

# The moderator role of organizational culture between intellectual capital and business performance: An empirical study in Iraqi industry

**Abbas Mezeal Mushref**

College of Administration and Economics, University of Kufa, Iraq.

Accepted 24 July, 2014

---

## ABSTRACT

The purpose of this study is to explore the relationships between Intellectual capital and business performance through a moderator role of organizational culture in Iraqi industry. The main objective of this study is to investigate whether intellectual capital has a direct effect on business performance. However, a review of the management literature reveals that the relationship between intellectual capital and business performance is still vague. The results of this study showed that intellectual capital elements (customer capital, human capital, structural capital, and relational capital) can have a direct effect on the business performance of Iraqi industry and through the moderator role of organizational culture. Hence this study was trying to fill the gap from the perspective of resource-based view.

**Keywords:** Organizational culture, intellectual capital, business performance, Iraqi industry.

---

E-mail: Abbas\_muzel@yahoo.com.

---

## INTRODUCTION

According to resource-based theory, the intellectual capital (IC) is a main source to improve business performance (Roos et al., 1997). Therefore, intellectual capital has been studied by many past researchers (Amir and Lev, 1996; Bontis, 1999, 2001; Edvinsson and Malone, 1997; Ittner and Larcker, 1998; Stewart, 1997; Wang and Chang, 2005), who investigate the influence of intellectual capital on business performance. However, most past researchers focused on the impact of individual intellectual capital on performance while neglecting the effects of specific elements of intellectual capital.

In addition several empirical studies that have tried to demonstrate the relationship between intellectual capital and business performance have encountered problems that linked mainly to the measurement of intellectual capital (Puntillo, 2009).

Intellectual capital is becoming the preeminent resources for creating economic wealth. Tangible assets such as property, plants, and equipment continue to be important factors in the production of goods and service. However, their relative important has decreased through

time as the importance of intangible assets. Intellectual based assets have increased in term of their importance. This shift in importance has raised a number of questions critical for managing IC. Some of the questions are such as: How does an organization, evaluate the value of IC? What are the most effective management processes to maximize the yield from IC? What are the working definitions of IC? How can we develop a framework for identifying and classifying the various components of intellectual capital?

Hence, the contribution of this study is to identify the organizational culture as moderator variable in the relationship between, intellectual capital and business performance.

## LITERATURE REVIEW

### Intellectual capital

Based on the review of literature, intellectual capital is

**Table 1.** Summary of the main IC definitions.

Author	Definition of IC
Stewart (1997)	Package useful knowledge that includes an organizations processes technologies, patents, employees, skills and information about customers, supplier and stakeholder.
Brooking (1996)	IC is the term given to combined intangible assets which enable the company to function
Seviby (1997)	It is the knowledge, experience, brainpower of employee as well as knowledge resources, stored in an organizations databases system processes, culture and philosophy.
Bontis (1999)	The collection of intangible resources and their flows.
Brooking (1997)	The difference between the book value and what somebody is prepared to pay for it.
Edvinsson (1997)	A source of intangible (hidden) assets that often don't appear on the balance sheet.
Harrison and Sullivan (2000)	Knowledge that can be converted into profit.
Roos et al. (1997)	The sum of knowledge of company's members and practical translation of this knowledge like trademark, patents and brands.
Hung et al. (2007)	A composite of the wisdom, intelligence, flexibility, creativity, and entrepreneurship core competencies necessary to succeed in an increasingly competitive global economy where technology and knowledge dominate.
Caddy (2000)	IC as the difference between intangible assets and intangible liabilities.
Fenosa (1999)	It as the set of intangible values that promote the organizational capability for generating profits now and in the future.

defined in many different ways (Table 1).

### Elements of intellectual capital

Intellectual capital is also considered as intangible assets that defined as capital assets of physical substance, but which are likely to yield future benefits (Canibome et al., 2000). According to (Skandia, 1994) intellectual capital is the aggregate sum of intangible value which comprises:

- a) Human capital (HC): knowledge skills and capabilities.
- b) Structural capital (SC): everything that remains when the employees go home, databases, software, manuals, treatments, organization structure etc.
- c) Customer capital (CC) is the relationship built up with the customers and is a significant part of structural capital.
- d) Relational capital (RC) reflected in the reputation of organization and customer loyalty.

Figure 1 shows Skandia (1994) "Visualizing intellectual capital in Skandia a supplement to Skandia's (1994) annual Report; Sweden Skandia'. While Stewart (1997) believes that (IC) is intellectual materials consisting of: (a) Knowledge; (b) Information; (c) Intellectual property; (d) Experience. (Figure 2).

### Customer capital

The term customer capital is explained as the relationship between firms and their customers. Pike et al. (2002) referred to customer capital as relational capital. This is one of the important dimensions which influence the inward relationships of an organization and the customer (Hsu, 2006).

