

The Role of Organizational DNA in Enhancing Organizational Excellence A Study on a Study on Pharmaceutical Industry in Egypt

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Abstract

Purpose: *This paper attempts to highlight the significant role of organizational DNA in improving Organizational Excellence (OE).*

Research Design/Methodology: *Using Booz Allen Hamilton, 2002; Neilson, et al., 2003; 2004; Booz, 2004; Neilson, et al., 2005; Holoday, 2005; Remecker & Bowdin, 2005; Neilson, 2006; Vanmullem & Hondeghem, 2007; Soroush, et al., 2013 of organizational DNA, the study develops a number of hypotheses and tests them. This research is an applied form in terms of its goals and descriptive in terms of the method of data collection. Three groups of employees at industrial companies were examined. Of the 355 questionnaires that were distributed, 300 usable questionnaires were returned, a response rate of 84%.*

Findings: *This study reveals that the four building blocks of organizational DNA (organizational structure, decision rights, motivators, and information) have a significantly direct effect on OE.*

Practical implications: *The study suggests that the industrial companies can improve OE by influencing its organizational DNA, specifically, by developing the organizational structure, decision rights, motivators, and information. The study provided a set of recommendations including the necessity to pay more attention to the dimensions of organizational DNA as of a key source for organizations to enhance the competitive advantage which is of prime significance for OE.*

Originality/value: *The study observes that there is a critical shortage of studying organizational DNA in Egypt and that a greater understanding of the factors that influence the OE, including organizational structure, decision rights, motivators, and information, is of great importance. Therefore, this study is to examine the relationship between organizational DNA and OE among employees in the pharmaceutical industrial in Egypt.*

Keywords: *organizational DNA, organizational excellence*

1. Introduction

Organizational DNA is one of the metaphors that have been recently considered in organization and management subjects that describe organizations with a genetic approach. Analysis, discovery, classification and description of inheritance facts and variations are considered as the important targets in genetics (Soroush, et al., 2013).

Similarity among living creatures and their relatives and ancestors refers to inheritance. But variations are regarded as the difference between any living creature and other creatures. Hence, the initiative paradigm of organizational DNA is based on the principle that each organization has exclusive genetic characteristics like any living organism and the characteristics are shown by the constructing main and natural elements (DNA). Therefore, by combining the reality of biology and genetics with the management science, effective steps could be made in improving and developing the organizations (Soroush, et al., 2013).

The organizational DNA has an effective role in the identification of organizations and their leadership and management functions such as decisions, organizational structure, group work and communications (Naderi, 2009)

Management, as a science, presents a new vision of organization based on the concept of organizational DNA. It also helps explain its performance. Booz Allen Company for administrative consultations, based in the USA, was the first to use this term upon its foundation in 2002, using an international questionnaire that encompassed 100 states, 23 sectors, and eight departments inside each company. The aim was to recognize the unique characteristics of the organization that define its character. Each organization, it was revealed, enjoyed its own unique traits distinguishing it from other organizations, even those operating in the same field. This urged many researchers to attempt to detect such traits which

are regarded as the organizational DNA. There were four variables or chromosomes that define the organization gene (gene of performance). They are decision rights, information, motivators, and structure (Neilson, 2004).

Success of any organization is based on the inculcating of suitable values among employees, along with correct information, financial and moral incentives and a suitable environment. Such success should match the personality of each individual in the organization and realize its common interest. This was why Booz Allen Hamilton Company for administrative consultations in the USA tried to find facts to recognize the unique genes of each organization that crystallize its character. This gave birth to the new term of organizational DNA, in 2002, defining organizational variables for each organization affecting motives of employees towards work. Such motives and level of performance at work is influenced by usage of suitable motivation techniques, individual performance of some managers, the different cultures of some employees and organizations, the professional careers, the organizational structure, the choice of the suitable strategy from the perspective of top management, leadership styles, span of supervision, degree of decentralization, delegation of authority, availability and accuracy of information and cognizance of traits unique to each distinct person (Neilson, 2006).

The industrial companies have the important economical roles today in the growth and dynamism of the community. Thus, the models and researches that could help increase the effectiveness of organizations seem to be essential and vital. Therefore, identifying organizational DNA could provide great aids in improving these organizations. Hence, this research aims at identifying organizational DNA of the industrial companies in Egypt.

In the era of globalization and openness that characterizes the world today, Organizational Excellence (OE) has become the subject of wide concern and debate by various researchers. This is because the age of knowledge and information no longer recognizes a typical workforce governed by the traditional job specifications that prevailed in the old bureaucratic hierarchy, but rather depends on the elements that are distinguished by the diversity of knowledge and its diversity as heads and subordinates. The organization's achievement of performance excellence requires its members to move away from everything that is typical and routine in performance and behavior of most organizations and to adopt vital and effective systems (Shelton, et al., 2010).

The tremendous revolution in science and technology, the advancement of communication and information systems, globalization and the increase in competition are among the most important features of the modern era in various fields, whether social, political, economic or administrative. This imposed on the organizations the necessity to strive for excellence in all their activities and operations to ensure their survival and growth (Shelton, et al., 2010).

The distinguished organizations are those organizations that consistently outperform the best global practices in the performance of their tasks, as they link with their clients and dealers with support and interaction relationships, and know the capabilities and capabilities of their competitors and their strengths and weaknesses as well as identify the opportunities and threats that surround them (Gilgeous, 1997).

Distinguished organization is one that is able to collect, manage and use information in order to ensure the achievement of desired goals. The distinguished organization is crystallized through its ability to study the current situation of the organization and external variables through strategic analysis processes, define the foundations and strategic directions, formulate the mission and vision of the organization, define the strategic objectives and lay the foundations and standards for measuring results, and the preparation of strategic plans in light of the objectives in order to exploit opportunities and avoid threats, and develop mechanisms for follow-up and identification of environmental variables and their potential impacts on the organization (Martensen, et al., 2007).

OE is the ability of organizations to contribute strategically by excelling in their performance, solving their problems, and then achieving their goals in an effective manner that distinguishes them from other organizations (Hesslbein & Gohanston, 2002).

2. Literature Review

2.1. Organizational DNA

2.1.1. Organizational DNA Concept

Organizational DNA is a technique or means used to pinpoint difficulties facing an organization and inhibiting its performance, along with ways to overcome such difficulties (Thomas, 2007).

Organizational DNA is a metaphorical term denoting the fundamental factors that define the character of an organization and help explain its performance (David, et al., 2006).

Organizational DNA is a system that attempts to discover the organization by pinpointing its strong and weak points, along with defining remedies (Gharmy, 2006).

Organizational DNA includes four principal factors that unify and distinguish the character of an organization; namely, decision rights, information, motivators, and structure (Neilson, 2006).

Organizational DNA is a metaphor or a theory, involving elements that together describe the identity of the organization and helps in expressing the organizational activities. As the DNA in nature describes required aspects for creation of a unique living creature, organizational DNA could express the OP according to four definitions of structure, the right to make decisions, motives and information of organizational DNA (Neilson, et al., 2005).

Organizational DNA is the employment of simple rules to create fruitful relations and lay down expectations of employees' behavior (Holoday, 2005).

There are four main blocks constructing organizational DNA. They are regulations and manners of decisions, information, stimulants (motives), and structure (Booz, 2004). It is a metaphor for the underlying factors that together define an organization's "personality" and help explain its performance. The organizational DNA framework was developed by Booz & Company to give organizations an easy, accessible way to identify and remedy the roadblocks that impede results and impact its success (Neilson, et al., 2003; 2004).

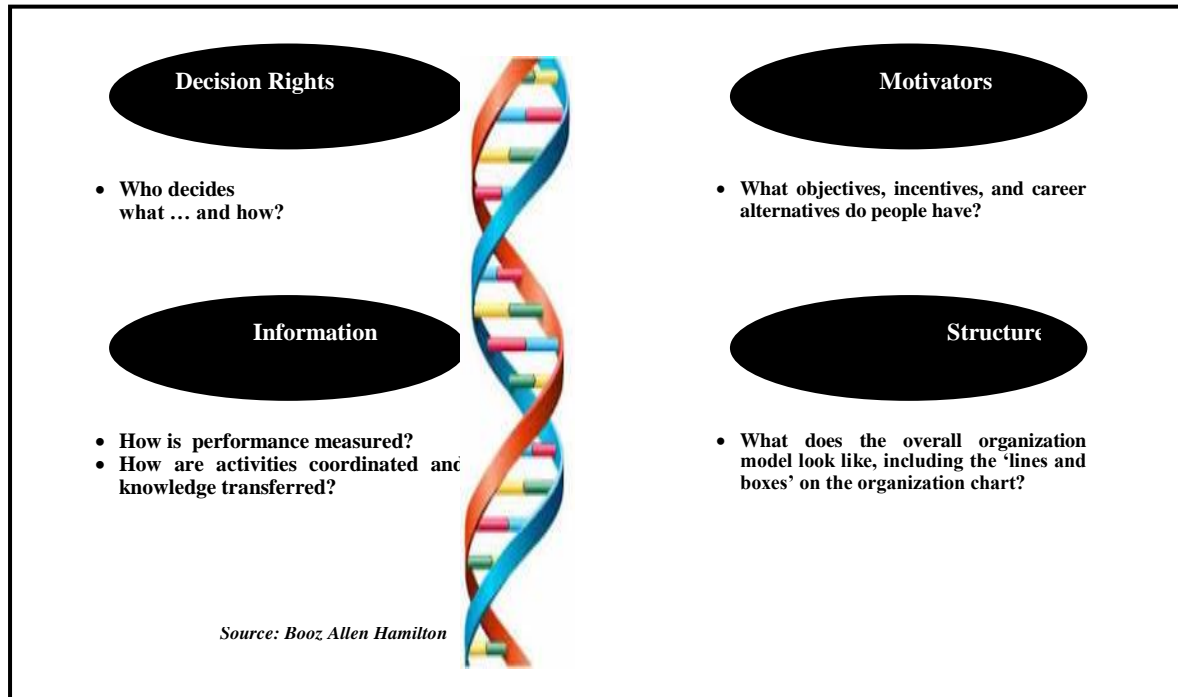
Organizational DNA expresses a method of analysis, ideology, elaboration and thinking about organizations, in which their models, management functions, leadership and other notions of organizations are considered. It uses quite diverse approaches for identification of organizations instead of organizations forms and models, by considering the affairs like team works, decision-making and development of human workforce, as separate or at least independent variables (Honold & Silverman, 2002).

