses on unstable and aperiodic forms of behavior. These two features are important in understanding chaotic systems. According to Kellert (34), an unstable system never “settles into a pattern of behavior that resists small disturbances.” Moreover, in a system in which aperiodic behavior occurs, the system never repeats itself. “Unstable aperiodic behavior is thus highly

complex: it never repeats and it continues to manifest the effects of any small perturbation” (Kellert, 1992, 34).

Chaos theory has gained the interest of researchers in many fields including organizational analysis. Thietart and Forgues (1995), for instance, explain organizations using chaos theory, and argue that several processes (stability and instability, convergence and divergence, and evolution and revolution) are embedded in organizations. As Thietart and Forgues (1995, 28) note: “[e]xperimentation, incoherence, diverse and diverging activities from the organization thrust are all sources of instability. They create demands which are not necessarily consistent with the planned objectives. They are sources of internal disorder which might lead to major changes in the future. However, the forces of change favor, paradoxically, the emergence of a new form of order and stability” Similarly, Levy (1994) stresses the relevance of chaos theory to conceptualize industries. He concludes that as it is almost impossible to make long-term forecasts, and as unexpected dramatic change occurs in chaotic systems, organizations have to be adaptive and flexible (176). However, Levy argues that it is possible to make short-term forecasts for chaotic systems. He also stresses the importance of developing mechanisms to cope with complexity and searching indirect and non-obvious approaches to achieve organizational goals (Levy, 1994, 176). In his study, Levy uses the chaos theory to look at the entire industry. He conceptualizes industries

as “complex, dynamic and nonlinear systems” (Levy, 1994, 170). He identifies firms, environment, consumers, labor, the government, and financial institutions as actors in the system.

Although my approach is similar to Levy’s (1994) standpoint, we use chaos theory in a more microscopic perspective. We focus on single organizations and consider each individual organization as a complex system. Therefore, we consider organizational members as actors in a chaotic system. We discuss organizational complexity using three binary oppositions: 1) self-interest versus organizational objectives, 2) stability versus instability, and 3) internal and external environments. Self-interest of organizational members is often considered less relevant in achieving organizational objectives. In the following section, we deconstruct this binary by arguing that being an organizational member relates to a social choice, rather than an individual choice. In the next section, we expand this idea by arguing that although organizations are inherently unstable entities, interdependence among organizational members helps maintain minimum levels of stability in organizations. Finally, we argue that constant changes in internal and external environments make long-term forecasting difficult, and this results in strategies being irrational and irreversible.

4. Self-interest versus Organizational Objectives: Who Puts People in Cubes, and Why?

The question as to what makes contemporary business organizations complex has been the topic for many academic discussions. The impact of self-interest manifested in individual differences among organizational members is a crucial factor that causes complexity in organizations. Self-interest is often considered less relevant in achieving organizational objectives. However, it can be seen everywhere that differences in motivation, enthusiasm, team spirit, and many other individual factors make organizational environment complex. This undoubtedly is a characteristic of a chaotic system. In this section, we use the movie *Cube* (1997) as an object to reflect upon organizations, and discuss why self-interest is an inherent component of organizations. The beginning of *Cube* (1997) is thought provoking. Several people wake up in a cube, and some coming from adjacent cubes join them. They try to understand where they are. These people have no clue of why and by whom they were put in the cube. They do not know each other, and they try to make a plan to get out of the cube. This is a good context to approach understanding business organizations. The following is an important statement made by Worth, one of the characters in *Cube* (1997).

Worth: I make me sick too. We’re both part of the system. I drew a box – you walk a beat. It’s like you said Quentin is:

Keep your head down, keep it simple, just look at what's in front of you! I mean nobody wants to see the big picture. Life's too complicated. I mean, let's face it. The reason we're here is it's out of control.

Why people join organizations is an important question to ask. People have their reasons for joining organizations (e.g. earning money, personal development, acquiring social status). However, one of the broad (perhaps the most self-evident) reasons for people to become "organizational" is related to the choice of a system. In other words, whether or not to join an organization is not an individual choice. It is imposed on people by their society. When a society (or an economy) chooses the enterprise system as its main mechanism for production, members of that society have to become members in competitive organizations or create their own organizations. Similarly, when governments are formed to serve common interests of the public, people have to become public officers. However, this analysis does not focus on public organizations. Therefore, the word "organization" refers to a business organization in this article. When a society chooses the enterprise system as its engine to produce, individuals are left only with the choices of which business organization to choose to enter or what type of organization to form. However, in the current competitive environment, the vast majority of individuals cannot enter organizations they wish to. Many factors (e.g. economic condition of the country, profitability of the organization,

