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The Role of Organizational DNA in Improving Organizational Performance: A Study on the Industrial Companies in Egypt

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Abstract

Purpose: This paper attempts to highlight the significant role of organizational DNA in improving Organizational Performance (OP).

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 372 questionnaires that were distributed, 300 usable questionnaires were returned, a response rate of 81%.

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 OP.

Practical implications: The study suggests that the industrial companies can improve OP 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 OP.

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 OP, including organizational structure, decision rights, motivators, and information, is of great importance. Therefore, this study is to examine the relationship between organizational DNA and OP among employees in industrial companies in Egypt.

Keywords: organizational DNA, organizational performance

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. (Neilson, 2004).

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.

2. Literature Review

2.1 Organizational DNA

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).

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

It 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, decisions rights, 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).

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).

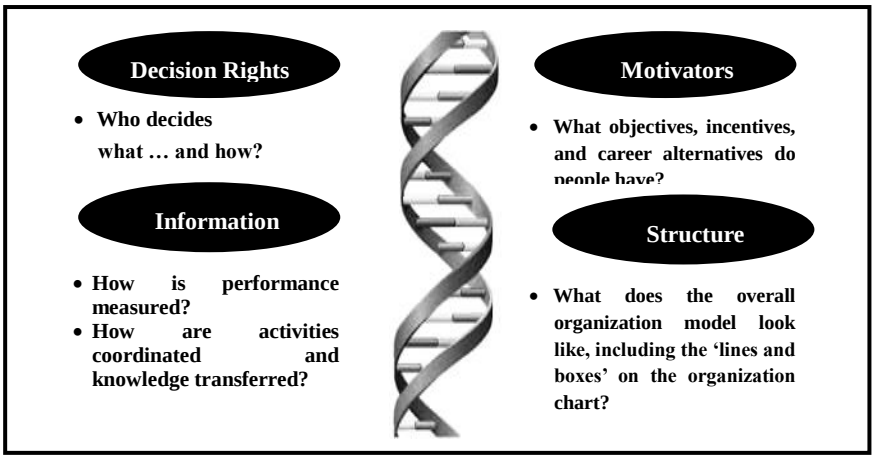

Figure 1. The four building blocks of organizational DNA

Source: Booz Allen Hamilton.

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 mean the underlying mechanism of how decisions are truly made (Hamilton, 2005). In particular, this 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 & Stricland, 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). The 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 Performance

The performance of an organization is a determinant of its very existence. Systematic or abrupt decline in performance level may lead to organizational death or mortality (Baum & Singh, 1994), a situation that occurs when "an organization fails, closes down its operations, and disbands its constituent elements" (Carroll & Delacroix, 1982).

Despite the large corpus of research and studies on performance, no agreement on the concept of performance is found. Most researchers express their performance through the success achieved by the organization in achieving its objectives. Performance is a reflection of the organization's ability to achieve its goals, or in other words, the organization's ability to achieve long-term goals (Miller & Broamiley, 1990).

Performance is a combination of resources, capabilities of the organization that are being used efficiently and effectively in order to achieve its objectives (Collis & Montgomrey, 1995).

Performance is the level of the outputs of the organization after conducting operations on its inputs. It is the output of the activities that occur within the organization (Wit & Meyer, 1998). Hence, after a thorough review of the different concepts of performance, It can be argued that performance in its simplest form is the desired results which the organization seeks to achieve efficiently and effectively.

Darroch (2003) maintains that the dimensions of OP are in two basic dimensions of performance. They can be explained as follows:

1) ***Comparative Performance*** refers to the understanding of the different categories of employees to the level of profitability of the organization where they work, the market share, and the level and speed of growth of the organization compared to organizations working in the same area.

2) ***Internal Performance*** refers to the understanding of the different categories of employees to the level of the OP to which they belong in the short term and long-term, and also the possibility of achieving the performance targets set for the organization, both in the short term and long term.

3. Research Model

The proposed comprehensive conceptual model is presented in Figure (1). The diagram below shows that there is one independent variable for the study of organizational DNA. There is one dependent variable OP. It shows the rational link between the two types of observed variables i.e. independent, and dependent variables. From the above discussion, the research model is as shown in Figure (1) below.

