THE INFLUENCE OF THE ORGANIZATIONAL PHYSICS ON ORGANIZATIONS VITALITY

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ABSTRACT

This study aims at discovering how organizational physics influences organizations' vitality. An online survey was carried out for a sample of (317) managers and employees working at Zain Iraq Telecommunications Company, and multiple regression methods were used to analyze the data collected. In addition, exploratory factor analyses were used to explore the dimensions of organizational physics. As a result, the theories have been endorsed, and this research was one of the first studies evaluating the effect of corporate physics on organizations' vitality.

Keywords: Organizational Physics, Organizations Vitality, Zain Iraq Telecommunication Company**.**

INTRODUCTION

Survival and growth are significant concerns for every organization in the current environment. The change occurs suddenly and quickly; uncertainty in the organization's environment behaves as a catalyst for survival in the organizational life cycle that ends with deterioration or death (Bishwas, 2015: 145). The activity of organizations is characterized by the ability to respond quickly and promptly to the stakeholders and, at the same time, ensure the processes that ensure the achievement of the overall goal. In addition, an organization's vitality is associated with other indicators of prosperity, such as job satisfaction, positive impact, happiness, work participation, and organizational commitment (Tummers et al., 2018; A. Almagtome, Khaghaany & Önce, 2020).

Increasing globalization, creating rapid knowledge, and the limits of traditional industry disappear, whereas creates complex relationships between organizations. Global alliances and joint ventures and the dividing lines between competition and cooperation are unclear, so some complex organizations compete in some markets and cooperate in others. There is an increasing need for rapid reconfiguration of the organizational form to move dynamically in and out of alliances more quickly (Nissen & Sawy, 2002). The organization's environment is changing at an ever-increasing pace, which creates a faster reaction to the environment. Ultimately deep access towards transformations within the organizations themselves, the old models and procedures for managing the process (Almagtome, Al-Yasiri, Ali, Kadhim & Bekheet, 2020). These transformations in the organization are becoming an increasingly insufficient transformation. It becomes necessary for the organization's members to participate more deeply (Druhl et al., 2001).

De Cremer (2017) argues that, for organizations to remain active and in a living entity, they need a source of energy and work environments that their members contact and communicate with their colleagues, bosses, and customers. Conserving this energy leads to the vitality of the organization. Myburgh, (2003) believes that there are reactions of forces in the organization to changes in the environment due to these changes. Thus, it enters a continuous cycle of transformations and reactions inconsistently to adapt its existing structures with those new emerging in the background, a vital survival feature.

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LITERATURE REVIEW

Concept of Organizational Physics

For most other sciences, physics is fundamental, and it gives us a language for understanding behaviors. Physics laws can be applied to understand better and develop the performance of organizations. The concept of organizational physics provides questions about how to match the environment is robust, practical, sustainable, and universally valid ways (Sisney, 2013). In the same context, Anders (2018) claims that organizational physics transmits physical words into the organization's environment and helps explain the dynamics of how and why administrative inefficiency happens and whether the organization needs to find a solution to it. Hess & Liedtka (2012) points out that the laws of nature govern the growth-seeking organization. Many cultural values, systems, and processes in large organizations struggle with the physics of organizational growth. Ushveridze (2017) believes that the use of physics in business clarifies, predicts, and predicts moving systems' behavior. In addition, its practical applications can be seen everywhere to define the time, direction, distance, and strength of motivation to ensure a change in the organization in a specific place and time (Al-Wattar, Almagtome & AL-Shafeay, 2019).

Organizational physics provides the answer to how to understand, predict, describe, and explain changes in the organization or the state of the organization through the application of concepts and laws of physics to manage organizations, especially the laws of motion and thermodynamics (Center, 1999). Taşdelen & Polat (2015) believe that administrative processes in our time characterized by uncertainty, lack of clarification, and constant change are essential. And Peterson (1998) indicates that physics can improve studies about the organization. Organizations that follow physical concepts as behaviors in their work can provide guidance, a theoretical framework, and practical methods for organizational management and change (Druhl et al., 2001; (Khaghaany, Kbelah & Almagtome, 2019).