### Human capital

Human capital is one of the important variables in the study of intellectual capital. It is the dimension of intellectual capital which deals with the human knowledge and its experience, based on other elements and will influence a firm's value by affecting the other elements. Employee knowledge and capabilities are the important sources of innovation (van der Meer-Kooistra and Zijlstra, 2001, cited in Wang and Chang, 2005).

It is appropriate to deduce that human capital closely influences innovation capital. Employees are needed to carry out the internal process of a firm. Employees are also required to perform all customer services. By providing quality of service while implementing internal processes, the capability of employees would affect process efficiency and customer satisfaction (Wang and

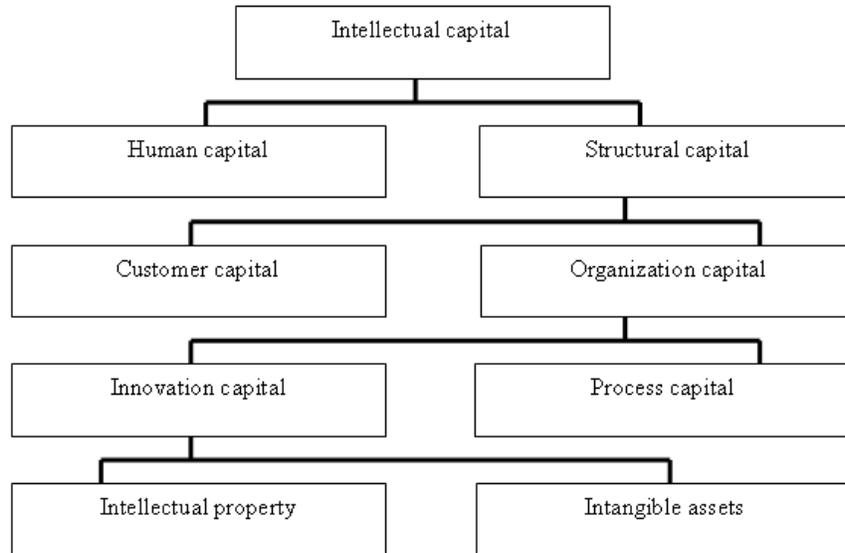


Figure 1. Skandia model 1994.

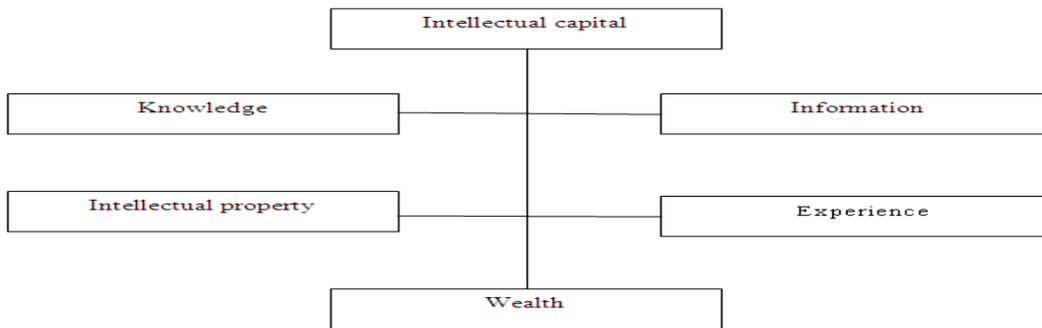


Figure 2. Stewart model (1997:44).

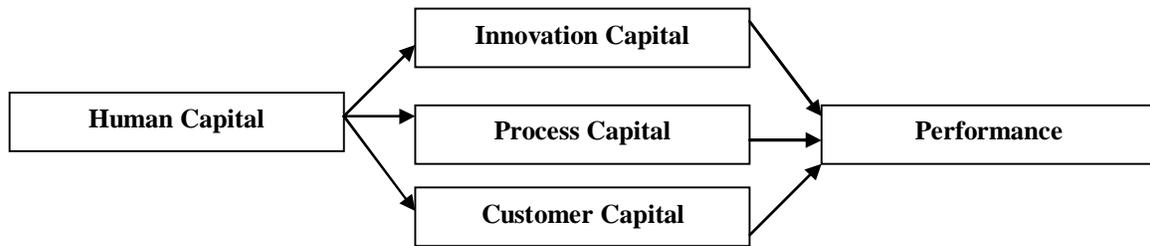


Figure 3. Conceptual framework of the indirect impact of human capital elements on performance. Source: Wang and Chang (2005).

Chang, 2005). Stewart (1997) focused on the relationship between customers and employee capabilities. He pointed out that employees should possess suitable knowledge or skills to serve customer needs.

According to Wang and Chang (2005), human capital affects business performance through innovation capital,

process capital and customer capital. Figure 3 shows the links between the intellectual capital components and business performance.