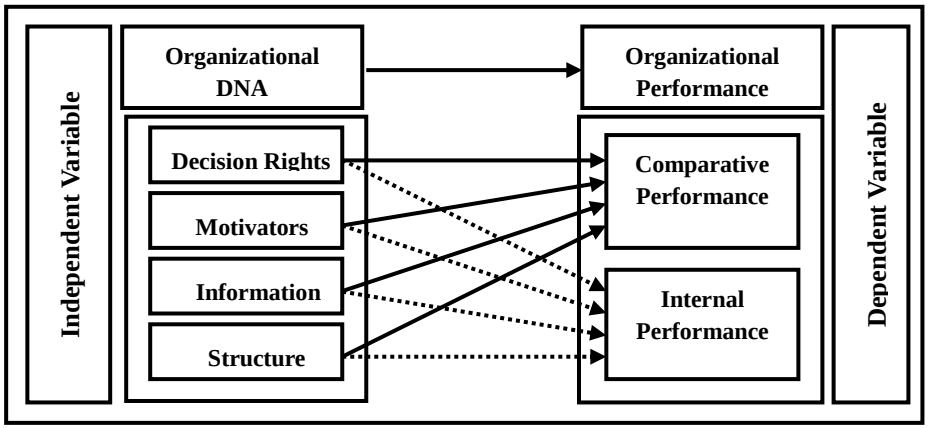

Figure 2. Proposed comprehensive conceptual model

The research framework suggests that organizational DNA in an organization have an impact on OP. 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). OP is measured in terms of comparative performance and internal performance (Darroch, 2003; Pathirage, et al., 2007; Chen & Mohamed, 2007; and Lurdvall & Nielsen, 2007).

4. Research Questions and Hypotheses

The attempt of this study was to determine:

Q1: The relationship between organizational DNA (decision rights) and OP at the industrial companies at Sadat city in Egypt.

Q2: The nature of the relationship between organizational DNA (information) and OP at the industrial companies at Sadat city in Egypt.

Q3: The extent of the relationship between organizational DNA (motivators) and OP at the industrial companies at Sadat city in Egypt.

Q4: The nature and the extent of the relationship between organizational DNA (structure) and OP at the industrial companies at Sadat city in Egypt.

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

H1: Organizational DNA (decision rights) has no significant effect on OP at industrial companies at Sadat city in Egypt.

H2: Organizational DNA (information) has no significant impact on OP at industrial companies at Sadat city in Egypt.

H3: Organizational DNA (motivators) has no significant effect on OP at industrial companies at Sadat city in Egypt.

H4: Organizational DNA (structure) has no significant influence on OP at industrial companies at Sadat city in Egypt.

5. Research Strategy

5.1 Population and Sample

The population of the study included all employees at the industrial companies in Sadat city in Egypt. The total population is 11550 employees. Determination of respondent sample size was calculated using the formula (Daniel, 1999) as follows:

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

The number of samples obtained by 372 employees at the industrial companies in Sadat city in Egypt is presented in Table 1.

Table 1. Distribution of the sample size

Industrial Companies	Employees	Percentage	Sample Size
Ezz Company for Reinforcement Steel	2100	18.2%	372X 18.2% = 68
Arab Company for Steel (Arco Steel)	750	6.5%	372X 6.50% = 24
Horizon for Investment (Geraneto)	1200	10.4%	372X 10.4% = 39
Egyptian-American Steel Company (Bishan)	3300	28.6%	372X 28.6% = 106
Al Gawhara for Ceramics	2700	23.4%	372X 23.4% = 87
Egyptian Group for Investments (Prima)	1500	12.9%	372X 12.9% = 48
Total	11550	100%	372X 100% = 372

Source: Personnel Department at Industrial Companies, Sadat City, Egypt, 2013.

Table 2. Characteristics of the sample

Variables		Frequency	Percentage
1- Sex	Male	220	73.3%
	Female	80	26.7%
	Total	**300**	**100%**
2- Marital Status	Single	120	40.0%
	Married	180	60.0%
	Total	**300**	**100%**
3- Age	Under 30	110	36.7%
	From 30 to 45	155	51.6%
	Above 45	35	11.7%
	Total	**300**	**100%**
4- Educational Level	Secondary school	100	33.3%
	University	170	56.7%
	Post Graduate	30	10.0%
	Total	**300**	**100%**
5- Period of Experience	Less than 5 years	60	20.0%
	From 5 to 10	215	71.7%
	More than 10	25	8.3%
	Total	**300**	**100%**

5.2 Procedure

The goal of this study was to identify the significant role of organizational DNA in improving OP. It was necessary to explore the four building blocks of organizational DNA (decision rights, information, motivators, and structure) and OP at the industrial companies in Sadat City.