2.1.2. Organizational DNA Dimensions

The DNA of living organizations consists of four building blocks, which combine and recombine to express distinct identities, or personalities. These organizational building blocks (structure, decision rights, motivators, and information) largely determine how a firm looks and behaves, internally and externally (See Figure 1) (Source: Booz Allen Hamilton; Neilson, 2006).

Figure (1)

The Four Building Blocks of Organizational DNA



According to the above figure, the DNA of a living organization has four bases that, combined in myriad ways, define an organization's unique traits. These bases are (Neilson, et al., 2003; 2004):

1. **Decision Rights.** Who decides what? How many people are involved in a decision process? Where does one person's decision-making authority end and another's begin?.

It is the definition of the basic techniques of actual decision taking in the organization, besides efficiency of organization's work, speed of supplying products, good services, and time needed to get the outcome. Decision rights are the basic task that should be tackled by organizations that suffer functional imbalance as they are the cornerstone of efficient development. **Decision Rights** means the underlying mechanism of how decisions are truly made (Hamilton, 2005).

Decision Rights means firstly, making decisions authorities and responsibilities as clear as possible and secondly, appoint "process owners" the business unit or functional managers who lead the revitalization of business processes and who will be accountable for its success- and empower them (Bordia et al., 2005).

2. **Motivators.** What objectives, incentives, and career alternatives do people have? How are people rewarded, financially and nonfinancially, for what they achieve? What are they encouraged to care about, by whatever means, explicit or implicit?. They are the means employed by an organization to stimulate and motivate its employees for better performance. They are not limited to finances, but include material and moral means of motivation to urge employees to do their utmost for motivators. Motivators help employees match their own goals with those of the organization.

Motivators take part in shaping behavior and in influencing OP. Motivators include more than money, they also include nonfinancial aspects like goals, preference, and accomplishment (Ivancevich & Matteson, 2002). Balancing between positive (financial and nonfinancial) and negative (punishment) motivational considerations is one of the main issues that managers must attend (Thompson & Strickland, 2003).

Motivation is a powerful tool for furthering the organization's strategic goals. First, awards have a major impact on employee attitudes. Second, employee compensation is typically a significant organizational cost and thus requires close scrutiny (Noe et al, 1994).

3. **Information.** What metrics are used to measure performance? How are activities coordinated, and how is knowledge transferred? How are expectations and progress communicated? Who knows what? Who

needs to know what? How is information transferred from the people who have it to the people who require it?

It is the basic means for the transfer and dissemination of knowledge inside an organization from holders of information to those in need of it. It is the mover of activities at the organization and may be employed to measure employees' performance as bad information affect the remaining components of DNA, especially decision rights and motivators. Without accurate information, decision makers cannot take decisive steps and seize available market opportunities, while employees do not gain the appreciation they deserve.

Information can play two critical roles in today's organizations that are organizational response to business pressures (Turban et al., 1999), and enhance key business functions (Wheelen & Hunger, 2004).

Information explains what metrics are used to measure performance? How are activities coordinated, and how is knowledge transferred? How are expectations & progress communicated? Who know what? Who need to know what? (Neilson et al., 2005).

4. **Structure.** What does the organizational hierarchy look like? How are the lines and boxes in the organization chart connected? How many layers are in the hierarchy, and how many direct reports does each layer have?.

It is the organizational map including administrative levels, direct reports, professional career, transfers, and promotions inside an organization.

Structure is the clearest of the four components of DNA as it is the launching pad of organizational change programs.

Structure should not be the starting point, but the logical outcome of the options relating to the other three determinants; decision rights, information, and motivators. It is the climax not the basis of efforts of reorganization (Govindarajan, & Trimble, 2006).

Structure is the sum total of the ways in which the organization divides its labor into distinct tasks to ensure effective communication, coordination, and integration of efforts across departments (Hodge & Anthony, 1991; Daft, 2001).

Structure, multiple organization layers and narrow span of control often result in excess bureaucracy and bottlenecked decision making. Executions must draw attention toward two remedies. First, rooting out and eliminating or redeploying shadow staff-people performing tasks that duplicate the performed elsewhere in organization-resources are a key to improve OP. Second, managing the career path and ensuring rotations in different geographies, functions, and roles is important to the development of well-rounded senior managers of product development (Bordia et al., 2005).

Constructing organizational blocks and their combinations determine the behavior of an organization and success or failure in achieving organizational goals. It is believed by this approach that competent people in an organization, who are the main and principle forces of successful organizations, are merited by proper values, equipped by correct information and motivated by appropriateness rewards. It is the main challenge to provide unique rows and proper relations of the organizational constructive blocks that cause the personal interests of people to conform with the organization's operating programs. The only appropriate condition is that the four constructive blocks in the organization to operate with each other and solve the organization problems as regards the organizational goals (Neilson, et al., 2005).

2.2. Organizational Excellence

2.2.1. Organizational Excellence Concept

Excellence can be attained by encouraging workers to participate with their opinions and suggestions in solving the problems they face within the organization, the delegation of authority, freedom and avoidance of excessive instructions, policies and commands control related to their work, freedom to take responsibility to express their views and make their own decisions besides doing their jobs (Simard & Rice, 2006).

Excellence is any act or activity for anyone who wants to enhance and achieve the goals of the organization. OE depends mainly on the competitive strategy of the organization, technology and relationship with customers (Mcgregor, 1994).

The excellent organization is able to collect, manage and use information from the organization in order to ensure the achievement of the desired goals (Martensen, et al., 2007).

The excellent organization is crystallized through the ability to study the current situation of the organization, external variables through strategic analysis processes, specify its foundations and strategic direction, formulate the organization's mission, vision, strategic objectives and lay the foundations and criteria for measuring results. It prepares strategic plans in light of its objectives in order to exploit opportunities and avoid threats. It develops follow-up and identifies the environmental variables and their possible impact on the organization's mechanisms (Bukovec & Markic, 2008).

The excellent organization is constantly superior to the best international practices in the performance of its functions. It is also linked with its customers and clients with relations of support and interaction. It recognizes the capabilities of its competitors; their strengths and weaknesses, as well as the opportunities and threats that surround it (Gilgeous, 1997).

OE means the ability of organizations to create and exploit opportunities, create a stimulating climate and effectively confront various work problems. OE is the organization's ability to create and exploit the opportunities of encouraging climate, in addition to effective confrontation of different problems at work (Grote, 2002).

OE is the ability of organizations to provide development opportunities, and create the conditions that stimulate and correct performance problems, besides facing them effectively. There are several determinants to achieve OE, (1) the existence of a vision in the organization's leadership, (2) focusing on the future, (3) activating the role of knowledge, organizational learning and individual learning (Grote, 2002).

OE in a more comprehensive manner is focusing on stakeholders, both internal and external. OE is the holistic way of working that achieves the goals of all parties involved in the organization, and thus the potential for long-term success (Eskild & Adders, 1999).

OE is a total way of action that leads to the satisfaction of both balance (1) of employees in the organization, (2) customers, (3) the surrounding community, and thus increasing the possibility of success of the organization in the long run (Eskild & Adders, 1999).

OE is the pursuit of the organization towards the exploitation of appropriate opportunities through effective strategic planning and shared vision based on clarity of purpose and adequacy of resources to achieve high levels of performance (Burkhart, 1993).

The organization is distinguished by consistently excelling in the performance of its functions, and having good relations with its customers and clients. It should identify the performance of its competitors, strengths and weaknesses, and the circumstances surrounding its environment (Gilgeous & Gilgeous, 1999).