According to Skandia's model, the hidden factor of human and structural capital is a mixture of intellectual capital. On the other hand, human capital is explained as

the combination of innovation capital, process capital and customer capital. Human capital is the ability of company's individual employees to meet the task at hand (Bontis, 2001).

### ***Structural capital***

Structural capital has not been defined adequately in the past studies, in which it had different tags but similar meanings among different intellectual capital concepts. Based on the past literature, structural capital (Bontis, 2001, 2002a, b) can be process capital (Van Buren, 1998) and organizational capital (Pike et al., 2002), and it also interlink with innovation capital (Van Buren, 1998). In addition, Bontis (2002) explained structural capital as the knowledge entrenched within the schedules of an organization that includes technological modules and architectural competencies. Generally speaking, the knowledge infrastructure in Gold et al. (2001) explained the variables such as organization structure, culture and technology.

On the other hand, as discussed by Bontis (2001), structural capital is the hardware, software, databases, organizational structure, patents, trademarks and everything else that employees use to support their business activities and processes. The extract of structural capital, however, has more emphasis on the "the knowledge embedded within the routines of an organization" (Bontis, 2002:45). The cultural and technological aspect, which is combined with structural capital, has more involvement toward knowledge base infrastructure (Hsu, 2006).

Structural capital includes technological factors and technical competencies. Bontis (2001 and 2002) argues that the relationship between structural capital and human capital can be located within social network. The social characteristics interconnect each individual in an organization. The social characteristic is one of the outlets as defined by Bontis (2001). These outlets are the owners of the tacit knowledge within their social networks. Among different components of IC, structural capital is the most difficult as it is related to other capital in terms of definition. The main focus of structural capital is to embrace a sound foundation, with views from organizational capital, process capital, even innovation capital and the KM model (Hsu, 2006).

### ***Relational capital***

The relational capital is defined as customer capital. Sometimes customer capital and relational capital are defined similarly (Roos et al., 1997). The focus of relational capital is on organization (Hsu, 2006).

In the knowledge based society, intellectual capital plays a significant role in the establishment of intangible

and knowledge towards value creation (Choo and Bontis, 2002; Marr et al., 2004; Lev, 2001; Roos et al., 1997). Particularly, the past literature explains human, organizational and customer capital as different entities and suggest that they are interconnected causally so that human capital creates knowledge which then can become constant in organizational capital to promote customer relations (Fernstrom et al., 2004; Johansson et al., 2002; Marr et al., 2004; Roberts, 2003).

### **Organizational culture**

Organizational performance is influenced by culture. Whether culture is deemed as an asset or as a liability depends on management subscription of cultural values. Ever since organizational culture was first recognized as a bona fide component of business performance, executives and managers have sought to turn this asset into a source of competitive advantage. Organizational change can only be created or identified as how hierarchical management structure reacts towards a more egalitarian approach. The appropriate control and proper management can motivate to promote organizational culture (Fernandes-Richards, 2005).

The term culture is defined as a signal of message which is interpreted about how to behave around here. As human beings, we are hardwired to adjust and fit into the communities of which we are members. This is essential if we are to become accepted socially, and in the case of an employer, if we are to keep our job. Employees pick up these messages about expected behavior, and adjust their own accordingly. Those who cannot or will not adjust tend to either leave of their own free will or be ejected. Meanwhile, culture can be described as the characteristic way in which work is done in different organizations (Taylor, 2007). There is an increasing need for organization to be responsive and competitive or else culture can react as a liability. This requires that the capability of soft assets (people) and hard (plant) be managed effectively.

Moreover, Hofstede (1980:25) defines culture as "the collective programming of the mind that distinguishes the members of one category of people from those of another". His cultural values framework is developed using data from over 88,000 employees from 72 countries. This leads to the initial identification of four cultural dimensions, which later are expanded to five. The cultural dimensions are as follows:

1. Individualism-collectivism — relates to the integration of individuals into primary groups, and the degree upon which individuals look after themselves while in the group
2. Power distance — the extent to which people accept inequality in power among its institutions and people.
3. Uncertainty avoidance — the levels at which society feel uncomfortable with lack of structure and ambiguity.

4. Masculinity and femininity — the extent to which a society considers the dominant values to be “masculine” in nature.

5. Long-term orientation and short-term organization — the development of value where deferred gratification is accepted and order is observed versus a society where immediate satisfaction is desired and results are expected quickly (Ergeneli et al., 2007; Hofstede et al., 1990; Kirkman et al., 2006). These five dimensions have been measured using the values survey module (Ergeneli et al., 2007).

### **Business performance**

If organizations cannot measure performance, they cannot manage their business (Kaplan and Norton, 1996). If organizations are to survive and prosper in information age competition, they must use measurement and management systems derived from their strategies and capabilities. This statement summarizes the necessity of performance to measure, and as direct consequence, and to evaluate their performance (O'Reilly et al., 2000).