qualifications of competitive applicants, interview atmosphere, and legal environment) impact a person's entry into an organization. The reality is that it is organizations that make decisions on who is selected. We equate this to those individuals that wake up in the cube. They do not choose to be in the cube. Therefore, they have to deal with a group of strangers who are put in the cube. Similarly, people join organizations that "like" to recruit you ("selection" in the language of Human Resource Management) and they start working with a group of strangers. Moreover, those who wish to start their own organizations cannot start their "dream" organization. They are constrained by many factors (e.g. resources, laws, and politics). However, this analysis does not focus on owners of organizations. It only reads the movie from the employees' perspective (including decision makers).

Cube (1997) does not show people's lives outside the cube. When the group found the exit from the cube, they only saw a bright white light. A world without organizations is similar to a bright white light: it is out of people's perception. People need a "different" mind to think about living without organizations today. Therefore, the only option left for the vast majority of people is to maintain organizations as groups of individuals and compete (or collaborate) with other organizations forever. Members of the group trapped in the cube move forward, help each other, argue with each other, and kill each other, and they never go out of the cube. The only survivor is Kazan, a "mentally-

challenged (or different)” person. *Cube* is such a strong metaphor to explain that only a person who is considered “different” from the system can survive (or live without being an organizational member) today.

The above discussion built the foundation to raise two possible reasons, which explain why organizations are complex. First, organizations chose their members, as opposed to members selecting their organizations. This helps managers (or administrators) to find a group of people who can satisfy job requirements, which is their primary concern. Personal lives, attitudes, and personal interests of employees are of secondary importance to business managers. However, this does not mean that contemporary organizations neglect the personal lives of their employees. We do want to acknowledge that organizations pay attention to the concerns of their employees and try to help overcome their personal issues. However, many organizational processes primarily focus on a possible employee’s ability to fulfill the job requirements, rather than the stability of their personal lives. As recruitment happens based on the suitability of a candidate to perform a specific task, similarities in personalities are often given less emphasis. This leads to make organizational members diverse in terms of (personal) objectives, personalities, attitudes, interests, and behavior. Diversity causes many positive and negative consequences inside organizations. For instance, on the one hand, organizational diversity may help develop new relationships, synergy,

and creativity. On the other hand, it may lead to outcomes such as rivalry, internal competition, and conflicts. An organization’s external environment is also dynamic, making administration an extremely challenging task.

5. Organizational Stability and Instability: The Role of Dependence

Instability is a main characteristic of chaotic systems. Instability, according to Kellert (1992, 34) “means that the system never settles into a pattern of behavior that resists small disturbances.” Organizations are never stable. Human resources are particularly unstable in organizations. People gather experiences, face challenges in their personal and work lives, learn, change their attitudes, and come across changes in their health conditions. However, people have to work with each other and non-human resources to achieve organizational objectives. One could see achieving objectives as being stable. As Levy (1994, 170-171) claims, chaotic systems do not reach a stable equilibrium, and being chaotic systems, industries never reach equilibrium. We apply this idea to an organization. Accordingly, we argue that organizations never reach equilibrium (or a stable state). Achieving objectives is a matter of managing through instability to come to a ground on which people can work together (or have minimum stability) to achieve organizational objectives. The following is a dialogue between Quentin and Leaven, and it is an example for a

reason that caused conflict (instability) among people in the cube. Quentin suspects a member in the group. Although Quentin's reasoning seems not based on concrete evidence, his attitude leads to conflict among each other.

Quentin: I had a feeling about that fucking guy. He knew about that trap.

Leaven: But these numbers aren't prime.

Quentin: Then your number system failed, but he knew.

Holloway: Knew what? How could he know?

Quentin: You're the paranoid, think about it. His only function so far is to kick us when we're down.

Holloway: So, he has a bad attitude. So you think that makes him spy.

Quentin: Trust me on this, it's my job to read people like an x-ray.

Throughout the whole movie, viewers can see instability and stability among people, in other words, "the team", in the cube. People in the cube are highly diverse, and they are different from each other. Factors such as suspicion, disrespect, attitudinal differences, limited capabilities, and mental status always cause conflicts among them. These forces can be seen more or less in almost every organization. While trying to achieve a common objective (getting out of the cube), organizational members have to struggle against instability caused by

these factors. While they struggle, they find new ways to move forward. This explanation fits well with the proposition of the chaos theory that progress can be seen in chaotic systems.