A survey research method was used to collect data. The questionnaire included three questions, relating to organizational DNA, OP, and biographical information of employees. Data collection took approximately two months. Survey responses were 81%, 300 completed surveys out of the 372 distributed.

5.3 Research Variables and Methods of Measuring

The study of data collected through questionnaires has three sources: organizational DNA, OP, and basic respondent demographic data.

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 7- item scale of OP section is based on Darroch, 2003; Pathirage, et al., 2007; Chen & Mohamed, 2007; and Lurdvall & Nielsen, 2007. There were three items measuring comparative performance, and four items measuring internal performance.

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."

5.4 Data Analysis and Testing Hypotheses

The researcher has employed the following methods: (1) Cronbach's alpha or ACC, (2) Multiple Regression Analysis (MRA), and (3) F- test and T-test. All these tests are found in SPSS.

6. Hypotheses Testing

Before testing the hypotheses and research questions, descriptive statistics were performed to find out means and standard deviations of organizational DNA and OP.

Table 3. The mean and standard deviations of organizational DNA and OP

Variables	The Dimension	Mean	Standard Deviation
Decision Rights	Organizational Culture	3.91	1.138
	Organization Strategy	3.63	1.354
	Leadership Styles	4.38	0.705
	Degree of Decentralization	3.59	1.262
	Total Measurement	3.85	0.953
Information	Availability of Information	4.41	0.545
	Appropriateness of Information	3.68	0.935
	Timing to Obtain Information	3.02	1.387
	Cost of Information	4.57	0.516
	Communication Systems	4.62	0.531
	Total Measurement	4.02	0.561
Motivators	Wage	3.58	1.359
	Teamwork	4.47	0.522
	Financial Rewards and Incentives	4.51	0.573
	Promotion and Advancement	4.69	0.382
	Total Measurement	4.30	0.539
Structure	Size of Organization	3.49	1.391
	Professional Career	3.62	1.245
	Span of Supervision	2.95	1.412
	Compliance with Regulations	3.90	1.134
	Total Measurement	3.53	1.117
OP	Comparative Performance	3.75	0.955
	Internal Performance	4.21	0.854
	Total Measurement	4.01	0.663

According to Table 3, the different facets of decision rights are examined. Most respondents identified the presence of organizational culture (M=3.91, SD=1.138). This was followed by organizational strategy (M=3.63, SD=1.354), leadership style (M=4.38, SD=0.705), degree of decentralization (M=3.59, SD=1.262) and the total measurement for decision rights (M=3.85, SD=0.953).

The different facets of information are investigated. Most respondents identified the presence of availability of information (M=4.41, SD=0.545). This was followed by appropriateness of information (M=3.68, SD=0.935), timing to obtain information (M=3.02, SD=1.387), cost of information (M=4.57, SD=0.526), availability of right communication systems (M=4.62, SD=0.531), and the total measurement for information (M=4.02, SD=0.561).

The different facets of motivators are studied. Most respondents identified the presence of wage (M=3.58, SD=1.359). This was followed by teamwork (M=4.47, SD=0.522), financial rewards and incentives (M=4.51, SD=0.573), opportunities for promotion and advancement (M=4.69, SD=0.382), and the total measurement for motivators (M=4.30, SD=0.539).

The different facets of organizational structure are examined. Most respondents identified the presence of organizational size (M=3.49, SD=1.391). This was followed by professional career (M=3.62, SD=1.245), span of supervision (M=2.95, SD=1.412), degree of compliance with law and regulations (M=3.90, SD=1.134) and the total measurement for organizational structure (M=3.53, SD=1.117).

The different facets of OP (comparative performance and internal performance) are examined. Most respondents identified the presence of internal performance (M=4.21, SD=0.854), comparative performance (M=3.75, SD=0.955) and the total measurement of OP (M=4.01, SD=0.663).

6.1 Evaluating Reliability

ACC was used to assess the reliability of the scales. Item analysis indicated that dropping any items from the scales would not significantly raise the alphas. Table (4) shows the results of the reliability test for each variable of organizational DNA and OP.