Summarizing the ideas of many authors, it can be said that the roles of business performance evaluation are to ensure compliance with crucial minimum standards, to check how well an organization is doing, to test strategic assumptions, and to provide a reliable basis for communicating with interested parties (Coelho et al., 2005).

The business performance extends the eras of measurements to the three perspectives (Maluenda, 2006). There are innovation, rate of new product development, customer satisfaction, customer retention and operating costs (Zack et al., 2009).

Business performance is defined as measurable result of the level of attainment of organizations goals (Daft and Marcic, 2001) or mechanism for improving the likelihood of the organization successfully implementing a strategy (Anthony, 1998). Business performance evaluation is the process to help management decisions regarding an organization's performance by selecting indicators, collecting and analyzing data, assessing information against performance criteria, reporting and communicating and periodically reviewing and improving this process (Coelho et al., 2005).

### **Intellectual capital and business performance**

Most of the notions on the role of intellectual capital state that it is the most important source of competitive advantage for the firm in question, state that intellectual capital is considered as primary strategic source of the firm profitability (Marr, 2004).

According to Marr (2004), intellectual capital most

significantly contributes to an improved competitive position of an organization. Furthermore, intellectual capital enables the organization to add value to important status that leads to improve its competitive advantages. The value added origins from the effectiveness enhancement and efficiency of organizational routines. Thus intellectual capital is the key factor in succeeding in that. To obtain competitive advantage it is crucial for organization to utilize knowledge efficiently and to enhance their innovation potential. Furthermore, reporting these intangible assets systematically to customer partners and investors, as well as creditors has become critical success factor. Managing intellectual capital (IC) is therefore becoming increasingly important for future oriented organizations. Figure 4 illustrates how intellectual capital impacts on business performance.

In brief, intellectual capital is widely recognized as the critical source of true and sustainable competitive advantage (Marr, 2004:559). In other words, IC components are the basis for sustainable source of business advantage (Kannan and Aulbur, 2004:289). The view of Kaplan and Norton (1996:143) is a bit different since they contended that the IC elements almost continuously provide employee with the means to a desired organizational ends. Moreover, Herremans and Issac (2004) noted that it is possible to establish a difference between generator IC elements and vacillator IC elements where generators are directly causing the generation of wealth whereas the facilitators support and enhance to generation of wealth.

On the confusion of IC elements are always seen as positive factors. This means that more is better than less, but it also means that the IC of a firm has to be of the right kind in order to be the source of long-term business success (Peltoniemi and Vuori, 2005).

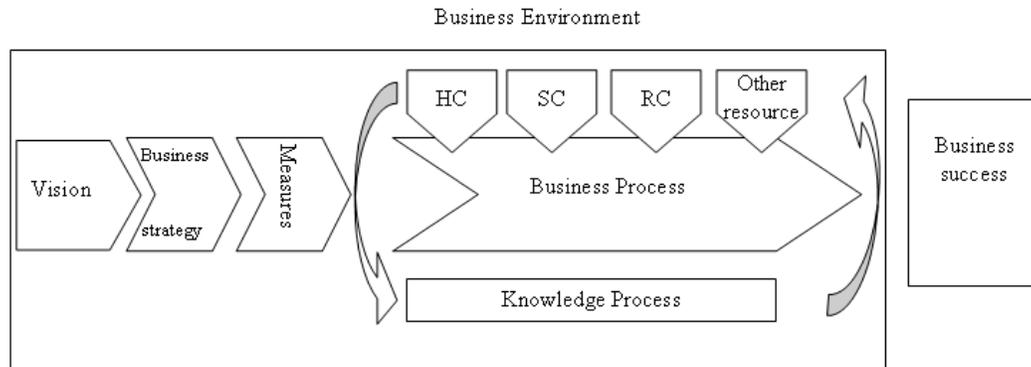
### **Conceptual framework**

Based on the previous studies, the conceptual framework is developed based on the recourse-based view. Consequently, Figure 5 shows the relationship between intellectual capital, organizational culture, and businesses performance.

