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**The role of knowledge capital in reducing the negative effects of crises:
Study at the Iraqi Ministry of Agriculture**

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Abstract

In order for organizations to remain in a continuous environment of complexity, change and rapid changes and fluctuations, they must keep pace with all the developments and changes that occur and predict their results in order to achieve the best levels of performance and this can only be done through the presence of knowledge and how to employ it to achieve the best methods through which it can be predicted Crises, how to deal with them and develop solutions for them. This study sheds light on the role that knowledge capital plays in facing crises and trying to reduce their effects as much as possible. The study included a set of questions, the most important of which is whether the dimensions of knowledge capital have a relationship and influence on reducing crises and their effects, and in order to clarify this relationship and influence between the research variables, the study variables were adopted represented by the main variable, which is the knowledge capital, which includes the following dimensions (basic skills, technical skills The effect of external and inner knowledge) and the secondary variable is the impact of crises. In order to achieve the objectives of the study, several main hypotheses were relied on, and a group of secondary hypotheses were branched out of them. The information was obtained from a questionnaire prepared for this purpose and distributed to a random sample of department heads and divisions in the Ministry of Agriculture consisting of (100) individuals. The study reached a set of conclusions, the most important of which is the existence of a correlation and influence between cognitive accumulation and reducing the effects resulting from crises. The surveyed organized study recommended the necessity of relying on knowledge capital in order to reach the best results to reduce the effects of crises.

Introduction

The human resource is one of the most important resources that organizations can rely on in order to achieve their goals, whether they are profit or service

goals, or both. The most important pillar of the success of organizations is their possession of the knowledge capital capable of proper planning and accurate prediction of future events and how to face them. Knowledge capital is the intangible assets that can be used in the organization to create value by converting it into new processes or goods and services, and it also represents knowledge, experience and strength of workers as well as knowledge resources stored in the organization's information base, operations and organizational culture (April, 2002: 87). With all the great problems and difficulties that organizations face in order to form a knowledge capital on which their competitiveness depends, the leading organizations today are trying to overcome these difficulties in various ways and methods, foremost of which is the consideration of knowledge capital as a critical and strategic topic that attracts special attention by the higher management in the organization. Some organizations have developed special measures to measure the efficiency of investing in knowledge capital as a long-term returnable investment with a holistic impact, especially in dealing with crises and developing solutions (Bueno & Paz, 2003: 145). The crisis is nothing but a failure of the decision-makers, either due to an administrative defect, limited experience or lack of knowledge. Crisis management deals with the crisis before its occurrence, as it includes the discovery of early warning signals that predict the imminent occurrence of the crisis and the delivery of those signals to plan and prepare for facing the crisis and deal with it when it occurs. The following activities also include the occurrence of the crisis and facing it, planning to restore activity, learning and drawing lessons learned from it. From this standpoint, the importance of adopting an organized and integrated scientific approach to crisis management is evident. One of the features of civilized societies is the great interest in drawing lessons from the crises they have gone through and making use of these lessons in the present and in the future. Likewise, organizations that have the ability to predict crises, develop solutions and prepare for them, are the most capable of overcoming those crises more efficiently, effectively and quickly than other organizations (Loudon & Loudon, 2000: 93).

Research methodology

The problem of research

Today's organizations suffer from many obstacles and problems that were the cause and obstacle that prevent them from achieving their goals, and the most important of these problems is how to properly invest in knowledge capital in order to face crises and how to find correct and successful solutions, and from here we can pose the following problem:

What is the role of knowledge capital in finding appropriate and correct solutions to address crises and find appropriate solutions to them in the Iraqi Ministry of Agriculture?

Research importance

The importance of research is embodied in the following themes:

1. The link between research and an important variable, which is knowledge capital, and what is its role in dealing with crises.
2. Theoretical response to the variables of research by studying several models that clarify the nature of the relationship between knowledge and crisis treatment.

3. Through our research, we can define the best measures of reliability that clarify the nature of the relationship between each of the cognitive capital variables and the extent of its contribution to addressing crises.

4. Providing scientific libraries with research contributions that help researchers to proceed from this point.

Research goals

The current research aims to arrive at determining the nature of the relationship between knowledge capital and developing the best solutions to deal with crises through:

1. Getting to the truth about the impact of knowledge capital crises.
2. Clarifying the type of relationship between each variable of the research and determining which variables have a clear impact in finding the best solutions to deal with crises.
3. Business organizations need human resources that possess knowledge that contribute to the process of developing best solutions to address crises.

Research hypotheses

H₁: There is a significant correlation between knowledge capital and the effects of the crisis.

H₂: There is a significant effect between knowledge capital and the effects of crises.