Carr-Chellman et al., (2019) indicate an opportunity to expand physics in social systems such as organizations to transform them for the better and that an understanding of the symbolic application of physics is the beginning of a substantial transformation in organizations.

Fabric & Stepanić (2008) indicates that physics emphasizes the relationship with challenges in the dynamics of the environment and the social character of resources inside organizations.

Dimensions of Organizational Physics

Organizational Energy

In physics, the concept of energy is the capacity to conduct work. It naturally leads to the assumption that organizations need energy (resources) to perform work to attain their stated and functional goals. (Sundarasaradula et al., 2006). Cornelissen & Kafouros (2008) reinforces this and indicates that the organization needs the energy to conduct its operations. (Dhawan et al., 2002) states that much of the energy input goes to the organization's maintenance activities and is absorbed in the organization's transformation processes. The key to social change is organizational energy.

Where does that energy come from? The answer is through an organization's attempt to gain power from its environment. In this context, Carr-Chellman et al., (2019) indicate that energy acquisition is a term from physics that can be formulated to reverse the concept of energy loss in organizational life. The organizations are open to many variables such as individuals, money, materials, learning, and time, which can enter and escape from the organization quickly. The trend towards acquiring energy in social systems, including organizations, is used to combat energy loss and the consequent breakdown of organizations

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(Al-Fatlawi, Al Farttoosi & Almagtome, 2021). Therefore, energy acquisition can be a powerful tool for sustainable models of organizational progress.

Organizational Mass

The organizational mass consists of corporate values and vision, organizational structure or design, operations, and people. The alignment of these components with the organization's strategy leads to rapid implementation of this strategy and corporate growth. The secret behind the acceleration of organizational momentum and sustainability is how to manage the organizational mass, which obeys Newton's three laws of motion (Ali, Almagtome & Hameedi, 2019). If the corporate group is unified, coherent, and adequately addressed, it will be easy to apply the forces of organizational change to organizations (Sisney, 2013). Murray & Richardson (2003) indicate that effective organizational change follows the laws of motion, requiring the mass to rush and gain momentum for change. Successful organizational change occurs when sufficient velocity is created to move the corporate group from its state of rest to the state to be reached.

Zafar & Naveed (2014) have suggested that individuals resist change in organizational change due to the organizational structure that does not help them. The organization's management fails to define the hierarchy level in the organization for change implementation. Also (Branson, 2008) sees the alignment of values in an organization as the basis for successful organizational change. It is the foundation upon which the long-term success of the organization. Therefore, organizations must articulate corporate values and generate alignment between these values and personal values for workers to change and continue to succeed.

Organizational Forces

Cunningham & Kempling (2009) show that, in physics, the body remains in a static state when the sum of the forces exerting on it is equal to zero, but there must be forces in the direction of change to affect change and not powers of resistance. Both Margarita & Steffen (2008) believes that the movement of any object and the conditions for stability or balance depend on its objectives, characteristics, initial state, and the restrictions that govern it, as well as on the forces applied to it. In addition to that, the laws of physics, including Newton's laws of motion, help understand what happens to the organization when it is under the influence of forces or when there are no forces that affect it. And the troops determine the direction and quantity of change, and there may be several forces acting the organization simultaneously (Geersbro et al., 2013).

Concept of Organizations Vitality

(Bishwas, 2011) explains that vitality generally refers to health or growth, which means that the organization's health or development is determined by the organization's financial, intellectual, and creative growth. Scholars have given different meanings based on their research requirements in the opinion of (Xiang et al., 2011) regarding organizations' vitality. But it can be said that the organization's vitality refers to a type of competence that supports organizations to survive, grow, and re-survive in a changing environment. This meaning consists of three components: the ability to survive, thrive, and re-survive.

A vital organization is an organization that achieves the balance between maximizing current performance with developing future potential. It is supported by flexibility characteristics (the ability to eliminate difficulties and constantly appear to face challenges). Likewise, agility (the ability to get things done quickly and try new things (Brooks & Saltzman, 2016). Akpotu & Konyefa (2018) describe organizations' vitality as the sum of the functional operational capacity of organizations preserved in the long term. Essential: Organizations focus

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on formulating strategic alternatives that put them in their environment to reach the desired goals and objectives. Organizational vitality provides the ability and competencies that direct action to the plans. Campion (2015) believes that it can survive or continue or have a meaningful existence.