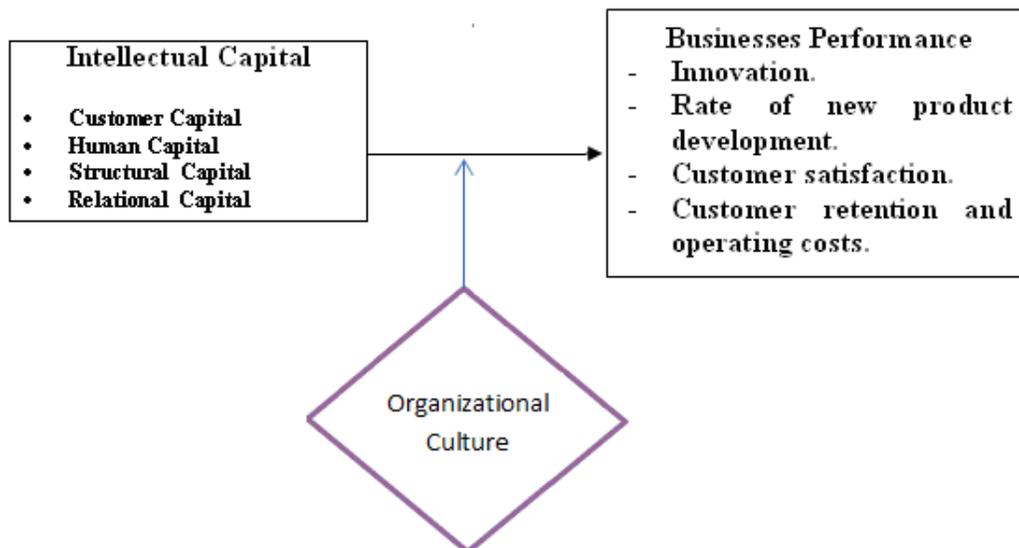
The proposed conceptual framework might be a good contribution to the intellectual capital literature. It shows the relationship between intellectual capital, organizational culture, and businesses performance.

### **Hypothesis development**

A similar study conducted by Wang and Chang (2005) shows that intellectual capital elements directly affect business performance. It is also found that there is a positive relationship between intellectual capital, organizational culture, and business performance and



**Figure 4.** Illustrate how intellectual capital impacts on business performance. Source: Adopted from: European ICS Guideline (2008).



**Figure 5.** Conceptual framework.

there also exists a cause-effect relationship among four elements of intellectual capital. Human capital affects innovation capital and process capital. Innovation capital affects process capital, which in turn influences customer capital. Finally, customer capital contributes to performance.

In another study conducted by Hoffman et al. (2005), it was found that the relationship between social capital and knowledge management, both helps organizations to achieve a sustained superior performance within the market. It also suggests that organizations with high levels of social capital have more knowledge-management capabilities than other organizations with low levels of social capital.

H<sub>1</sub>: There is relationship between intellectual capital and business performance.

H<sub>2</sub>: The organizational culture can play a moderator role

in the relationship between intellectual capital and business performance.

## METHODOLOGY

The objective of this study is to investigate the factors that effect business performance among Iraqi companies. On the other hand, it was looking forward to know the relationship between intellectual capital and Iraqi industry's performance through the moderator role of culture. This study was investigating the factor and problems face by Iraqi industry. The main concern of this study was to investigate the problem which Iraqi industry was facing in term of improving their performance. The design of the questionnaire for this research required a wide rang of measures and items. The items have been collected and adopted from different sources.

## Sampling method

This study was focused on collected the data form difference Iraqi

**Table 2.** Pearson correlation between variables of intellectual capital and business performance (N = 191).

Parameter	Human capital	Customers capital	Relational capital	Structural capital
Pearson correlation	0.391**	0.612**	0.551**	0.255**
Sig. (2-tailed)	0.000	0.000	0.000	0.000

Note: \* P ≤ 0.05, \*\* P ≤ 0.01.

**Table 3.** Regression results of business performance based on the dimensions (N = 191). Dependent variable: Business performance; Independent variable: four intellectual capital attributes

Parameter	Sum of squares	df	Mean square	F	Sig.
Regression	29.088	4	7.272	34.739	0.000
Residual	38.937	186	0.209		
Total	68.025	190			

Independent variables	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. error	Beta		
Constant	1.122	0.328		3.423	0.001**
HC	0.006	0.086	0.005	0.072	0.943
CC	0.438	0.079	0.435	5.546	0.000**
RC	0.406	0.100	0.339	4.059	0.000**
SC	-0.131	0.086	-0.107	1.522	0.130

Note: \* p < 0.05, \*\* p < 0.01.

companies. There was only a set sample in the study which was targeting the random sampling of the 320 managers of Iraqi companies. The companies were divided into three categories on the base of their market equity.

#### Data collection

Data was collected through quantitative survey approach. This data was collected through field survey. The questionnaires were distributed among the 320 managers of Iraqi companies, especially managers to answer the questions in the questionnaire.

#### Data analytical approach

In this study, the responses and information collected from the various statistical methods was used to analyze the data that were collected from the 191 respondents. The Statistical Package for the Social Sciences (SPSS, version 17.0) package.

## RESULTS

### Correlation analysis

A correlation coefficient between the four variables of intellectual capital namely: human capital, customers' capital, relational capital and structural capital, and business performance is shown in Table 2.