Literature review

The components of knowledge capital
Human capital: Human capital is the most important pillar of knowledge within the organization and the employee's skills, intellectual movement, education and behavior in his work. Intellectual flexibility enables changing practices and thinking to find solutions to problems and make decisions (Jang, et. Al, 2002: 129). Human capital consists of the competence and capabilities of employees. When an organization educates its employees, it develops from its human capital. As the organization cannot have knowledge of human capital without training and developing the cognitive capabilities of its individuals (Wiig, 1997: 401). We can think of knowledge capital as human capital. Research indicates that the characteristics of human capital are education, skills, and experiences at the individual level. As for the group, the human capital can be considered as a collection of knowledge and skills for employees. As for the organization, the (implicit) human capital alone will not be only a part of the total knowledge present in the organization. However, there are two risks associated with the human capital input of the organization are ineffective employment and ineffective training. Most researchers agree that human capital is an important factor in productivity, whether on the individual or the macro level. It has an especially important role in knowledge-based organizations. Organizations should distinguish between individuals who

have greater ability to solve business problems and the ability to communicate than their less-skilled counterparts. Identifying tasks that require physical effort and other tasks that require cognitive effort in order to survive in the technology race and obtain the potential benefits of new technology (Kakabadse, et. al, 2003: 853).

Visible knowledge: It is knowledge that is clearly expressed in actions and actions through writings and drawings, and which technology can transform into clearer knowledge and can be talked about, as most members of the organization can access and share it by everyone through books, seminars, conferences, meetings and other Other means (Mckeen & Smith, 2003: 361).

latent knowledge: it is knowledge that is not available in the minds of individuals, and it is the scientific experience and knowledge of the individual who possesses it, which is not material and difficult to transfer, and knowledge is characterized by a set of characteristics that distinguish it from other activities. They differ according to the viewpoints of researchers in this field and according to the expected benefit from (Jang, et. al, 2002: 241).

Description and diagnosis of the answers of the research sample

We notice from Table (1) that the first paragraph got the highest mean of arithmetic, reaching (3.9825), and the highest standard deviation, reaching (.6502). It is the paragraph related to the importance of the human resource that possesses knowledge and its role in facing crises, while we see the third paragraph occupied the lowest in my arithmetic And the least standard deviation, and this shows us the sincerity of the sample's response to the need for the organization to maintain and develop basic skills.

Table (1) The level of answers of the research sample on the human capital dimension (N = 100)

The paragraphs of the questionnaire The first dimension: human capital	\bar{x}	SD	Answer direction
The organization seeks to develop the skills and mental capabilities of working individuals	3.9825	.65029	Agreed
The administration facilitates informal communication methods between workers	3.9250	.59054	Agreed
When a problem occurs, workers try to solve it by seeking advice and help among themselves	3.9125	.44029	Agreed
Individuals working within the organization always have the feeling of wanting to work and provide the best levels of performance	3.9185	.64929	Agreed
Management seeks to hear the workers' problems	3.9375	.53590	Agreed
Total	3.9333	.56851	Agreed

We notice from Table (2) that the third paragraph got the highest arithmetic mean, reaching (3.6500), and the highest standard deviation, reaching 1.3226. This shows us the sincerity of the sample's response to the need for the organization to maintain and develop the demonstrated skills.

Table (2) The level of answers of the remote search sample in the virtual skills (N = 100)

The paragraphs of the questionnaire The second dimension: virtual skill	\bar{x}	SD	Answer direction
The organization always works to clarify laws and legislative regulations in order for individuals to know about them	3.5875	1.33780	Agreed
The organization always seeks to send its employees to external training courses in order to acquire knowledge and skills	3.5875	1.31874	Agreed
The organization deals with providing all individuals with knowledge without bias	3.6500	1.32264	Agreed
Individuals within the organization feel happiness and job satisfaction which contributes to increasing their skills and knowledge	3.5000	1.30238	Agreed
The management has sufficient confidence in its individuals at all levels of their functions to achieve the objectives of the organization through the knowledge and skills they possess	3.6000	1.01008	Agreed
Total	3.5000	1.21008	Agreed

We notice from Table (3) that the first paragraph obtained the highest arithmetic mean and the highest standard deviation, and it is the paragraph related to the importance of human skills inherent in facing crises, while we see the fifth paragraph occupied the lowest arithmetic mean and the lowest standard deviation exploited.