According to Feigenbaum (1983), although chaotic systems never return to their previous states, bounded outcomes and patterns that embody mathematical constants can be seen in those systems. These patterns can be seen in organizational contexts. People still work together although there are many issues and differences that lead to instability. Moreover, chaos theory claims that chaotic systems can spontaneously organize themselves into more complex structures (Allen, 1988). Levy (1994) applies this argument to industries. "In the context of business strategy, the concept could potentially be applied to the evolution of complex organizational relationships such as long-term contracts and technical cooperation with suppliers, and hybrid forms of organizational control such as joint ventures" (Levy, 1994, 171). The same argument can be applied to a single organization. Although there are differences and conflicts among organizational members, they form new relationships and progress towards organization's goals.

Why organizational members work together if there are differences that may cause conflicts among them is an important question to ask. In other words, what factors cause stability in organizations is an important topic to discuss. *Cube* (1997)

provides a good answer to this question i.e. interdependence. Dependence among members is the main factor that decided the destiny of the group in the cube. Once the group is formed, members start making a plan to get out of the maze. When they start moving forward, they understand that some members have special skills that help them to move forward. Leaven is good at numbers. Holloway is a doctor, and Renne is an “escape artist.” At the same time, there is Kazan, a mentally challenged person, who seems to be of no use to other members. The group is diverse. Members represent different ages, males and females, and different personalities. While they are different from each other, they depend on each other. This dependence helps them to move forward through deadly traps. The following is an example of the group’s dependence on each other:

Rennes: Yes, I’m Harry “fucking” Houdini. The only reason I dragged you so far, is cause I need your boots. If you’re not smarting up I’m gone like that. No more talking... No more guessing. Don’t even think about something which is not right in front of ya. That’s the real challenge, you gotta save yourselves from yourselves.

Renne has special talents in tracking traps. He uses boots to understand the nature of the trap. The group depends on his skill. At the same time Renne depends on others since he needs their boots to find the trap. Another example of dependence is that Leaven is an expert in reading and

understanding numbers. Her skill helps the group to avoid cubes with traps.

There is a growing body of research on interdependence in organizations. Sorenson (2003) stresses the importance of interdependence in understanding organizational learning. He focuses on one structural characteristic that causes interdependence- i.e. vertical integration. Sorenson claims that firms with high interdependence suffer less in volatile environments. Sorenson (2003, 461) notes, “many policies that improve the firm’s ability to adapt by decreasing the interdependence among activities within the firm likely come at the expense of contemporaneous efficiency”. However, we do not look at interdependence from an organizational, strategy-level perspective. Instead, we look at interdependence between organizational members in general. In organizations, there are people with different skills and competencies. Organizational members depend on each other in achieving organizational objectives. This is particularly the case when there are employees with special expertise. Dependence supports organizational stability and functioning. Rennes’s words above can be used to explain how dependence helps organizational functioning (movement). Organizational members, regardless of their levels (top, middle or frontline) and functions (e.g. marketing, human resource management) depend on each other. For instance, even the absence of a sanitary worker may sometimes paralyze the functioning of an organization. This dependence is glue that

binds organizational members with each other. Since employees are dependent on each other, they have to be careful of what they are doing. Any action which is wrongly perceived by a co-worker, subordinate or specially a superior may ruin a person's organizational life (You depend on your superior. So you have to follow his commands. At the same time, your boss depends on you. You can use this dependence for bargaining). This is where Rennes's words make sense: for survival you have to save "yourselves from yourselves." There are many practices that help people to survive in their working environments. On the one hand, human resource management practices (e.g.: orientation, job analysis, motivation, job rotation) help reduce conflicts among members. On the other hand, the notion of organizational ethics plays a main role, helping people to "save themselves from themselves".

In a macroscopic perspective, the main concern of contemporary organizations is not being stable, but attaining at least the minimum stability needed to achieve organizational objectives. Given the ever-changing socio-economic environment, it is difficult for an organization to be stable. In the context of the cube, the main concern of the team in the cube is not to be a stable team, but to maintain at least minimum stability to move forward. Similarly, in the context of business organizations, maximizing profits for example is the most known organizational objective. "Maximizing" does not imply stabilizing, it does not mean, maintaining

a "stable" profit level. However, business organizations struggle to have the stability to maximize their profits in the political economic environment they function. Accordingly, this discussion suggests that instability, which is caused by differences among organizational members, is embedded in organizations, and interdependence causes the stability of individuals in organizations. Therefore, this discussion supports and adds to the idea suggested by Thietart and Forgues (1995, 19) that organizations are "potentially chaotic" due to the "coupling of counteracting forces."