There are several determinants to achieve OE; such as the presence of visionary leadership, focusing on the future through strategic planning, activating the role of knowledge and adoption of organizational learning (Grant, 2000).

The aim of the organizational process excellence is to develop a strong work force having the ability to produce goods and services in a manner that achieves the internal and external consumer expectations. The intrinsic value is to achieve internal and external consumer desires, and to develop awareness towards achieving the objectives of the organization, through (1) energies of creativity and innovation (2) policies and flexible measures (3) skilled leadership to guide and stimulate communication with employees (4) manpower and professionals having a capacity for creativity and innovation (5) a cultural climate that provides confidence, safety, job satisfaction and real belonging and loyalty to the organization to achieve customer satisfaction (Rahman, 2001).

Performance is high in organizations that contain centers of excellence rather than those organizations that do not include centers of excellence (Frost et al., 2002).

There are a number of steps that must be followed in order to build a distinct organization. They are (1) communicating the vision of leadership with regard to the excellence to all workers in the various levels of management in a clear and specific manner, (2) linking OE and all operations and activities of the organization, (3) understanding the basic capabilities of the organization and evaluation in terms of how optimally such capabilities are exploited in order to achieve excellence, (4) empowering workers and

encouraging initiatives, (5) employing a technical image that achieves the highest possible use, (6) dissemination of knowledge among all employees within the organization, and (7) encouraging learning at individual level, group level, and organizational level (Sasmita & Nayantara, 2003).

The shift from traditional management to integration results from the perception of employees that they participate strongly in solving problems, and that the merger turns into excellence. The goal is to get the most productivity, better quality, consumer satisfaction, and excellence to maximize and enhance the overall performance of the organization. This can bring success and gives the authority to make decisions in various business achievements of the organization (Kathryn et al., 2005).

The outstanding management must have a vision that can create a climate of participation and provide assistance to excellence conditions. This also requires a clear strategy, an organizational structure that promotes a sense of responsibility, skills development, keeping channels of communication open, guidance and training of staff as the employees are the key element in the process of excellence. Employees' awareness of excellence enhances the meaning of fidelity, devotion to the attention of customers and their satisfaction (Al-Marri et al., 2007).

2.2.2. Organizational Excellence Dimensions

The dimensions of OE are leaders excellence, subordinates excellence, structure excellence, strategic excellence, and cultural excellence. This can be illustrated as follows (Kandula, 2002; Hesselbein & Gohanston, 2002):

2.2.2.1. Leaders Excellence

Leaders excellence is a set of strategies, skills and behaviors adopted by leaders working in the organization in order to achieve goals efficiently and effectively. Leaders excellence represents the leader's degree of outstanding ability to exploit organizational opportunities, provide development opportunities and accept challenging business in a way that helps the organization to cope with turbulent processes and multiple crises (Hesselbein & Gohanston, 2002).

2.2.2.2. Subordinates Excellence

Subordinates excellence refers to the subordinates having sufficient freedom and independence in performing their work. Creating the methods that they deem appropriate for their work, and that they have sufficient control over what is going on in the workplace, and that they have a feeling that their actions affect what happens in the organization. Subordinates excellence represents the degree to which the members of the organization have distinguished enthusiasm in performing the tasks of the organization by possessing mental capabilities and distinct creative capabilities that help them overcome the obstacles they face without complaining and encouraging others to actively participate that enhances the achievement of the overall goals of the organization (Burkhart, 1993).

2.2.2.3. Structural Excellence

Structure excellence means relying on an organizational structure that is characterized by a degree of flexibility in order to be able to update and seize opportunities, quick decision-making, and lack of commitment to professional work specifications in order to enable team members to monitor their behavior and the behavior of the rest of the workers in the organization. Structure excellence represents the degree of capacity of the structural framework that links the parts of the organization, defines the relationships between the business, centers and departments, and the expected cooperation between the parts of the organization, and clarifies the lines of authority and responsibility in a way that helps to perform the various activities to achieve the required goals (Batman & Organ, 1991).

2.2.2.4. Strategic Excellence

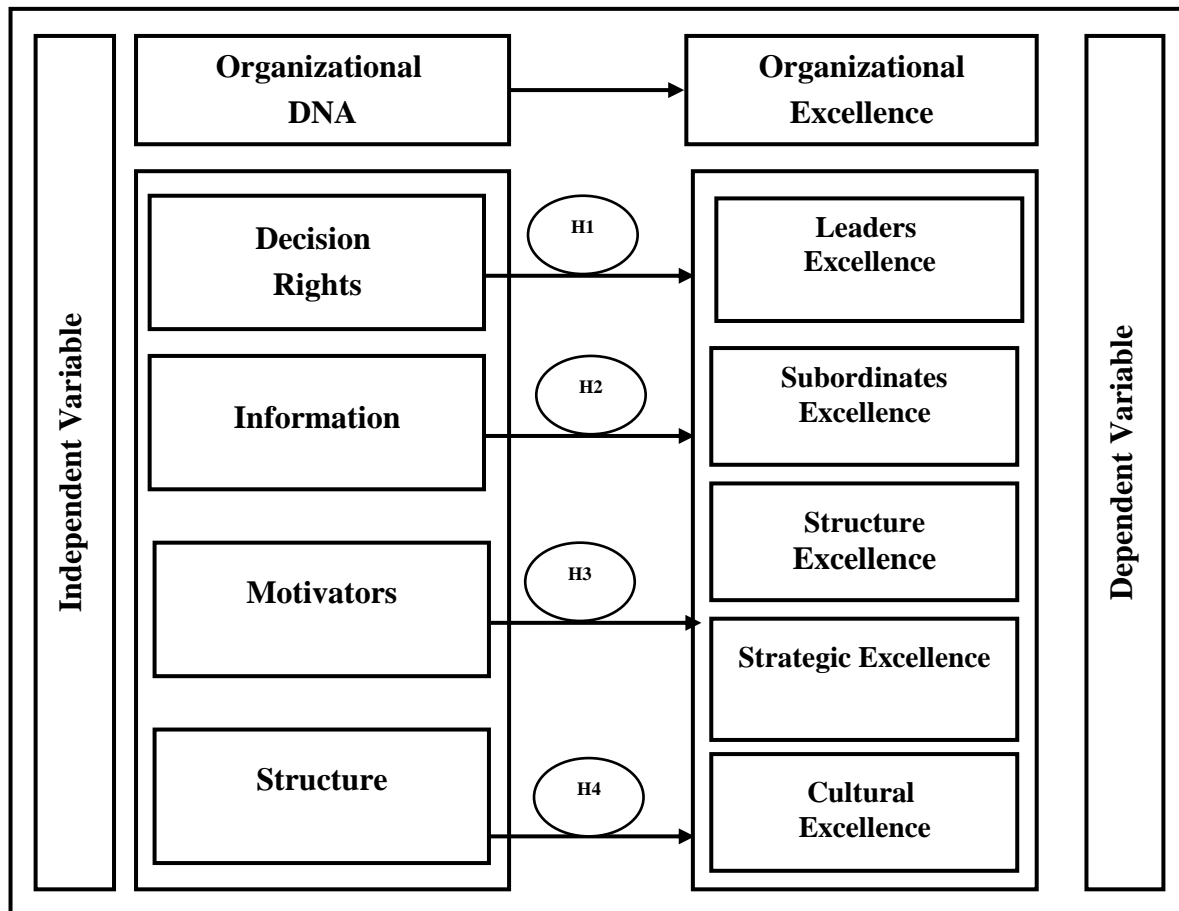
Strategic excellence means that workers in the organization look at its future with a single perspective and a similar vision, in a way that leads to interdependence of relationships, anticipating changes that occur in the environment, until appropriate plans are developed to adapt to it, and a specific plan for the organization that supports training, learning, and innovation is available. Strategic excellence is the degree of distinction of the steps taken by the organization to achieve its vision and mission, and their interaction as a unified, comprehensive and integrated plan linking the advantages of the organization with its strategic ability to face environmental challenges (Kandula, 2002).

2.2.2.5. Cultural Excellence

Cultural excellence means that the organization seeks to achieve its future goals, plan well for the future, follow fair rules and procedures, consider good ideas with an appreciation point, strive to face challenges and deal with them objectively, and face obstacles facing the achievement of the organization's goals. Cultural excellence represents the degree of conformity of behavior and reflects the distinction of the values and beliefs of individuals with influence in the organization, and includes elements (openness, cooperation, trust, originality, tribal activity, independence and facing problems). These elements contribute to enhancing the effectiveness of human performance (Gupta & Arya, 2003).

3. Research Model

Figure (2)
Proposed Comprehensive Conceptual Model



The research framework suggests that organizational DNA in an organization have an impact on OE. Organizational DNA as measured consists of decision rights, information, motivators, and structure (Booz Allen Hamilton, 2002; Neilson, et al., 2003; 2004; Booz, 2004; Neilson, et al., 2005; Holoday, 2005; Remecker & Bowdin, 2005; Neilson, 2006; Vijay & Chrise, 2006; Vanmullem & Hondeghem, 2007; and Soroush, et al., 2013).