Dimensions of Organizations Vitality

Survival

Survival refers to the ability to search for opportunities and sustain living in a changing environment. This concept reflects the ability of organizations to adapt to the environment, and this ability helps organizations survive in a dynamic environment (Xiang et al., 2011). Nagura & Honda (2001) believe that the basis for survival in the twenty-first century requires organizations to quickly focus their ways on creativity and start managing the mental side of the organization. Bishwas (2015b) adds that competition has increased dramatically due to globalization, and organizations are supposed to develop innovative solutions for long-term survival.

Growth

Gilbert et al., (2006) added that the aspects of growth indicate the vitality and prosperity of an organization. The financial, intellectual, and creative developments are determinants of energy (Bishwas, 2015b). Embracing rapid growth may reduce business risks and lead to higher organizational vitality (Bishwas, 2015). Bishwas (2015b) asserts that organizations can grow for a more extended period if they manage change better than their competitors. Xiang et al., (2011) believe that growth potential refers to creating continuous economic and social values and achieving comprehensive development in production, employment, and social practices.

Performance

In the current and rapidly changing competitive era, the mindset of continuous performance improvement helps maintain organizations' vitality (Jagersma, 2009). Carme1i, (2009) indicates that spirit is associated with high functional performance. Ling et al., (2009) believe that goals should measure performance in an organization and that performance measurement is the basis for a business to understand whether the company is growing or not. Performance measurement is essential for the organization for some reasons. First, it is the basis for evaluating the results of the post process. Second, it is a base for predicting future development, a tool for management and control, and a reference for deciding whether to continue the work.

METHODOLOGY

The current study depends on using the experimental method to answer the research questions and meet its objectives. According to the variables of the survey, which require a questionnaire of the leaders and employees in the organization, the sample of the study consisted of (317) managers and employees from the whole population. Therefore, the model includes (1800) employees working at Zain Iraq Telecommunications Company. Their academic qualifications and experiences qualify them to be at the level of influence in the company. The sample was chosen randomly and by distributing an online questionnaire. The questionnaire was designed based on previous studies of Sisney, (2013); Anders, (2018) and other relevant literature to develop the organizational physics scale, while the plate that was developed by Bishwas (2015) was used to measure the organization's vitality. SPSS.V.24 and AMOS.V.24

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were used to analyze the data obtained to determine the correlation between the study variables and test the hypotheses. The exploratory factor analysis of the organizational physics variable was also performed. Based on that, a study framework was formulated, illustrated in Figure 1:

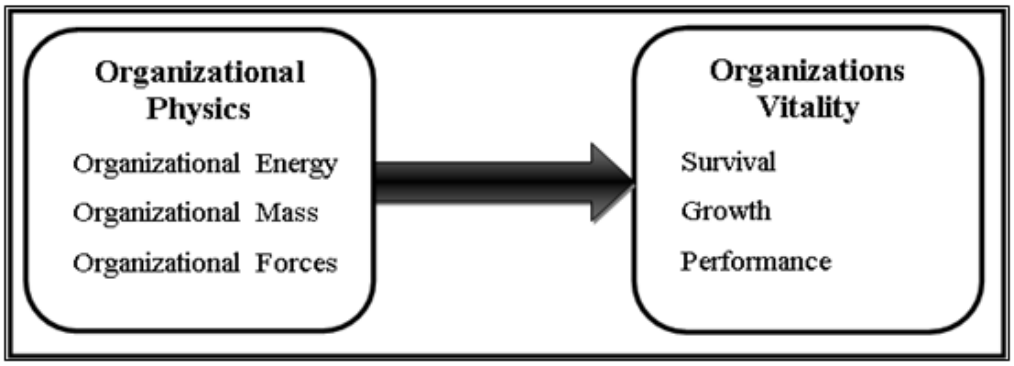

FIGURE 1
RESEARCH MODEL

FINDING RESULTS

Organizational physics is an independent variable that there is no previous scale to measure, so exploratory factor analysis will be used to identify the dimensions of organizational physics, and (18) item formulated depending on the opinions and ideas of previous researchers, but not specified within specific measurements. The items were distributed to a sample of (200) member of the surveyed organization, and (Principals Component Analysis) method used to build the factor analysis model through the way of the usual main components, in the light of which the process of determining the saturation ratios for each item and then for each dimension, is done by extracting the component matrix, then modifying the data by applying the (PCA) method and by using the rotation method to obtain the rotation matrix.

Table 1
FACTORS EXTRACTION MATRIX (EXTRACTION SUMS OF SQUARED LOADINGS)

Factor	Extraction Sums of Squared Loadings		
	Total	Factor variation ratio	collective variation
1	8.896	38.312	38.312
2	6.041	14.937	53.250
3	3.760	9.801	63.051

According to the results of Table (1), the organizational physics scale consists of three factors or dimensions that explain approximately (63%) of corporate physics. After the three factors have been extracted, the paragraphs' proportions will be identified according to Component Matrix and shown in Table 2.

Table 2
THE OPTIMAL SOLUTION FOR THE SATURATION RATIOS FOR COMPONENTS MATRIX

	1	2	3
i1	-0.405	-0.262	0.585
i2	-0.247	0.711	0.103
i3	0.03	-0.106	0.672
i4	0.638	0.018	-0.029
i5	-0.261	0.017	0.795
i6	0.023	0.446	0.075

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i7	0.514	0.092	0.114
i8	-0.21	0.715	0.185
i9	0.375	-0.157	0.573
i10	0.497	-0.282	0.038
i11	0.533	0.117	-0.301
i12	-0.162	-0.326	0.75
i13	0.021	0.686	0.091
i14	-0.034	0.162	0.578
i15	0.437	0.058	0.013
i16	0.372	0.492	0.119
i17	0.416	-0.083	-0.314
i18	0.29	0.611	0.066

The rotation method was used to obtain a rotated matrix called (Varimax with Kaiser Normalization) as shown in Table (3). The items were re-rotated according to the standard variation between the scale items and dimensions. Therefore, three dimensions were identified, and the first dimension was (organizational energy) and the second dimension (corporate mass) and the third dimension (organizational forces) as following:

Table 3
ROTATED MATRIX RESULTS

	1	2	3
i4	0.711		
i7	0.533		
i10	0.75		
i11	0.686		
i15	0.715		
i17	0.672		
i2		0.611	
I6		0.795	
I8		0.578	
I13		0.573	
I16		0.497	
I18		0.638	
i1			0.463
i3			0.604
i5			0.674
i9			0.484
i12			0.585
i14			0.446

To testing the influence correlations, it is noticed from Figure (2) that the independent variable explains (0.23) of the variance in the dependent variable, and as it can be seen from Figure (3) that the dimensions of the independent variable explain (0.31) of the variance of the dependent variable, which is acceptable ratios, according to the results of Figure (2) and Table (4). The value of the correlation has reached (0.47), which is a positive correlation. An increase in the organizational physics variable will lead to a similar rise in the organization's vitality variable. The results showed a significant correlation at (0.000) acceptable at the level of (0.01), and according to these results, the hypothesis was accepted.