Table 4. Reliability of organizational DNA and OP

Variables	Dimension	Number of Statement	ACC
Decision Rights	Organizational Culture	4	0.8991
	Organization Strategy	5	0.9602
	Leadership Styles	4	0.8589
	Degree of Decentralization	5	0.9423
	Total Measurement	**18**	**0.9510**
Information	Availability of Information	4	0.7332
	Appropriateness of Information	3	0.6332
	Timing to Obtain Information	4	0.9202
	Cost of Information	3	0.6454
	Communication Systems	3	0.7147
	Total Measurement	**17**	**0.8421**
Motivators	Wage	4	0.9465
	Teamwork	4	0.8408
	Financial Rewards and Incentives	3	0.7094
	Promotion and Advancement	4	0.8571
	Total Measurement	**15**	**0.8654**
Structure	Size of Organization	3	0.9378
	Professional Career	4	0.9178
	Span of Supervision	3	0.9013
	Compliance with Regulations	4	0.8994
	Total Measurement	**14**	**0.9532**
Organizational Performance	Comparative Performance	3	0.6454
	Internal Performance	4	0.7672
	Total Measurement	**7**	**0.6444**

To assess the reliability of the data, Cronbach's alpha test was conducted. Table 4 shows the reliability results for EC, JS, and OC. All items had alphas above 0.70 and were therefore excellent, according to Langdridge's (2004) criteria.

The 64 items of organizational DNA are reliable because the ACC is 0.9750. The 18 items of decision rights scales are reliable due to the fact that the ACC is 0.9510. The organizational culture, which consists of 4 items, is reliable since the ACC is 0.8991. The 5 items related to organizational strategy are reliable as ACC is 0.9602. Furthermore, the leadership style, which consists of 4 items, is reliable due to the fact that the ACC is 0.8589. The 5 items related to degree of decentralization are reliable since ACC is 0.9423. 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 0.8421. The availability of information, which consists of four items, is reliable since the ACC is 0.7332. The three items related to appropriateness of information are reliable as ACC is 0.6332. Furthermore, the timing to obtain information, which consists of four items, is reliable due to the fact that the ACC is 0.9202. The three items related to cost of information are reliable since ACC is 0.6454 while the last three items related to communication systems is reliable as the ACC is 0.7147. Thus, the reliability of information can be acceptable.

The 15 items of motivators scales are reliable because the ACC is 0.8654. The wage, which consists of 4 items, is reliable since the ACC is 0.9465. The four items related to teamwork are reliable as ACC is 0.8408. Furthermore, the financial rewards and incentives, which consists of three items, is reliable due to the fact that the ACC is 0.7094. The 4 items related to opportunities for promotion and advancement are reliable since ACC is 0.8571. 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 0.9532. The organizational size, which consists of three items, is reliable since the ACC is 0.9378. The four items related to professional career are reliable as ACC is 0.9178. The three items related to span of supervision are reliable since ACC is 0.9013 while the last four items related to degree of compliance with law and regulations is reliable as the ACC is 0.8994. Thus, the reliability of organizational structure can be acceptable.

The 7 items of OP are reliable due to the fact that the ACC is 0.6444. The comparative performance, which consists of 3 items, is reliable since the ACC is 0.6454 while the four items related to internal performance is reliable as the ACC is 0.7672. Thus, the reliability of OP can be acceptable.

Accordingly, two scales were defined, organizational DNA (64 variables), where ACC represented about 0.9750, and OP (7 variables), where ACC represented 0.6444.

6.2 Organizational DNA (Decision Rights) and OP

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

H1: Organizational DNA (Decision Rights) has no significant effect on OP at industrial companies at Sadat city in Egypt.

Table 5. Correlation between organizational DNA (decision rights) and OP

Hypothesis	Independent Variables	Dependent Variable	Pearson Correlation	Sign
H1	Organizational Culture	OP	0.820**	0.000
	Organization Strategy		0.786**	0.000
	Leadership Styles		0.281**	0.000
	Degree of Decentralization		0.783**	0.000
Total Measurement			**0.861****	**0.000**

Note: ** Correlation is significant at 0.01 level.

According to Table 5, there is statistically significant correlation between OP and the aspects of organizational DNA (Decision Rights). For organizational culture and OP, the R value is 0.820 whereas organization strategy and OP shows R value of 0.786.