OE is measured in terms of leaders, subordinates, structure, strategic and culture excellence (Kandula, 2002; Hesselbein & Gohanston, 2002).

4. Research Questions

The research problem has two sources. The first is to be found in previous studies that dealt with the relationship between Organizational DNA and OE. This called for the researcher to test this relationship in the Egyptian environment. The second is the pilot study, which was conducted through interview with (30)

employees at Pharmaceutical industrial. The researcher found several indicators. The important role could be played by Organizational DNA in affecting OE. The research questions are as follows:

- Q1: The relationship between organizational DNA (decision rights) and OE at Pharmaceutical industrial in Egypt.
 Q2: The nature of the relationship between organizational DNA (information) and OE at Pharmaceutical industrial in Egypt.
 Q3: The extent of the relationship between organizational DNA (motivators) and OE at Pharmaceutical industrial in Egypt.
 Q4: The nature and the extent of the relationship between organizational DNA (structure) and OE at Pharmaceutical industrial in Egypt.

5. Research Hypotheses

The following hypotheses were developed to decide if there is a significant correlation between Organizational DNA and OE.

- H1: Organizational DNA (decision rights) has no significant effect on OE at Pharmaceutical industrial in Egypt.
 H2: Organizational DNA (information) has no significant impact on OE at Pharmaceutical industrial in Egypt.
 H3: Organizational DNA (motivators) has no significant effect on OE at Pharmaceutical industrial in Egypt.
 H4: Organizational DNA (structure) has no significant influence on OE at Pharmaceutical industrial in Egypt.

6. Research Population and Sample

The population of the study is 4783 employees at the pharmaceutical industry in Egypt. The random sampling was used for collecting the primary data. The following equation determines the sampling size (Daniel, 1999):

$$n = \frac{N \times (Z)^2 \times P(1-P)}{d^2(N-1) + (Z)^2 \times P(1-P)}$$

Accordingly, the sample size has become 355 employees at the pharmaceutical industry in Egypt.

Table (1)

Distribution of the Sample Size

Egyptian Pharmaceutical Companies in Egypt	Employees	Percentage	Sample Size
Delta for the Pharmaceutical Industry	1500	31.4%	355 X 31.4% = 112
Egyptian International Pharmaceutical Industries (Eipico)	1833	38.3%	355 X 38.3% = 136
Pharma Sweden	850	17.8%	355 X 17.8% = 63
Egypt Otsu	350	7.3%	355 X 7.3% = 26
Egyptian Chemicals and Drugs	250	5.2%	355 X 5.2% = 19
Total	4783	100%	355 X 100% = 355

Source: Personnel Department at Pharmaceutical Industry in Egypt, 2020

7. Procedure

The goal of this study was to identify the significant role of organizational DNA in improving OE. It was necessary to explore the four building blocks of organizational DNA and OE at Pharmaceutical industrial in Egypt. A survey research method was used to collect data. The questionnaire included three questions, relating to organizational DNA, OE, and biographical information of employees. Data collection took approximately two months. Survey responses were 84%, 300 completed surveys out of the 355 distributed.

Table (2) Characteristics of Items of the Sample

Demographic Variables		Frequency	Percentage
1- Job Title	Physicians	140	47%
	Nurses	120	40%
	Administrative Staff	40	13%
	Total	300	100%
2- Sex	Male	160	53%
	Female	140	47%
	Total	300	100%
3- Marital Status	Single	100	33%
	Married	200	67%
	Total	300	100%
4- Age	From 30 to 45	165	55%
	Above 45	135	45%
	Total	300	100%
5- Educational Level	University	160	53%
	Post Graduate	140	47%
	Total	300	100%
6- Period of Experience	From 5 to 10	150	50%
	More than 10	150	50%
	Total	300	100%

8. Research Variables and Methods of Measuring

The 64-item scale of organizational DNA section is based on Booz Allen Hamilton, 2002; Neilson, et al., 2003; 2004; Booz, 2004; Neilson, et al., 2005; Holoday, 2005; Remecker & Bowdin, 2005; Neilson, 2006; Vijay & Chrise, 2006; Vanmullem & Hondeghem, 2007; and Soroush, et al., 2013. There were 18 items measuring decision rights, 17 items measuring information, 15 items measuring motivators, and 14 items measuring structure.

The 28-item scale OE section is based on Kandula, 2002; Hesselbein & Gohanston, 2002. There were five item measuring leaders excellence, five item measuring subordinates excellence, five item measuring structure excellence, five item measuring strategic excellence, and five item measuring cultural excellence (Kandula, 2002; Hesselbein & Gohanston, 2002).

Responses to all items scales were anchored on a five (5) point Likert scale for each statement which ranges from (5) “full agreement,” (4) for “agree,” (3) for “neutral,” (2) for “disagree,” and (1) for “full disagreement.”

9. Data Analysis and Hypotheses Testing

9.1. Coding of Variables

Table (3) Description and Measuring of the Research Variables

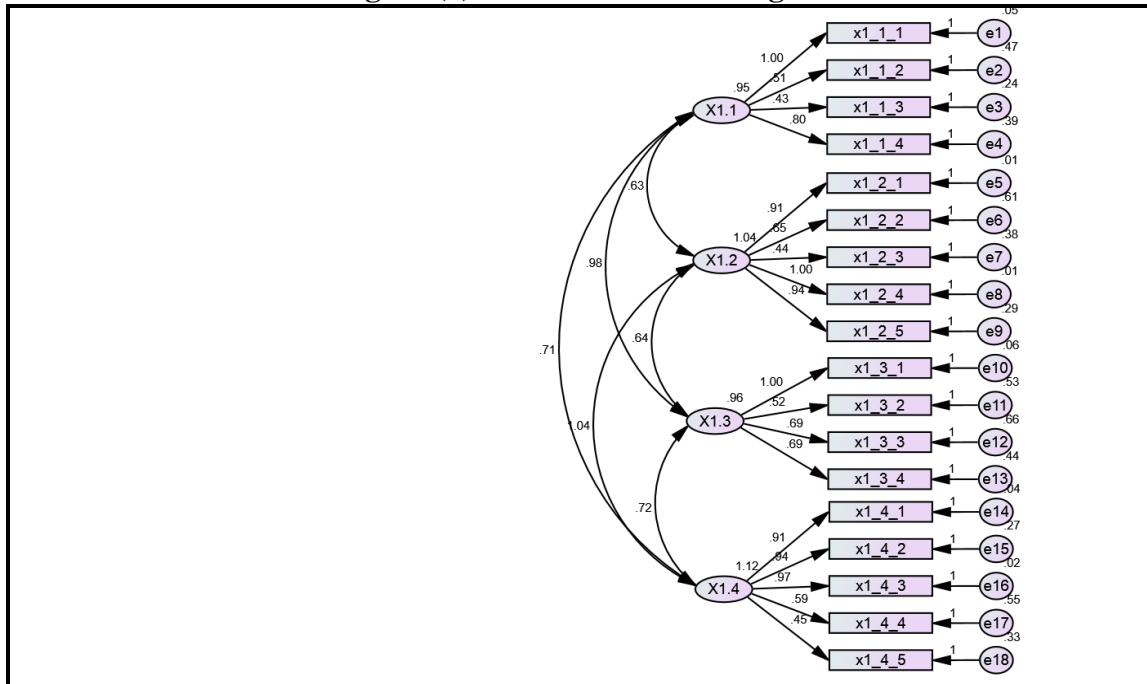
Main Variables		Sub-Variables	Number of Statement	Methods of Measuring Variables
Independent Variable	Organizational DNA	Decision Rights	18	Booz Allen Hamilton, 2002; Neilson, et al., 2003; 2004; 2005, Booz, 2004; Holoday, 2005; Remecker & Bowdin, 2005; Neilson, 2006; Vijay & Chrise, 2006; Vanmullem & Hondeghem, 2007; and Soroush, et al., 2013
		Information	17	
		Motivators	15	
		Structure	14	
Total OE			64	
Dependent Variable	Organizational Excellence	Leaders Excellence	6	Kandula, 2002; Hesselbein & Gohanston, 2002
		Subordinates Excellence	7	
		Structure Excellence	5	
		Strategic Excellence	5	
	Culture Excellence	5		
Total BD			28	

9.2. Construct Validity

9.2.1. Decision Rights

The researcher used Confirmatory Factor Analysis (CFA) for decision rights. This can be illustrated by the following figure:

Figure (3) CFA For Decision Rights



From the previous figure, it is clear that all the statement of decision rights are greater than 0.50, which corresponds to GFI. This is a good indicator of all other statistical analysis. The quality indicators for decision rights can be illustrated in the following table:

Table (4) Quality Indicators for decision rights Using AMOS Analysis

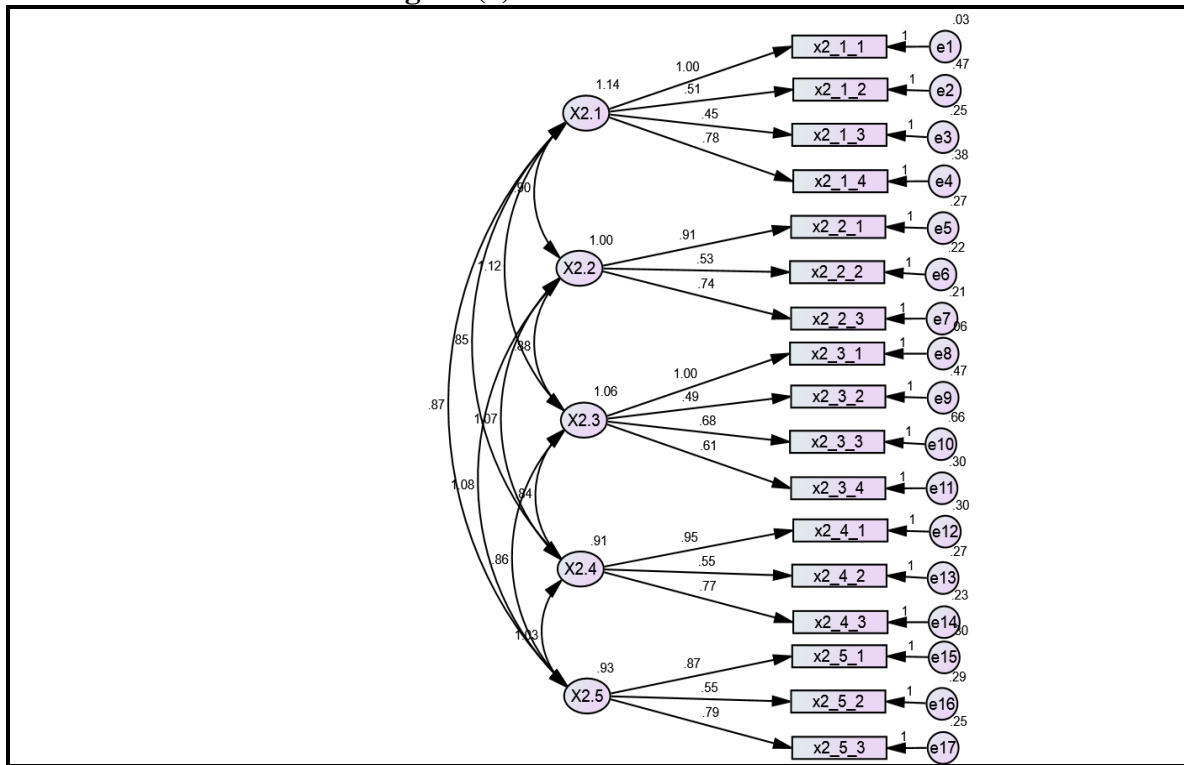
Test the Quality of the Model Acceptance Condition (Daire et al., 2008)	Test Value
$X^2 / \text{Degree of freedom} > 5$	996.278
P. value > 0.5	0.000
Goodness of fit Index (GFI) > 0.90	0.764
Tuker-Lewis Index (TLI) > 0.95	0.781
Comparative Fit Index (CFI) > 0.90	0.847
Normed Fit Index (NFI) > 0.90	0.840
Incremental Fit Index (IFI) > 0.95	0.848
Relative Fit Index (RFI) > 0.90	0.872
Root Mean Square Residual (RMR) < 0.5	0.182
Root Mean Square Error of Approximation (RMSEA) < 0.5	0.104

In light of the above-mentioned indicators, it is clear that the previous indicators are good for making all other statistical analysis.

9.2.2. Information

The researcher used CFA for information. This can be illustrated by the following figure:

Figure (4) CFA For Information



According to Figure (2), it is clear that all the statement of information are greater than 0.50. This is a good indicator of all other statistical analysis. The quality indicators for information can be illustrated in the following table:

Table (5) Quality Indicators for information Using AMOS Analysis

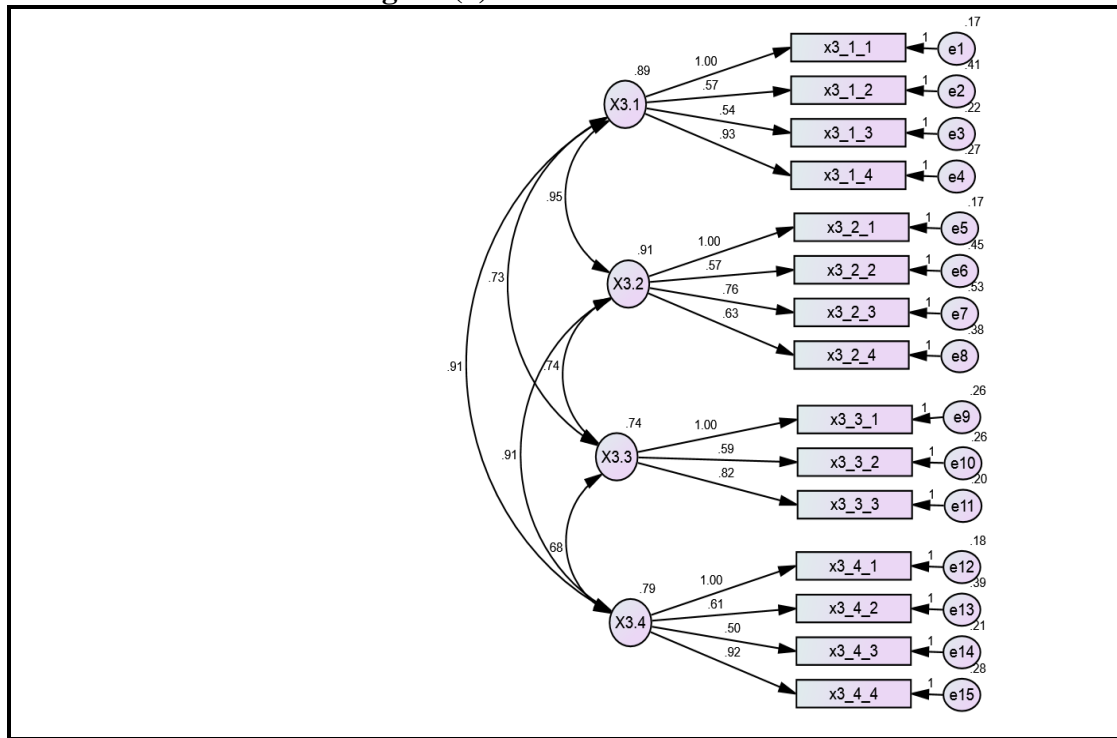
Test the Quality of the Model Acceptance Condition (Daire et al., 2008)	Test Value
$X^2 / \text{Degree of freedom} < 5$	1176.690
P. value > 0.5	0.000
Goodness of fit Index (GFI) > 0.90	0.609
Tuker-Lewis Index (TLI) > 0.95	0.659
Comparative Fit Index (CFI) > 0.95	0.743
Normed Fit Index (NFI) > 0.90	0.736
Incremental Fit Index (IFI) > 0.95	0.745
Relative Fit Index (RFI) > 0.90	0.750
Root Mean Square Residual (RMR) < 0.5	0.112
Root Mean Square Error of Approximation (RMSEA) < 0.5	0.195

In light of the above-mentioned indicators, it is clear that the previous indicators are good for making all other statistical analysis.

9.2.3. Motivators

The researcher used Confirmatory Factor Analysis (CFA) for motivators. This can be illustrated by the following figure:

Figure (5) CFA For Motivators



From the previous figure, it is clear that all the statement of motivators are greater than 0.50, which corresponds to GFI. This is a good indicator of all other statistical analysis. The quality indicators for motivators can be illustrated in the following table:

Table (6) Quality Indicators for Motivators Using AMOS Analysis

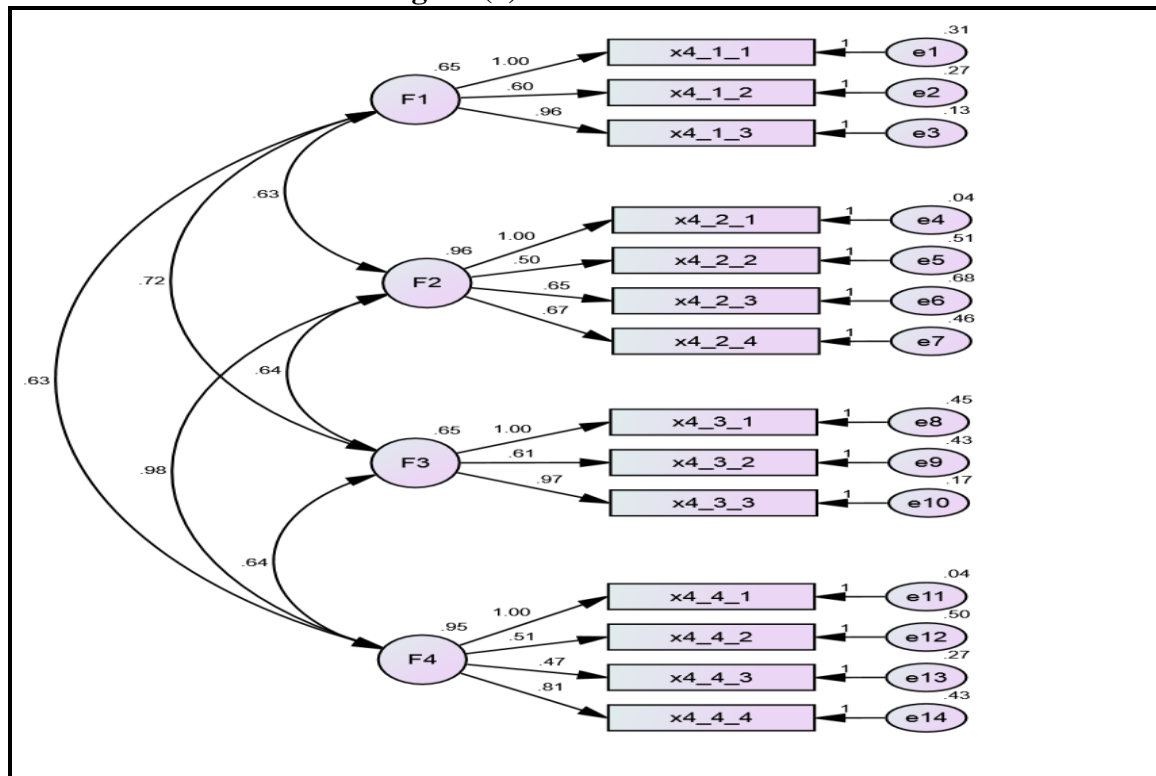
Test the Quality of the Model Acceptance Condition (Daire et al., 2008)	Test Value
$X^2 / \text{Degree of freedom} > 5$	1249.686
P. value > 0.5	0.000
Goodness of fit Index (GFI) > 0.90	0.698
Tuker-Lewis Index (TLI) > 0.95	0.650
Comparative Fit Index (CFI) > 0.90	0.760
Normed Fit Index (NFI) > 0.90	0.755
Incremental Fit Index (IFI) > 0.95	0.561
Relative Fit Index (RFI) > 0.90	0.644
Root Mean Square Residual (RMR) < 0.5	0.081
Root Mean Square Error of Approximation (RMSEA) < 0.5	0.155

In light of the above-mentioned indicators, it is clear that the previous indicators are good for making all other statistical analysis.

9.2.4. Structure

The researcher used CFA for structure. This can be illustrated by the following figure:

Figure (6) CFA For Structure



According to Figure (2), it is clear that all the statement of structure are greater than 0.50. This is a good indicator of all other statistical analysis. The quality indicators for structure can be illustrated in the following table:

Table (7) Quality Indicators for Structure Using AMOS Analysis

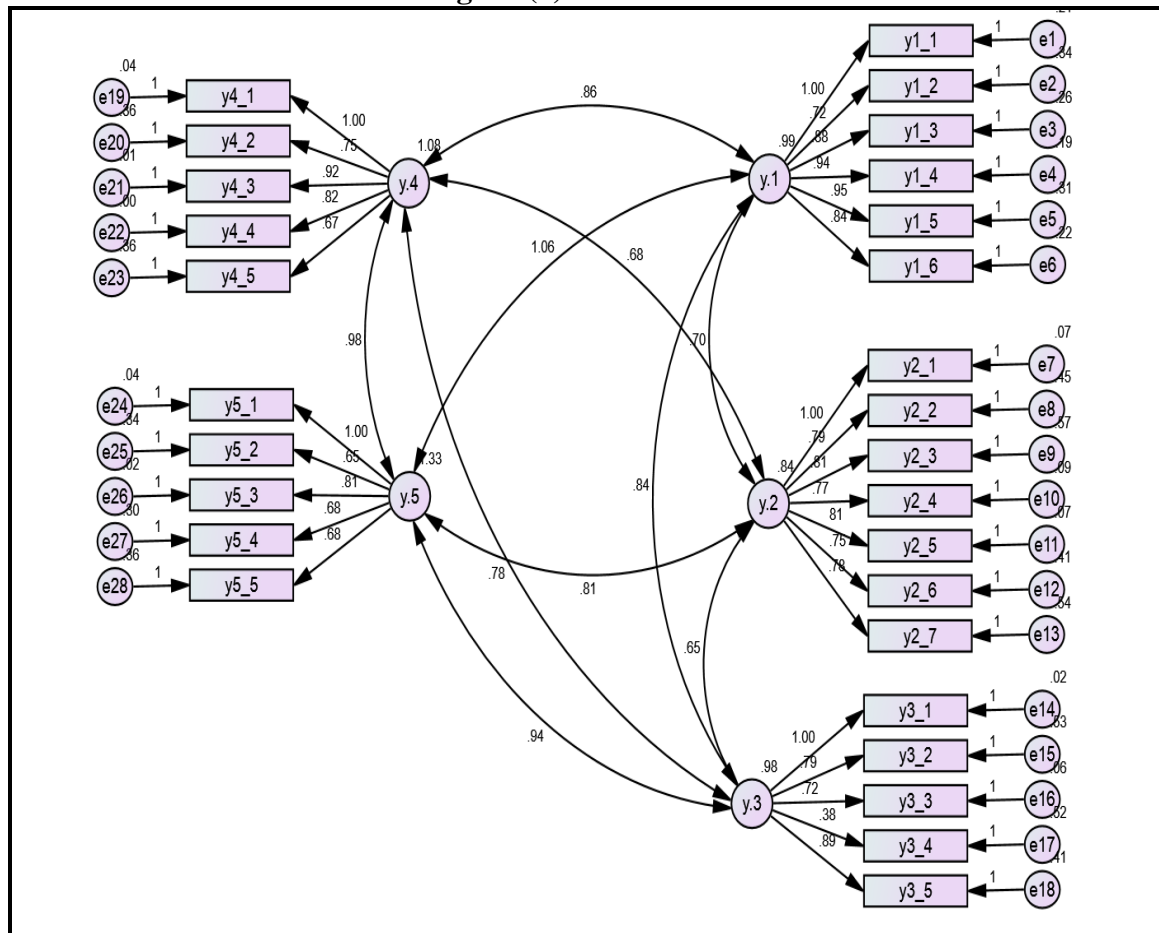
Test the Quality of the Model Acceptance Condition (Daire et al., 2008)	Test Value
$X^2 / \text{Degree of freedom} < 5$	1666.309
P. value > 0.5	0.000
Goodness of fit Index (GFI) > 0.90	0.790
Tuker-Lewis Index (TLI) > 0.95	0.817
Comparative Fit Index (CFI) > 0.95	0.801
Normed Fit Index (NFI) > 0.90	0.793
Incremental Fit Index (IFI) > 0.95	0.802
Relative Fit Index (RFI) > 0.90	0.707
Root Mean Square Residual (RMR) < 0.5	0.104
Root Mean Square Error of Approximation (RMSEA) < 0.5	0.174

In light of the above-mentioned indicators, it is clear that the previous indicators are good for making all other statistical analysis.

9.2.5. Organizational Excellence

The researcher used CFA for organizational excellence. This can be illustrated by the following figure:

Figure (7) CFA For OE



According to Figure (2), it is clear that all the statement of OE are greater than 0.50. This is a good indicator of all other statistical analysis. The quality indicators for OE can be illustrated in the following table:

Table (8) Quality Indicators for OE Using AMOS Analysis

Test the Quality of the Model Acceptance Condition (Daire et al., 2008)	Test Value
$X^2 / \text{Degree of freedom} < 5$	1282.682
P. value > 0.5	0.000
Goodness of fit Index (GFI) > 0.90	0.741
Tuker-Lewis Index (TLI) > 0.95	0.804
Comparative Fit Index (CFI) > 0.95	0.834
Normed Fit Index (NFI) > 0.90	0.818
Incremental Fit Index (IFI) > 0.95	0.835
Relative Fit Index (RFI) > 0.90	0.787
Root Mean Square Residual (RMR) < 0.5	0.109
Root Mean Square Error of Approximation (RMSEA) < 0.5	0.197

In light of the above-mentioned indicators, it is clear that the previous indicators are good for making all other statistical analysis.

9.3. Descriptive Analysis

According to Table (3), the different facets of decision rights are examined. Most respondents identified the presence of organizational culture (M=3.75, SD=0.745). This was followed by organizational strategy (M=3.97, SD=0.875), leadership style (M= 3.48, SD=0.824), degree of decentralization (M=3.95, SD=0.882) and the total measurement for decision rights (M=3.81, SD=0.796).

The different facets of information are investigated. Most respondents identified the presence of availability of information (M=3.75, SD=0.763). This was followed by appropriateness of information (M=3.64, SD=0.734), timing to obtain information (M=3.43, SD=0.779), cost of information (M=3.64, SD=0.727), availability of right communication systems (M=3.69, SD=0.743), and the total measurement for information (M=3.62, SD=0.706).