Table (3) The level of answers for the remote research sample Latent skills (N = 100)

The paragraphs of the questionnaire The third dimension: latent skills	\bar{x}	SD	Answer direction
The organization encourages its personnel to highlight the knowledge they possess	4.300	.99598	Agreed
Working individuals have unspoken knowledge that is not made public for fear of failure	3.2375	.83049	Agreed
A good employee with tacit knowledge always seeks to use it	3.3750	.97273	Agreed
Evaluates overall performance without relying on the employee's tacit knowledge	3.2875	.95723	Agreed
The department provides support and encouragement to its employees in order to achieve the best results	3.3375	.99293	Agreed
Total	3.3188	.92214	Agreed

We notice from Table (4) that the third paragraph got the highest computational mean and the highest standard deviation, and it is the paragraph related to the availability of knowledge capital capable of facing crises and dealing with them, while we see the fifth paragraph occupied the lowest arithmetic mean and the lowest standard deviation, and this shows us the authenticity of the sample response by the need to monitor Experience and

knowledge on how to deal with crises and reduce their resulting effects.

Table (4) The level of responses to the crisis research sample (N = 100)

The paragraphs of the questionnaire Crises	\bar{x}	SD	Answer direction
When crises are predicted, the organization is able to avoid them	3.6375	.78343	Agreed
Most of the resulting crises are unplanned	3.6250	.83249	Agreed
Organizations are always seeking to benefit from previous crises	3.8750	.94386	Agreed
Good planning helps predict the occurrence of a crisis	3.7375	.75881	Agreed
The more sudden the crisis, the more unexpected the results	3.4125	.61433	Agreed
Total	83.6500	8.24790	Agreed

Analysis of correlations and influence

It is noted from Table (5) that there is an increase in the level of human capital in dealing with crises by 70%. Also, there is an increase in the apparent knowledge by 35% in relation to crisis treatment. As for the inner knowledge, the rate of increase was 78% and all the variables were significant below level 1 As for the calculated value of F, it was significant below the level of 1% and 5%, while the explanatory power of the estimated model reached 84%, which means that the cognitive capital impact variable. Explains about 84% of the changes occurring in the level of crisis handling and minimizing their effects. The remaining 16% is due to unexplained factors within the random error component. It showed the relationships between intellectual capital and knowledge capital and between crises and their dimensions, in what constitutes (100%) as all the relationships were strong at a level of (0.01) and the strongest of those relationships was the relationship of intellectual capital, reaching (0.885), and this result indicates that the components of the head Intellectual money has a huge impact on crises.

Table (5) The impact of knowledge capital in dealing with crises and minimizing their expected effects

	Estimated values of the parameter	The computed t-values	The significance of t	The computed F value	The explanatory power of the estimated form
Human capital	0.70	8.009**	Significant	9.878**	84%
Evident knowledge	0.35	5.567**	Significant		
Esoteric knowledge	0.78	6.33**	Significant		

Through Table (6) it becomes clear that the calculated value of (F) is equal to (10.224), which is a significant function value below the level of significance (0.01) because (p - value) was equal to (0.000) and it is less than (0.01) and thus it can be said There is the effect of human capital on the crisis represented by the intellectual and knowledge capital, and the value of the coefficient of

determination reached ($R^2 = 0.323$), which means that the components of human capital have an effect that explains about (32.3%) of the changes that occur in crises, and that the remainder is (67.7%) is due to other variables not included in the regression model and to the random error factor.

Table (6) The influence relationship between intellectual and knowledge capital and crises

Intellectual capital and knowledge capital X	Crisis Y	The value of the regression constant	Beta coefficient value	P-Value	R^2	The calculated F value
		2.255	0.401	0.000	0.323	10.224

The estimated regression equation was as follows: $Y=2.255+0.401x$. This means that there is an increase in the reduction of the effects by (0.401) when human capital equals (1) and when testing (t) for regression coefficients was significant because (p-value) is less than (0.01) and (0.05) as shown in the table.

Table (7) a t-test to demonstrate the significance of the fixed limit and the axis of human capital on crises

Regression coefficient	T	P – Value
Regression constant	11.387	0.000
Beta coefficient	5.877	0.000

Conclusions

1. Knowledge capital is one of the most important resources in dealing with crises and minimizing their effects.
2. The results showed that there is a strong relationship between knowledge, both apparent and latent, and finding the best solutions to deal with crises.
3. The presence of human capital that has basic skills has a primary role in dealing with crises.
4. The study confirmed that the most important stage of crisis treatment is to define the crisis by predicting it through the basic skills that individuals possess within the organization.
5. The study emphasized that the organizations that possess individuals with basic cognitive skills are the organizations that are able to overcome crises with the least amount of sacrifices.

Recommendation

1. The need to pay attention to knowledge capital within organizations.
2. The necessity of investing in emerging knowledge and making use of all individuals
3. Working to encourage working individuals to highlight the latent skills and invest them by everyone.
4. Training of working individuals on how to develop solutions and scenarios to solve crises.
5. Developing several alternatives and solutions to address the expected crises.

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