The R value of 0.281 represents the correlation between leadership styles and OP. Degree of decentralization and

OP show R value of 0.783.

Table 6. MRA results for organizational DNA (decision rights) and OP

The Variables of Decision Rights	Beta	R	R^2
Organizational Culture	0.409**	0.820**	0.6724
Organization Strategy	0.193**	0.786**	0.6177
Leadership Styles	0.071*	0.281**	0.0789
Degree of Decentralization	0.325**	0.783**	0.6130
▪ Multiple Correlation Coefficients		0.873	
▪ Coefficient of Determination		0.762	
▪ Calculated F		235.876	
▪ Degree of Freedom		4,295	
▪ Indexed F		3.32	
▪ Level of Significance		0.000	

** P < .01

According to Table 6, the MRA resulted in the R2 of 0.762. This means that the OP can be explained by the dimensions of organizational DNA, for example, organizational culture (R2=0,672), organization strategy (R2=0,617), leadership styles (R2=0,078), and degree of decentralization (R2=0,613).

Furthermore, differences in the OP can be interpreted by organizational DNA, for example, organizational culture (β=0,409), organization strategy (β =0,193), leadership styles (β =0,071), degree of decentralization (β =0,325).

Accordingly, it was decided to reject the null hypothesis which states that the organizational DNA (decision rights) has no significant effect on OP. 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 OP at the level of statistical significance level of 0.01.

6.3 Organizational DNA (Information) and OP

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

H2: Organizational DNA (Information) has no significant impact on OP at industrial companies at Sadat city in Egypt.

Table 7. Correlation between organizational DNA (information) and OP

Hypothesis	Independent Variables	Dependent Variable	Pearson Correlation	Sign
	Availability of Information		0.161**	0.005
	Appropriateness of Information		0.688**	0.000
H2	Timing to Obtain Information	OP	0.595**	0.000
	Cost of Information		0.168**	0.003
	Communication Systems		0.027	0.638
Total Measurement			**0.617****	0.000

Note: ** Correlation is significant at 0.01 level.

According to Table 7, there is a correlation between the aspects of organizational DNA (Information) and OP as a whole (R=0,617) and for each variable, for example, availability of information (R=0,161), appropriateness of information (R=0,688), timing to obtain information (R=0,595), cost of information (R=0,191) and communication systems (R=0,248).

Table 8. MRA results for organizational DNA (information) and OP

The Variables of Information	Beta	R	R^2
Availability of Information	0.022	0.161**	0.0259
Appropriateness of Information	0.541**	0.688**	0.4733
Timing to Obtain Information	0.391**	0.595**	0.3540
Cost of Information	0.191**	0.168**	0.0282
Communication Systems	0.248**	0.027	0.0007
▪ Multiple Correlation Coefficients		0.796	
▪ Coefficient of Determination		0.634	
▪ Calculated F		101.887	
▪ Degree of Freedom		5,294	
▪ Indexed F		3.01	
▪ Level of Significance		0.000	

** P < .01

According to Table 8, organizational DNA dimension may interpret the total differentiation in OP as a whole (R2=0,634), and for each dimension, for example, availability of information (R2=0,025), appropriateness of information (R2=0,473), timing to obtain information (R2=0,354), cost of information (R2=0,028) and communication systems (R2=0,007).

Furthermore, the variables of organizational DNA better interpret differences in the OP, for example, availability of information (β=0,022), appropriateness of information (β =0,541), timing to obtain information (β =0,391), cost of information (β =0,191) and communication systems (β =0,248).

For the results of a structural analysis of the MRA model, the direct effect of organizational DNA (Information) and OP is obtained. Because R is 0.796, and R2 is 0.634, there is enough empirical evidence to reject the null hypothesis.

6.4 Organizational DNA (Motivators) and OP

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

H3: Organizational DNA (Motivators) has no significant impact on OP at industrial companies at Sadat city in Egypt.

Table 9. Correlation between organizational DNA (motivators) and OP

Hypothesis	Independent Variables	Dependent Variable	Pearson Correlation	Sign
H3	The Wage	OP	0.788**	0.000
	Teamwork		0.363**	0.000
	Financial Rewards and Incentives		0.101**	0.000
	Promotion and Advancement		0.255**	0.000
Total Measurement			**0.693****	0.000

Note: ** Correlation is significant at 0.01 level.