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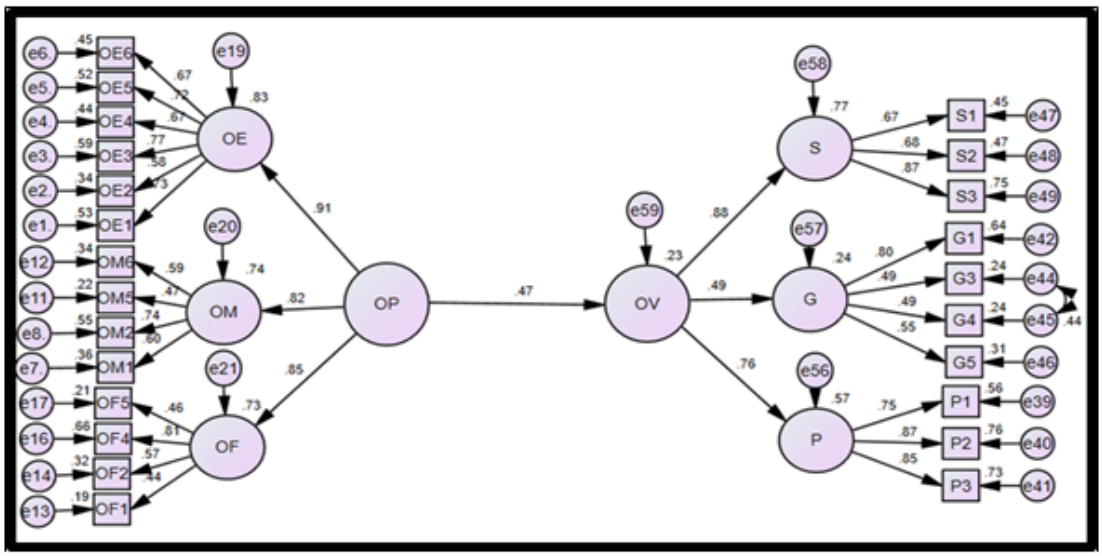

FIGURE 2
THE EFFECT OF ORGANIZATIONAL PHYSICS ON ORGANIZATIONS VITALITY

Table 4
STATISTICS OF INFLUENCE TESTS BETWEEN CORPORATE PHYSICS AND ORGANIZATIONS VITALITY

	path	Dependent Variable	Estimate	S.E.	C.R.	P
OP	--->	OV	0.47	0.091	5.165	***
OE	--->	OV	0.38	0.077	4.935	***
OM	--->	OV	0.32	0.103	3.107	***
OF	--->	OV	0.24	0.049	4.898	***

According to the results of Figure (3) and Table (4), the value of the correlation between organizational energy and organizations vitality reached (0.38), which is a positive correlation, and that is mean, when an increase in the corporate energy variable, will lead to a similar rise in organizations vitality. The significant level achieved is (0.000), which is acceptable at the level of (0.01), and according to these results, this hypothesis is accepted.

The results also showed that the value of the correlation between the organizational mass and the organization's vitality reached (0.32), which is a positive correlation. When an increase in the corporate mass variable leads to a similar rise in organizations' vitality, that is mean. The significant level achieved is (0.000), which is acceptable at the level of (0.01), and according to these results, this hypothesis is accepted.

The results showed that the value of the correlation between organizational forces and organizations' vitality reached (0.24), which is a positive correlation. When an increase in the corporate details variable, that is means will lead to a similar rise in organizations vitality. The significant level achieved is (0.000), which is acceptable at the level of (0.01), and according to these results, this hypothesis is accepted.

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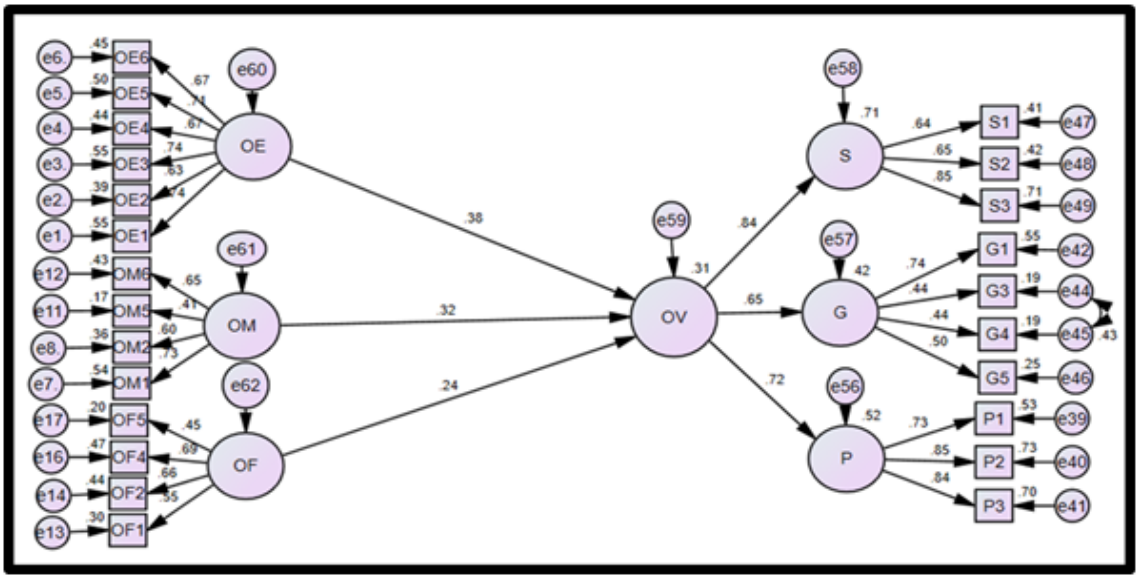