The different facets of motivators are studied. Most respondents identified the presence of wage (M=3.76, SD=0.769). This was followed by teamwork (M=3.47, SD=0.792), financial rewards and incentives (M=3.65, SD=0.751), opportunities for promotion and advancement (M=3.67, SD=0.727), and the total measurement for motivators (M=3.66, SD=0.723).

The different facets of organizational structure are examined. Most respondents identified the presence of organizational size (M=3.64, SD=0.744). This was followed by professional career (M=3.47, SD=0.804), span of supervision (M=3.71, SD=0.779), degree of compliance with law and regulations (M=3.75, SD=0.766) and the total measurement for organizational structure (M=3.64, SD=0.726).

Table (9)
The mean and standard deviations of Organizational DNA and OE

Variables	The Dimension	Mean	Standard Deviation
Decision Rights	Organizational Culture	3.75	0.745
	Organization Strategy	3.97	0.875
	Leadership Styles	3.48	0.824
	Degree of Decentralization	3.95	0.882
	Total Measurement	3.81	0.796
Information	Availability of Information	3.75	0.763
	Appropriateness of Information	3.64	0.734
	Timing to Obtain Information	3.43	0.779
	Cost of Information	3.64	0.727
	Communication Systems	3.69	0.743
	Total Measurement	3.62	0.706
Motivators	Wage	3.76	0.769
	Teamwork	3.47	0.792
	Financial Rewards and Incentives	3.65	0.751
	Promotion and Advancement	3.76	0.727
	Total Measurement	3.66	0.723
Structure	Size of Organization	3.64	0.744
	Professional Career	3.47	0.804
	Span of Supervision	3.71	0.779
	Compliance with Regulations	3.75	0.766
	Total Measurement	3.64	0.726
OE	Leaders Excellence	3.95	0.853
	Subordinates Excellence	3.81	0.864
	Structure Excellence	3.78	0.804
	Strategic Excellence	3.95	0.953
	Culture Excellence	3.99	0.967
	Total Measurement	3.89	0.827

Regarding to OE, most of the respondents identified the leaders excellence (M=3.95, SD=0.853), subordinates excellence (M=3.81, SD=0.864), structure excellence (M=3.78, SD=0.804), strategic excellence (M=3.95, SD=0.953), culture excellence (M=3.99, SD=0.967), and total OE (M=3.89, SD=0.827).

9.4. Evaluating Reliability

Table (10) Reliability of Organizational DNA and OE

Variables	Dimension	Number of Statement	ACC
Decision Rights	Organizational Culture	4	0.864
	Organization Strategy	5	0.927
	Leadership Styles	4	0.865
	Degree of Decentralization	5	0.927
	Total Measurement	18	0.972
Information	Availability of Information	4	0.872
	Appropriateness of Information	3	0.831
	Timing to Obtain Information	4	0.859
	Cost of Information	3	0.810
	Communication Systems	3	0.810
	Total Measurement	17	0.964
Motivators	Wage	4	0.869
	Teamwork	4	0.851
	Financial Rewards and Incentives	3	0.838
	Promotion and Advancement	4	0.856
	Total Measurement	15	0.960
Structure	Size of Organization	3	0.839
	Professional Career	4	0.854
	Span of Supervision	3	0.797
	Compliance with Regulations	4	0.868
	Total Measurement	14	0.954
Organizational Excellence	Leaders Excellence	6	0.937
	Subordinates Excellence	7	0.946
	Structure Excellence	5	0.892
	Strategic Excellence	5	0.964
	Culture Excellence	5	0.952
	Total Measurement	28	0.983

Table (10) presents the reliability of organizational DNA. The 18 items of decision rights scales are reliable due to the fact that the ACC is 0.972. The organizational culture, which consists of 4 items, is reliable since the ACC is 0.864. The 5 items related to organizational strategy are reliable as ACC is 0.927. Furthermore, the leadership style, which consists of 4 items, is reliable due to the fact that the ACC is 0.865. The 5 items related to degree of decentralization are reliable since ACC is 0.927. Thus, the reliability of decision rights can be acceptable.

The 17 items of information scales are reliable due to the fact that the ACC is 0.964. The availability of information, which consists of four items, is reliable since the ACC is 0.872. The three items related to appropriateness of information are reliable as ACC is 0.831. Furthermore, the timing to obtain information, which consists of four items, is reliable due to the fact that the ACC is 0.859. The three items related to cost of information are reliable since ACC is 0.810 while the last three items related to communication systems is reliable as the ACC is 0.810. Thus, the reliability of information can be acceptable.

The 15 items of motivators scales are reliable because the ACC is 0.960. The wage, which consists of 4 items, is reliable since the ACC is 0.869. The four items related to teamwork are reliable as ACC is 0.851. Furthermore, the financial rewards and incentives, which consists of three items, is reliable due to the fact that the ACC is 0.838. The 4 items related to opportunities for promotion and advancement are reliable since ACC is 0.856. Thus, the reliability of motivators can be acceptable.

The 14 items of organizational structure scales are reliable due to the fact that the ACC is 0.954. The organizational size, which consists of three items, is reliable since the ACC is 0.839. The four items related

to professional career are reliable as ACC is 0.854. The three items related to span of supervision are reliable since ACC is 0.797 while the last four items related to degree of compliance with law and regulations is reliable as the ACC is 0.868. Thus, the reliability of organizational structure can be acceptable.

The 28 items of OE are reliable because the ACC is 0.983. Leader excellence, which consists of 6 items, is reliable because the ACC is 0.937. The 7 items related to subordinates excellence are reliable because the ACC is 0.946 while the 5 items of structure excellence are reliable because the ACC is 0.892. The 5 items related to strategic excellence are reliable because the ACC is 0.964 while the 5 items of culture excellence are reliable because the ACC is 0.952. Thus, the internal consistency of OE can be acceptable.

Accordingly, two scales were defined, organizational DNA (64 variables), where ACC represented about 0.9750, and OE (28 variables), where ACC represented 0.6444.

9.5. The Means, St. Deviations and Correlation among Variables

Table (11) Means, Standard Deviations and Intercorrelations among Variables

Variables	Mean	Std. Deviation	Organizational DNA	OE
Organizational DNA	3.86	0.759	1	
Organizational Excellence	3.89	0.827	0.880**	1

Table (11) shows correlation coefficients between Organizational DNA and OE. Organizational DNA is (Mean=3.86; SD=0.759), while OE is (Mean=3.89; SD= 0.827). Also, the correlation between Organizational DNA and OE is (R=0.880; P <0.01).

9.6. The Correlation between Organizational DNA (Decision Rights) and OE

Table (12) Correlation Matrix between Organizational DNA and OE

Research Variables	1	2	3	4	5
Organizational Culture	1				
Organization Strategy	0.828**	1			
Leadership Styles	0.928**	0.827**	1		
Degree of Decentralization	0.825**	0.976**	0.830**	1	
Organizational Excellence	0.837**	0.832**	0.822**	0.808**	1

Based on Table (12), correlation between decision rights (organizational culture) and OE is 0.837 whereas Organizational DNA (organizational strategy) and OE shows correlation value of 0.832. Also, Organizational DNA (leadership styles) and OE is 0.822 Organizational DNA (degree of decentralization) and OE shows correlation value of 0.808 The overall correlation between Organizational DNA (Decision Rights) and OE is 0.877.

9.7. MRA for Organizational DNA (Decision Rights) and OE

The relationship between organizational DNA (Decision Rights) and OE is determined. The first hypothesis to be tested is:

H1: Organizational DNA (Decision Rights) has no significant effect on OE at Pharmaceutical industrial in Egypt.

Table (13) MRA Results for Organizational DNA (Decision Rights) and OE

The Variables of Decision Rights	Beta	R	R ²
Organizational Culture	0.358**	0.837	0.700
Organization Strategy	0.683**	0.832	0.692
Leadership Styles	0.167**	0.822	0.675
Degree of Decentralization	0.292**	0.808	0.652

▪ MCC	0.877
▪ DC	0.769
▪ Calculated F	245.738
▪ Degree of Freedom	4, 295
▪ Indexed F	3.31
▪ Level of Significance	0.000

According to Table (13), the MRA resulted in the R^2 of 0.769. This means that the OE can be explained by the dimensions of organizational DNA. Furthermore, differences in the OE can be interpreted by organizational DNA. Accordingly, it was decided to reject the null hypothesis which states that the organizational DNA (decision rights) has no significant effect on OE. The alternative hypothesis has been accepted because the model of MRA has shown that there was a fundamental relationship between organizational DNA (decision rights) and OE at the level of statistical significance level of 0.01.

9.8. The Correlation between Organizational DNA (Information) and OE

Table (14) Correlation Matrix between Organizational DNA and OE

Research Variables	1	2	3	4	5	6
Availability of Information	1					
Appropriateness of Information	0.787**	1				
Timing to Obtain Information	0.938**	0.807**	1			
Cost of Information	0.773**	0.976**	0.799**	1		
Communication Systems	0.779**	0.971**	0.801**	0.956**	1	
Organizational Excellence	0.841**	0.781**	0.835**	0.782**	0.787**	1

Based on Table (14), correlation between Information (availability of information) and OE is 0.841 whereas Information (appropriateness of information) and OE shows correlation value of 0.781. Information (timing of obtain information) and OE is 0.835 Information (cost of information) and OE shows correlation value of 0.782 whereas information (communication systems) and OE shows correlation value of 0.787. The overall correlation between Organizational DNA (Information) and OE is 0.872.