According to Table 9, there is statistically significant correlation between OP and the aspects of organizational DNA (Motivators). For wages and OP, the R value is 0.788 whereas teamwork and OP shows R value of 0.363. The R value of 0.101 represents the correlation between the financial rewards and incentives and OP. Opportunities for promotion and advancement and OP show R value of 0.255.

Table 10. MRA results for organizational DNA (motivators) and OP

The Variables of Motivators	Beta	R	R^2
Wage	0.789**	0.788**	0.6209
Teamwork	0.148**	0.363**	0.1317
Financial Reward and Incentives	0.281**	0.101**	0.0102
Promotion and Advancement	0.132**	0.255**	0.0650
▪ Multiple Correlation Coefficients		0.825	
▪ Coefficient of Determination		0.681	
▪ Calculated F		157.511	
▪ Degree of Freedom		4,295	
▪ Indexed F		3.32	
▪ Level of Significance		0.000	

** P < .01.

According to Table 10, the MRA resulted in the R2 of 0.681. This means that the OP can be explained by the dimensions of organizational DNA, for example, the wage (R2=0,629), teamwork (R2=0,131), financial rewards and incentives (R2=0,010), and promotion and advancement (R2=0,065).

Furthermore, the differences in the OP can be interpreted by organizational DNA, for example, the wage (β =0,789), teamwork (β =0,148), financial reward and incentives (β =0,281), and promotion and advancement (β =0,132).

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 OP at the level of statistical significance level of 0.01.

6.5 Organizational DNA (Structure) and OP

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

H4: Organizational DNA (Structure) has no significant impact on OP at industrial companies at Sadat city in Egypt.

Table 11. Correlation between organizational DNA (structure) and OP

Hypothesis	Independent Variables	Dependent Variable	Pearson Correlation	Sign
H4	Size of Organization	OP	0.780**	0.000
	Professional Career		0.786**	0.000
	Span of Supervision		0.560**	0.000
	Compliance with regulations		0.818**	0.000
Total Measurement			**0.847****	0.000

Note: ** Correlation is significant at 0.01 level.

According to Table 11, there is a correlation between the aspects of organizational DNA (Structure) and OP as a whole (R=0,847) and for each variable, for example, size of organization (R=0,780), professional career (R=0,786), span of supervision (R=0,560), and degree of compliance with law and regulations (R=0,818).

Table 12. MRA results for organizational DNA (structure) and OP

The Variables of Organizational Structure	Beta	R	R^2
Size of Organization	0.239**	0.780**	0.6084
Professional Career	0.304**	0.786**	0.6177
Span of Supervision	0.014	0.560**	0.3136
Compliance with regulations	0.390**	0.818**	0.6691
▪ Multiple Correlation Coefficients		0.867	
▪ Coefficient of Determination		0.752	
▪ Calculated F		223.526	
▪ Degree of Freedom		4,295	
▪ Indexed F		3.32	
▪ Level of Significance		0.000	

** P < .01.

According to Table 12, organizational DNA dimension may interpret the total differentiation in OP as a whole (R2=0,752), and for each dimension, for example, size of organization (R2=0,608), professional career (R2=0,617), span of supervision (R =0,313), and degree of compliance with law and regulations (R =0,669). Furthermore, the variables of organizational DNA better interpret differences in the OP, for example, size of organization (β =0,239), professional career (β =0,304), span of supervision (β =0,014), and degree of compliance with law and regulations (β =0,390).

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 OP at the statistical significance level of 0.01.

7. Research Findings

The present study on analyzing the relationship between organizational DNA and OP has revealed the following results:

1) The results revealed that organizational DNA (Decision Rights) significantly and positively influences on OP.
2) This study concluded that the organizational DNA (Information) was positively related with OP.
3) Motivators, which are an integral part of organizational DNA, positively correlated with OP.
4) Structure as a component of organizational DNA proved to be in positive relation with OP.

8. Recommendations

The managers at industrial companies in Egypt might be able to improve OP 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 OP, as the field study has proved.
2) Reconstructing organizational ***structures*** of industrial companies in Sadat City, besides paying attention to analyzing, describing and assessing jobs. The field study has proved the adverse effect of existing structures on OP.
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 OP.
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 OP.
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).

9. Limitations and Future Research

There are some limitations of this study. Firstly, the data was collected from employees at the industrial companies in Sadat City, 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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