6. Environment as the Determinant of Where People in Cubes Go

Although business organizations are always affected by counteracting forces, they move forward towards achieving their short and long term objectives. However, this movement is not linear and/or simple. It does not follow a common pattern. A decision made in an exact point of time may not be equally applicable again. As Sloan (2011, 416) puts, "[i]n chaotic systems there are no simple prescriptions. The sensitivity to initial conditions means that identical actions in one environment will mean little by way of outcome if lifted and put in another setting. Even within a single setting, irreversibility (a construct of chaos theory) means that each action occurs at a unique point in time that has never been before and will never be again." Similarly, Kellert (1992) highlights that aperiodic behavior as a characteristic of chaotic systems. "Aperiodic behavior

occurs when the state of the system never exactly repeats itself. Unstable aperiodic behavior is thus highly complex: it never repeats and it continues to manifest the effects of any small perturbation.” (Kellert, 1992, 34). Levy (1994, 170) explains organizational strategies based on this perspective. According to Levy, the idea that long term planning is impossible has implications on strategy, and therefore, organizations need to consider possible different scenarios rather than focusing forecasting.

One reason behind the difficulty of making long term forecasts is that the effectiveness of organizational decisions and strategies depends on their environments. *Cube* provides an important setup to reflect upon the importance of external and internal environment for organizational success. While the team in the cube makes strategies to move forward and find the exit, adjacent cubes move. In other words, their environment keeps changing. An exit that could have been safe once might turn into a deadly exit when the adjacent cubes move. The cubic maze in the film consists of a large collection of moving cubes. Similarly, a business organization’s environment is also dynamic and it changes constantly.

People retire, new people join, some people acquire new knowledge, and build (or break) relationships. Moreover, the physical environment (the color) is also subject to change (e.g. acquisition of new resources). Business strategies or decisions may become invalid in a different

point in time since both external and internal environments change constantly. Political, economic, legal, technological, social, and cultural environments change constantly, and organizations have to change their strategies to match those changes. At the same time, organizations have to maintain a workforce that can cope with changes in the external environment. A business decision or a strategy fails when internal decisions do not match with the external environment. For instance, customers may reject a new product if it is not permitted by their culture. As Thietart and Forgues (1995, 19) note, “during one single organizational life span or between two different organizations similar actions should never lead to the same result”. The argument that changes in both internal and external environments make different strategies necessary, supports Thietart’s and Forgues’s claim, providing a reason as to why similar actions may not be equally effective in different points of time.

Changes in the internal environment is an important factor in management studies. There is a considerable amount of literature on organizational change. In *Cube* (1997), dynamics of the group change as they move forward. New relationships are built, existing relationships are broken, some people get tired, and some of them die. In other words, the internal environment of the cube is subject to change. Moreover, the color inside the cube also changes.

While the team moves forward, the external environment also changes. In other words, cubes in the maze change their positions.

When adjacent cubes move, a path can be opened or an existing one can be closed. So sometimes, decisions made by the team seem to be irrational.

Worth: Hey! Listen to what I'm saying! There was a room there before! We haven't been moving in circles, the rooms have!

The following are three statements made by Leaven. In the beginning, she was able to lead the group by identifying exits that have prime numbers. However, in the middle of the journey, she understands that prime numbers are not the key to find a safe exit. After a while, she mentions that the positions of cubes can be understood using Cartesian co-ordinates.

Leaven: It seems like if any of these numbers of prime, then the room is trapped.

Leaven: First I thought they were identified by prime numbers, but they're not. They're identified by a number that are the power of a prime.

Leaven: Cartesian co-ordinates, of course, coded Cartesian co-ordinates. They are used in geometry to plot points on a three-dimensional graph.

These statements show an important dimension to understand organizations. Organizational environment is a relative phenomenon. Nature of an organization's environment depends on how organizational members read and understand their environment.

Organizational decisions depend on their understanding of the environment. A wrong reading (or understanding) may lead to wrong strategies. In this context, forecasting becomes a highly challenging task. According to Levy (1994, 170), the argument put forward by chaos theory, that long-term planning is impossible, is important for firms that make their strategies based on their anticipation of future. He further suggests that organizations need to pay their attention to many aspects, rather than allocating resources for forecasting.

Organizational employees get new experiences constantly, and they learn formally and informally. Therefore, the way they understand their environments may change over time. This leads to changes in decisions made. A decision made some time ago may seem irrational to the decision maker after he had more experiences and developed his decision making skills. Another related aspect is that organizations constantly acquire new technology that helps them to make more informed decisions. For instance, information and communication technology provides new tools of analysis that may provide valuable insights to make better decisions. These changes may make organizational members rethink about their previous decisions.