The correlations between all attributes of intellectual capital and business performance were positive and were

significant at the 0.01 level (2-tailed). These results revealed support for the hypotheses.

### Multiple regression analysis

Business performance was regressed against four variables of intellectual capital namely: human capital, customers' capital, relational capital and structural capital.

The equation for business performance is expressed in the following equation:

$$Y_s = \beta_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4$$

Where,

$Y_s$  = Business performance

$\beta_0$  = constant (coefficient of intercept)

$X_1$  = Human capital

$X_2$  = Customers capital

$X_3$  = Relational capital

$X_4$  = Structural capital

$B_1, \dots, B_4$  = regression coefficient of four variables.

Table 3 shows the results of the regression analysis. To predict the goodness-of fit of the regression model, the multiple correlation coefficient (R), coefficient of determination (R<sup>2</sup>), and F ratio were examined. First, the R of independent variables (five factors, X<sub>1</sub> to X<sub>5</sub>) on the

**Table 4.** Empirical results of regression.

Variables	Model I	Model II
	B (t-value)	B (t-value)
Business performance	0.474 (1.081)	0.418 (0.950)
Intellectual capital	0.706 (6.454)**	0.572 (5.442)**
Interaction term		
Culture		0.426 (5.399)**
R	0.598	0.667
R <sup>2</sup>	0.358	0.445
Adjusted R <sup>2</sup>	0.348	0.433
N	191	191
F	34.750**	37.274**

dependent variable (Business performance, or Ys) is 0.654, which showed that the Business performance had positive and high overall association with the four attributes. Second, the R<sup>2</sup> is 0.428, suggesting that more than 40% of the variation of Business performance was explained by the four attributes. Last, the F ratio, which explained whether the results of the regression model could have occurred by chance, had a value of 34.739 (p = 0.00) and was considered significant. The regression model achieved a satisfactory level of goodness-of-fit in predicting the variance of Business performance in relation to the four attributes, as measured by the below – mentioned R, R<sup>2</sup>, and F ratio. In other words, at least one of the four attributes was important in contributing to Business performance. In the regression analysis, the beta coefficients could be used to explain the relative importance of the four attributes (independent variables) in contributing to the variance in Business performance (dependent variable). As far as the relative importance of the four intellectual capital attributes is concerned, customer capital, B2 = 0.435, p = 0.000) carried the heaviest weight for Business performance, followed by relational capital, B3 = 0.339, p = 0.000, human capital, B1 = 0.005, p = 0.943, and structural capital, B4 = -0.167, p = 0.130. The results showed that a one-unit increase in customer capital would lead to a 0.435 unit increase in Business performance, one-unit increase in relational capital would lead to a 0.339 unit increase in Business performance, one-unit increase in human capital would lead to a 0.005 unit increase in Business performance, and one-unit increase in structural capital would lead to a 0.167 unit decrease in Business performance. In conclusion, the results of multiple regression analysis agree with hypothesis 1, that there is relationship between intellectual capital attributes and the overall Business performance. So, there is a relationship, which is what you expected.

### Culture concern as modulator

Two models of regression analysis are applied to test the

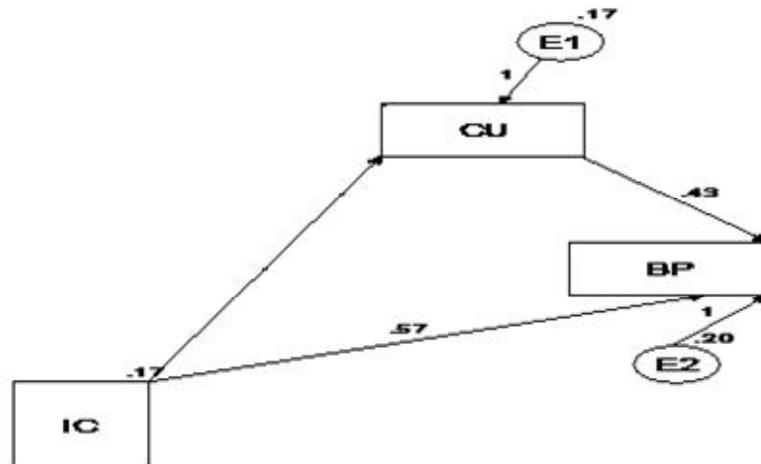
interacting terms between knowledge management and intellectual capital with the culture. It can be found from Model I and Model II in Table 4 that independent variable intellectual capital has significantly positive relationships with business performance. Moreover, the interaction term (culture as moderator) increased the R value to 0.667, so it has an obvious moderation effect on the relationships between independent variable and dependent variable, that is, business performance.

With respect to the variance explained (R<sup>2</sup>) of the endogenous variables, the research model has shown an adequate predictive power. The proportion of variance of the dependent variable explained in the complete model that includes the interaction effect is 43.3%. Taken together, the above results support hypothesis 2. Amos graphs (Figure 6) represented the direct and indirect effects of independent variables, since organizational culture acts as a moderating variable.