9.9. MRA for Organizational DNA (Information) and OE

The relationship between organizational DNA (Information) and OE is determined. The second hypothesis to be tested is:

H2: Organizational DNA (Information) has no significant impact on OE at Pharmaceutical industrial in Egypt.

Table (15) MRA Results for Organizational DNA (Information) and OE

The Variables of Information	Beta	R	R ²
Availability of Information	0.425**	0.841	0.707
Appropriateness of Information	0.272*	0.781	0.609
Timing to Obtain Information	0.193**	0.835	0.697
Cost of Information	0.274**	0.782	0.611
Communication Systems	0.303**	0.787	0.619
▪ MCC	0.872		
▪ DC	0.760		
▪ Calculated F	185.871		
▪ Degree of Freedom	5, 294		
▪ Indexed F	3.01		
	0.000		

<ul style="list-style-type: none"> ▪ Level of Significance 	
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According to Table (15), organizational DNA dimension may interpret the total differentiation in OE as a whole ($R^2=0,760$), and for each dimension. Furthermore, the variables of organizational DNA better interpret differences in the OE. For the results of a structural analysis of the MRA model, the direct effect of organizational DNA (Information) and OE is obtained. Because R is 0.872. So, there is enough empirical evidence to reject the null hypothesis.

9.10. The Correlation between Organizational DNA (Motivators) and OE

Table (16) Correlation Matrix between Organizational DNA and OE

Research Variables	1	2	3	4	5
Wage	1				
Teamwork	0.914**	1			
Financial Reward and Incentives	0.790**	0.779**	1		
Promotion and Advancement	0.980**	0.922**	0.785**	1	
Organizational Excellence	0.845**	0.826**	0.784**	0.836**	1

Based on Table (16), correlation between motivators (wage) and OE is 0.845 whereas motivators (teamwork) and OE shows correlation value of 0.826. Also, motivators (financial reward and incentives) and OE is 0.784. Motivators (promotion and advancement) and OE shows correlation value of 0.836. The overall correlation between Organizational DNA (Motivators) and OE is 0.871.

9.11. MRA for Organizational DNA (Motivators) and OE

The relationship between organizational DNA (Motivators) and OE is determined. The third hypothesis to be tested is:

H3: Organizational DNA (Motivators) has no significant impact on OE at Pharmaceutical industrial in Egypt.

Table (17) MRA Results for Organizational DNA (Motivators) and OE

The Variables of Motivators	Beta	R	R ²
Wage	0.452**	0.845	0.714
Teamwork	0.234**	0.826	0.682
Financial Reward and Incentives	0.274**	0.784	0.614
Promotion and Advancement	0.038**	0.836	0.698
<ul style="list-style-type: none"> ▪ MCC ▪ DC ▪ Calculated F ▪ Degree of Freedom ▪ Indexed F ▪ Level of Significance 		0.871 0.758 231.493 4, 293 3.31 0.000	
** P < .01			

According to Table (17), the MRA resulted in the R² of 0.758. This means that the OE can be explained by the dimensions of organizational DNA. Furthermore, the differences in the OE can be

interpreted by organizational DNA. Accordingly, it was decided to reject the null hypothesis. The alternative hypothesis has been accepted because the model of MRA has shown that there was a fundamental relationship between organizational DNA (Motivators) and OE at the level of statistical significance level of 0.01.

9.12. The Correlation between Organizational DNA (Structure) and OE

Table (18) Correlation Matrix between Organizational DNA and OE

Research Variables	1	2	3	4	5
Size of Organization	1				
Professional Career	0.795**	1			
Span of Supervision	0.941**	0.780**	1		
Compliance with regulations	0.788**	0.925**	0.780**	1	
Organizational Excellence	0.772**	0.827**	0.760**	0.848**	1

Based on Table (18), correlation between Structure (size of organization) and OE is 0.772 whereas Structure (professional career) and OE shows correlation value of 0.827. Also, Structure (span of supervision) and OE is 0.760 Structure (compliance with regulation) and OE shows correlation value of 0.848. The overall correlation between Organizational DNA (Structure) and OE is 0.867.

9.13. MRA for Organizational DNA (Structure) and OE

The relationship between organizational DNA (Structure) and OE is determined. The fourth hypothesis to be tested is:

H4: Organizational DNA (Structure) has no significant impact on OE at Pharmaceutical industrial in Egypt.

Table (19) MRA Results for Organizational DNA (Structure) and OE

The Variables of Organizational Structure	Beta	R	R ²
Size of Organization	0.174*	0.772	0.595
Professional Career	0.185**	0.827	0.683
Span of Supervision	0.080	0.760	0.577
Compliance with regulations	0.478**	0.848	0.719
<ul style="list-style-type: none"> ▪ MCC ▪ DC ▪ Calculated F ▪ Degree of Freedom ▪ Indexed F ▪ Level of Significance 		0.867	
		0.782	
		224.103	
		4, 295	
		3.31	
		0.000	

According to Table (19), organizational DNA dimension may interpret the total differentiation in OE as a whole (R²=0,782), and for each dimension. Furthermore, the variables of organizational DNA better interpret differences in the OE. Accordingly, the null hypothesis is rejected and the alternative hypothesis has been accepted. This is because the model of MRA has shown that there was a fundamental relationship between organizational DNA (Structure) and OE at the statistical significance level of 0.01.

10. Research Results

The present study on analyzing the relationship between organizational DNA and OE at Pharmaceutical industrial in Egypt has revealed the following results:

1. The results revealed that organizational DNA (Decision Rights) significantly and positively influences on OE at Pharmaceutical industrial in Egypt.

2. This study concluded that the organizational DNA (Information) was positively related with OE at Pharmaceutical industrial in Egypt.
3. Motivators, which are an integral part of organizational DNA, positively correlated with OE at Pharmaceutical industrial in Egypt.
4. Structure as a component of organizational DNA proved to be in positive relation with OE at Pharmaceutical industrial in Egypt.

11. Recommendations

The managers at pharmaceutical industrial in Egypt might be able to improve OE through the following:

1. Broader usage of the various means of *motivation*, especially wages, besides granting cash incentives and chances of progress and promotion. This will highly improve OE, as the field study has proved.
2. Reconstructing organizational *structures* of Pharmaceutical industrial in Egypt, besides paying attention to analyzing, describing and assessing jobs. The field study has proved the adverse effect of existing structures on OE at Pharmaceutical industrial in Egypt.
3. Relying on *information* and trying to update them as the basic mover of activities and tasks accomplishment. They are vital for decision taking and assessment of employees' performance as the field study has affirmed the positive impact of accurate information on OE at Pharmaceutical industrial in Egypt.
4. Adopting more *decentralization and delegation of authority*, besides granting employees freedom in practicing their work. This will entail their feeling of empowerment as the field study has concluded the existence of a strong positive impact of decentralization and authority delegation on OE at Pharmaceutical industrial in Egypt.
5. The managers and authorities of industrial sector should be more attentive towards organizational factors; especially decision making, inter-personal relations, and views towards benefits. This could lead to conformity of the factors, and more success and effectiveness of the industrial sector in the community.
6. The authorization process in the industrial companies may be a good issue. This process (empowerment) must be closely related with expectations in the form of a set of performance-based outcomes.
7. Trying to assess and rank individuals in the industrial companies to create a real sense of differentiation that is both motivating and rewarding.
8. Fast progression will encourage rapid advancement to senior levels in vertical function for building cross- functional understanding and collaboration teams.
9. It is necessary, for Egyptian organizations, to have a systematic approach to organizational changes. To do that, senior leadership must set and communicate the vision for their subordinates and enable teams to act as change agents to lead the change efforts.
10. Egyptian organizations should construct their own electronic communication network, based on telecommunication technologies. The massive network allows enterprise wide communication over an intranet, as well enabling the organizations to communicate with customer, suppliers and other business partners in the outside world (using private networks and the internet).

12. Limitations and Future Research

There are some limitations of this study. Firstly, the data was collected from employees at Pharmaceutical industrial in Egypt. Therefore, the generalization of the results must be made with caution, especially in case of applying to a different country. Secondly, findings may not be generalized to other industrial companies in Egypt. Thirdly, a small sample is used in this study.

There are several areas for future research. The present study helped in defining organizational DNA as accepted by the researchers concerned. It has related such DNA and performance of employees. Still, more research is needed in the following topics (1) measuring the impact of organizational DNA on the development of the creative aptitudes of employees, (2) outlining a proposal model for the relationship between organizational DNA and strategies for confronting organizational conflict, and (3) conducting a study on the impact of organizational DNA on the phenomenon of functional alienation in the governmental sector.

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