FIGURE 3
EFFECT OF THE ORGANIZATIONAL PHYSICS DIMENSIONS ON ORGANIZATIONS VITALITY

DISCUSSION AND IMPLICATIONS

In a reflection of the study results, this paragraph discusses the study's hypotheses since the first hypothesis tested the correlation between the effects of organizational physics on organizations' vitality. There is a clear understanding of how organizational physics affects the vitality of organizations by distributing the questionnaire to the respondents, some of whom relate to this hypothesis, So for interpretation of the results derived from the survey, simple regression was used. This study indicates that the interaction of organizational physics has a substantial impact on the organization's vitality. Any change in the independent variable will lead to a similar shift in organization vitality, meaning that organization vitality (OV) is a simple separate variable function.

The second hypothesis tested the effect of organizational energy on organizations' vitality. Multiple regressions were used to analyze the results, indicating a significant impact of organizational energy on organizations' lives. Any change in corporate power will lead to a similar change in the vitality of organizations. The third hypothesis examined the correlation of the influence of the organizational mass on organizations' spirit. Multiple regression was used to analyze the results, which indicated a significant effect of the corporate mass on organizations' energy. Any change in the organizational group will lead to a similar shift in the organization's vitality. The fourth hypothesis examined the correlation of the influence of corporate forces on organizations' vitality. Multiple regression was used to analyze the results, which indicated a significant influence correlation of organizational forces on organizations' energy. Any change in corporate troops will lead to a similar shift in organizations' spirit. This study deals with testing the effect of dimensions of organizational physics. All hypotheses were supported concerning variables and measurements. This study has significant process implications for managers in Zain Iraq Telecommunications Company who seek organizational vitality. This study indicates that managers in the company must consider many factors, by obtaining the corporate energy from the company's environment to invest it in internal operations and aligning its organizational mass to bring about organizational change towards vitality, after responding to the changes in the turbulent and rapidly changing environment. This gives the managers a clear vision about improving the company's chances of survival, expanding its growth, developing the quality of performance, and overcoming competing companies.

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CONCLUSIONS, LIMITATIONS, AND FUTURE DIRECTIONS

Depending on the data collected from the surveyed participants from managers and employees and using simple regression and multiple regression to analyze them, organizational physics and its dimensions on organizations' vitality are significant.

- This study is considered one of the first studies to develop a measure of organizational physics and its impact on organizations' vitality.
- The first determinant of this study is the adoption of an online survey. This makes it challenging to communicate with the respondents and answer any ambiguities that may arise while giving their answers to the questionnaire.
- In the future, direct contact with respondents may be desirable to ensure that they get the appropriate information and complete the questionnaire appropriately.
- Organizational physics is an exciting topic for many future studies due to the increasing environmental complexity and competition that requires behavior in line with the nature of these challenges.
- There is also an opportunity to test the study model and its variables in other organizations to reach more comprehensive results.
- In addition to expanding the study's study includes several organizations to increase the sample size and use new scales to measure study variables or develop existing scales.

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Citation Information: Al-Abedie, A.R., Al-Sultani, A.H.R. (2021). The influence of the organizational physics on organizations vitality. *Journal of Management Information and Decision Sciences, 24*(S1), 1-10