### CONCLUSION

The results of this study showed that intellectual capital elements (customer capital, human capital, structural capital and relational capital) can have a strong influence on the business performance of Iraqi industry. Moreover, the study made an important contribution by providing an increased understanding about the role of intellectual capital to improve business performance in large-sized companies and the effect of culture, which has received little attention in the literature. It has used multiple analyses in this study, and a correlation coefficient which measures the strength of a line between the five variables as well as a correlation coefficient measuring the strength of a line between two variables.

However, the correlations between all attributes of intellectual capital and business performance were positive and were significant at the 0.01 level. These results support hypothesis 1. Moreover, the interaction term (culture as moderator) increases the R value to 0.667, so it has an obvious moderation effect on the relationships between the independent variables and



**Figure 6.** Indirect effect of independent variables, culture concern as modulator.

dependent variable, that is, business performance. These results support hypothesis 2. Overall, the evidence suggests that the factors identified in the present study have effect on business performance.

Finally, the researcher hopes that more research will be conducted in the future in order to gain a whole understanding of intellectual types as other practices may also contribute to organization performance by using other moderator variables such as organizational structure, leadership, and human recourse management. So, more research requires to be carried out to examine other factors that can possibly have effect on business performance.

## REFERENCES

- Amir, E., and Lev, B. (1996). Value-relevance of non-financial information: The wireless communications industry. *Journal of Accounting and Economics*, 22:3-30.
- Anthony, R. N. (1998). *Management control systems*. (9th ed.). Irwin: McGraw-Hill.
- Bontis, N. (2001). Assessing knowledge assets: a review of the models used to measure intellectual capital. *International Journal of Management Reviews*, 3(1):41-60.
- Bontis, N. (2001). CKO wanted – evangelical skills necessary: A review of the Chief Knowledge Officer position. *Knowledge and Process Management*, 8(1):29-38.
- Bontis, N. (2001a). Assessing knowledge assets: a review of the models used to measure intellectual capital. *International Journal of Management Reviews*, 3(1):41–60.
- Bontis, N. (2002). *World Congress of Intellectual Capital Readings*, Boston: Butterworth Heinemann KMCI Press.
- Bontis, N., Dragonetti, N. C., Jacobsen, K., and Roos, G. (1999). The knowledge toolbox: A review of the tools, available to measure and manage intangible resources. *European Management Journal*, 17(4):391-402.
- Brooking, A. (1996). *Intellectual capital: Core asset for the third millennium enterprise*. New York: International Thomson Business Press.
- Brooking, A. (1997). *Intellectual Capital*. London: International Thomson Business Press.
- Caddy, I. (2000). Intellectual capital: Recognizing both assets and liabilities. *Journal of Intellectual Capital*, 1:129-146.
- Choo, C. W., and Bontis, N. (2002). *The strategic management of Intellectual capital and organization knowledge*, Oxford University, New York, NY.
- Coelho, C., Ylvisaker, M., and Turkstra, L. (2005). Nonstandardized assessment approaches for individuals with traumatic brain injuries. *Seminars in Speech and Language*, 26(4):223-241.
- Daft, R. I., and Marcic, D. (2001). *Understanding management* (3<sup>rd</sup> ed.). Fort worth, USA: Harcourt College Publishers.
- EC (European Commission), 2008. 'InCaS: Intellectual Capital Statement – Made in Europe, European Intellectual Capital Statement Guideline' developed by the InCaS Consortium.
- Edvinsson, L. (1997). Developing intellectual capital at Skandia. *Long Range Planning* 30 (3): 336-373.
- Edvinsson, L., and Malone, M. S. (1997). *Intellectual capital – Realizing your company's true value by finding its hidden roots*. New York, NY: Harper Business.
- Ergeneli, A., Gohar, R., and Temirbekova, Z. (2007). Transformational leadership: its relationship to culture value dimensions, *International Journal of Intercultural Relations*, 31, 703-724.
- Fenosa, U. (1999). Annual report 1998. Madrid, Spain.
- Fernandes-Richards, L. (2005). Strengthening the cohesive structure of organizational culture through branded office environments. (Available at: <http://spokane.wsu.edu/academics/design/documents/Leylan.pdf>)
- Fernstrom, M., Tonkonogi, M., and Sahlin, K. (2004). Effects of acute and chronic endurance exercise on mitochondrial uncoupling in human skeletal muscle. *J of Physiology*, 554:755–763.
- Gold, A. H., Malhotra, A., and Segars, A. (2001). Knowledge management: An organizational capabilities perspective. *Journal of MIS*, 18(1):185-214.
- Harrison, S., and Sullivan, P. H. (2000). Profiting from intellectual capital: learning from leading companies. *Industrial and Commercial Training*, 32(4):139-148.
- Herremans, I. M., and Isaac, R. G. (2004). Leading the strategic development of intellectual capital. *The Leadership and Organization Development Journal*, 25(2):142-160.
- Hoffman, J. J., Hoelscher, M. L., and Sherif, K. (2005) "Social capital, knowledge management, and sustained superior performance", *Journal of Knowledge Management*, Vol. 9 Iss: 3, pp.93 - 100
- Hofstede, G. (1980). *Culture consequences: International difference in work-related values*, Beverly Hills CA: Sage Publications.
- Hofstede, G., Neuijen, B., Ohayv, D.D., and Sanders, G. (1990). *Measuring Organizational Cultures: A Qualitative and Quantitative Study across Twenty Cases*, *Administrative Science Quarterly* 35:

- 286–316.
- Hsu, H. Y. (2006). Knowledge management and intellectual capital. Unpublished Phd thesis, Southern Illinois University Carbondale.
- Hung, D., Miyoshi, J., La Torre, D., Marshall, A., Perez, P., and Peterson, C. (2007). Exploring the Intellectual, Social and Organizational Capitals at LA's BEST. CRESST/University of California, Los Angeles, 8(2),4.
- Iltner, C. D., and Larcker, D. F. (1998). Are non-financial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting Research*, 36:1-35.
- Johansson, J. M. (2002). Continuous GPS measurements of postglacial adjustment in Fennoscandia: 1. Geodetic results, *Journal of Geophysical Research*, 107(B8):ETG 3-1–ETG 3-27.
- Kannan, G., and Aulbur, W. G. (2004). Intellectual capital: Measurement effectiveness. *Journal of Intellectual Capital*, 5(3):389-413.
- Kaplan, R. S., and Norton, D. P. (1996). *The balanced scorecard: Translating strategy into action*. Boston, MA: Harvard Business School Press.
- Kirkman, B.L., Lowe, K.B., and Gibson, C.B. (2006). A Quarter Century of Culture's Consequences: A Review of Empirical Research Incorporating Hofstede's Cultural Values Framework', *Journal of International Business Studies* 37: 285–320.
- Lev, B. (2001). *Intangibles – management, measuring and reporting*. New York: Brookings Institution Press.
- Maluenda, J. U. (2006). Support effectiveness. Unpublished master's thesis. Malardalen University.
- Marr, B. (2004). Management consulting practice on intellectual capital: Editorial and introduction to special issue. *Journal of Intellectual Capital*, 6(4):496-473.
- O'Reilly, M., Wathey, D., Gelber, M. (2000). ISO 14031: effective mechanism to environmental performance evaluation. *Corporate Environmental Strategy*, 7(3):267-275.
- Peltoniemi, M., and Vuori, E. (2005). Competitive intelligence and co-evolution within an organisation population. Proceedings of the 6th European Conference on Knowledge Management (ECKM 2005), September 8-9, Limerick, Ireland.
- Pike, S., Rylander, A., and Roos, G. (2002). Intellectual capital management and disclosure. In: *The strategic management of intellectual capital and organizational knowledge*, Choo, C.W. and Bontis, N. (Eds.), pp, 657-671. Oxford University Press, Inc., New York.
- Puntillo, P. (2009). Intellectual capital and business performance. Evidence from Italian banking industry. *Journal of Corporate Finance*, 4(12):97-115.
- Roberts, C. (2003). Uniqueness in definite noun phrases. *Linguistics and Philosophy*, 26(3):287–350.
- Roos, J., Roos, G., Dragonetti, N., and Edvinsson, L. (1997). *Intellectual Capital: Navigating the New Business Landscape*. London: MacMillan Press.
- Seviby, K. E. (1997). The intangible assets monitor. *Journal of Human Resource Costing and Accounting*, 2(1):73-97.
- Skandia (1994). *Visualizing Intellectual Capital in Skandia*, Supplement to Skandia's 1994 Annual Report.
- Taylor, S. E. (2007). Social support. In H. S. Friedman, & R. C. Silver (Eds.), *Foundations of health psychology*. (pp. 145-171). New York, NY, US: Oxford University Press.
- Stewart, T. (1997). *Intellectual capital: the new wealth of organizations*. New York, NY: Doubleday.
- Van Buren, M. (1998). Virtual coffee klatch. *Technical Training*, 9(5):42-46.
- Wang, W. Y., and Chang, C. (2005). Intellectual capital and performance in causal models evidence from the information technology industry in Taiwan. *Journal of Intellectual Capital*, 6(2):222-236.
- Zack, M., McKeen, J., and Singh, S. (2009). Knowledge management and organizational performance: an exploratory analysis. *Journal of Knowledge Management*, 13(6):392-409.