According to Thietart and Forgues (1995, 19), small changes can result in big and unpredictable outcomes. We claim, based on the above discussion that this happens due to the ever-changing nature of internal

and external environments. A strategy that was once considered ineffective may turn into a highly effective one if environmental conditions change favorably. Conversely, a decision that seemed to be plausible may result in disastrous consequences, when internal and external environments do not match with the decision. In the movie, the team has limited time to cross the maze since other cubes also move. Therefore, the team focuses more on short term decisions. They just think about the next move. This is true in the case of business organizations. Once a window of opportunity is open, organizational members have to cross through; otherwise, the window will be closed. Strategy and planning is about understanding the nature of the exit and avoiding the trap outside. Accordingly, short-term planning may lead to more successful results. This is how chaotic systems function. As Levy (1994, 171) notes, chaotic systems have a surprising degree of order, and short-term planning can be possible in chaotic systems.

It is commonly accepted that organizations have a continuous life as opposed to its members. According to this view, organizations exist while members change. This perspective assumes that an organization has a separate existence from its members. However, using the Cube metaphor, we suggest a different idea. In the Cube, people move from one cube to another, looking for the way out. However, the structure of the space they work in does not change- still they are in a cube. When they move from one cube to another, the

only noticeable change in their space is the change in color inside the cube. Moreover, colors of adjacent cubes also change since the cubes in the maze change their positions. An organization's structure and its legal form can be kept unchanged (in the context of the movie, people are always in a cube). However, the structure is only one aspect of organizations. The nature of an organization cannot be explained if its membership is excluded. Structure defines an organization based on positions. However, we argue that characters of organizational members also define the nature the organization. In an organization, the position may remain unchanged, but when the person who holds that position changes, the working capacity (not the legal capacity) of the position is subject to change. Therefore, when the membership changes, the organization turns into a different entity (movement to a different cube- a cube with a different color). For example, when an employee that has unique skills resigns, the organization turns into an entity that does not have that special ability. Once an organization takes a new opportunity and decides to change strategies, it becomes a different organization. This is similar to the movement to a different cube in the movie. For instance, a new product introduction is a change in an organization. When an organization introduces a new product, the organization transforms into a different entity that produces the product of that category. This results in organization having different competitors, customers and other stakeholders. In other words, the external environment (colors of adjacent cubes) becomes different.

7. Conclusion

This article focused on achieving two-fold objectives. First, it provided an alternative explanation of contemporary organizations. Second, it provided an instance for an alternative approach to understand organizations. The end of the *Cube* (1997) provides an interesting instance to look at the system of organizations from an outsider's point of view. Towards the end of the journey, the team realizes that the only way out is to stay in the cube and wait until it becomes the bridge to exit the whole maze. The following statement shows how Leaven explains the movement of the cube.

Leaven: Look, the room starts off as a bridge, then it moves its way through the maze, which is where we ran into it, but at some point it must return to its original position.

As we argued at the beginning, society chooses the enterprise system as its mechanism for production, and therefore, people (driven by their personal interests) have to become organizational members. Organizations (cubes) from the system (the maze) become their entry points (bridges) to the system. Once they enter the system, they have to work with people of different personalities and move forward, searching for ways to exit (achieve organizational objectives- obtain benefits- exit organizations and live in their "consumer" lives). People's drive to exit the system is driven by their personal objectives. The above statement made by Leaven is thought provoking. It suggests that people should

wait until they return to the original position. Organizations have become entry points for people to enter the enterprise system. One day, organizations may transform into social entities that become bridges for people to exit from the trauma of chaotic organizational life. The main suggestion of this article is that people should start (or if they have already started, find new ways) to transform their organizations to develop an alternative system of organizations (or any other mechanism) that better serves needs of society.

One limitation of this article is that it depends mainly on the direct metaphor of the *Cube* (1997). However, the reader of this article should not limit himself to the "cube metaphor". Morgan (2007, 5) notes that a metaphor is incomplete although it provides valuable insights to understand organizations. Accordingly, claims made in this article do not provide an all-inclusive approach to understand the nature of contemporary organizations. Therefore, readers should not limit themselves to the claims made in this article. This article is more of an opinion piece. It does not analyze real world examples. The claims made in the article are purely the arguments of the author. Nonetheless, this article could be used as a starting point to view organizations from an alternative point of view. As Sloan (2011, 416) notes, "beyond metaphors, work has been done that show the correspondence to and the applicability of some of the principles of chaotic systems to organizational systems". Therefore, future researchers may examine dynamics of organizations using new theoretical foundations and approaches.

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