



## Corporate Governance Contribution in Gaining and Retaining Intellectual Capital Leading as a Mediator to Enhance Financial Performance: An Empirical Study

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**Abstract:** The purpose of this paper is to explore and explain the role of corporate governance in retaining existing intellectual capital and gaining new intellectual capital as well, as it seeks to discover the relationship between intellectual capital and corporate governance and their effect on the financial performance. The research tested the corporate governance-intellectual capital relationship in the Egyptian banks listed in the Egyptian exchange and some other non-listed banks. The collected and coded data have been analyzed using path analysis, structural equation model approach. The results suggested that indeed there is a positive relationship between corporate governance and intellectual capital; however, there is not enough evidence that corporate governance can be a mediator between intellectual capital and enhancing the bank's financial performance. The results also unveil that intellectual capital can be a crucial factor in increasing the financial performance of the bank. The findings may be more substantive and conclusive if the sample was larger, as the sample was limited to all the listed banks in the Egyptian exchange and a few other non-listed banks. There has been argument as to whether intellectual capital-corporate governance relationship is quantitatively measurable; this paper proves that intellectual capital-corporate governance relationship can be measured using quantitative data from secondary sources.

**Keywords:** *Corporate governance; Intellectual capital; Financial performance*

### Introduction

Nowadays, it is no longer enough for companies to acquire human capital, companies have to adopt and incorporate structures and processes to effectively deploy, protect and retain human capital. Those sets of processes and structures are what is so called; Corporate Governance. Moreover, the wave of public resentment in the face of the bankruptcy of large firms like Pacifica & Electric Co., Adelphia Common, Global Crossing, K-Mart, Merrill Lynch and WorldCom, in which the economic

damage rose above 100 billion dollars (Aprada & Recalde, 2011), and the saga of events that led to the fall of Enron in 2001 and then the collapse of Arthur Andersen Consulting, turned sharply the attention towards corporate governance. A decade ago corporate governance was barely known but recently corporate governance is the main concern of every corporation. A simple and introductory approach to Corporate Governance (CG) could define it as the set of processes, customs, policies, laws, institutions and other factors that affect the way a firm is



directed, administered or monitors under the separation of ownership and control. (Ramadan & Majdalany, 2013; Apreda & Recalde, 2011; Kalyta, 2011; Clemente & Labat, 2009; Abor & Adjasi, 2007).

A corporation exercises the ultimate power when it allocates resources, which it must do efficiently if it hopes to create value or wealth. To be successful in this regard, the organization must acquire the best resources-financial, material, and human (so-called intellectual capital)-at the best possible price and must use them as productively as possible (Apreda & Recalde, 2011).

So, it deemed important to study the relationship between CG and intellectual capital, especially, recently when the concern of the firm shifted towards organizational capitals that include human and other relatively hidden assets rather than only liquidation assets such as financial and physical-plant capital (Keenan & Aggestam, 2001).

In regard to that, few researches have empirically examined how CG principles influence the effective use and retention of intellectual capital (IC). Therefore, this paper hypothesizes that CG may influence the effective exploitation, use and retention of Intellectual capital which in turns would enhance the financial performance of the firm.

Egypt is considered a developing country and developing nations were known to have different political and economic environments than those of the developed ones as they usually suffer from weak legal and judiciary system, limited human resources skills and capabilities, besides many closed or family companies (Nowar, 2010). Therefore CG rules and principles implementation may be difficult to apply

in developing countries (such as Egypt) than in those developed countries.

In a capitalist system, the ultimate business objective is to maximize resources allocation to create as much economic value as possible and in so doing improve quality of life (Ramadan & Majdalany, 2013). Creating economic value is associated with creating wealth so if the governance system focused on the creation of economic value by making decisions consistent with the corporation's objectives and by achieving the best interest of both shareholders and management and most importantly focusing on gaining and retaining intellectual capital, the firm may enjoy substantial increase in its financial performance.

Therefore, the relationship between corporate governance, intellectual capital and their effect on the financial performance of the firm is of fundamental importance to academics, practitioners and policy maker (Ramadan & Majdalany, 2013; Apreda & Recalde, 2011; Kalyta, 2011).

The structure of the paper is organized as follows: Section 2, briefly discusses the relevant literature. The next section will discuss the data and methodology used in this study. Section 4, provides the empirical results and section 5, concludes the paper.

## 2. Literature review

### 2.1 Corporate governance, Intellectual Capital and Financial Performance.

The role of corporate governance in society is central for it has been acknowledged as a critical factor in economic development and market stability (Apreda

Recalde, 2011). It all started when the gap between management and owners in



corporations grew wider and wider, and the conflict of interest of both became irreconcilable. In other words, Managers pursue their own interests rather than the interests of the stakeholders of the corporations, which they are running.

Power in a company is not absolute because it is always exercised within the guidelines or constrains. In public corporations, the purpose of power is the creation of value, and the structure of shareholder-owned corporations means that the value created must be shared, therefore CG encompasses all the activities associated with exercising power, sharing rights and responsibilities, and organizing the various functions of a company (Clemente & Labat, 2009; Collier, 2008; Abor & Adjasi, 2007)

To sum it up, as the focus of the nineteenth century has been on entrepreneur and the focus of the twentieth century has been on management, the main focus of the twenty-first century shifted towards governance of the companies and how the managers can be accountable to stakeholders of the corporations, which they are running (Keenan & Aggestam, 2001).

More recently, intangibles and knowledge are gaining advantage over the traditional source of value-land, labor and financial capital, and increasing the focus on such intangibles may lead to further progress and successfulness of the organizations (Donnell & Guo, 2011).

Drucker (1993) expected the arrival of a new economy, referred to as knowledge society. He claims that in this society, knowledge is not just another resource alongside the traditional factor of

production-labor, capital, and land-but the only meaningful resource. So, most organizations that have been unable to enhance their knowledge assets have failed to survive (Safieddine, Jamali, & Noureddine, 2008; Bontis, 2004; Nerdrum Erikson, 2000).

The importance of knowledge as a strategic asset can be traced back several thousands of years; it was the ancient Egyptian and Greek civilizations that represented the first evidence of the codification of knowledge for the purposes of leveraging regional power with their implementations of national libraries and universities (Seleim & Ashour, 2004).

When it comes to the definition of IC, the literature is full of many definitions; Stewart (1997) define IC as a collective brainpower useful for knowledge, where experience, information, intellectual property and knowledge can be combined to create wealth (Bontis & Richardson, 2000), Bontis (1998) defined it as the way of effective use of knowledge which is the finished product as opposed to information which is the raw material (Bontis, 1998), and Olve *at el* (1999) regarded IC as an element of the company's market value as well as a market premium (Bontis & Richardson, 2000; Olve, Roy, & Wetter, 1999).

The literature suggested that ignoring intellectual capital is mostly related to weak governance system (Keenan & Aggestam, 2001; Bradly, 1997; Saint-Onge, 1996; Bontis, 1996). For example: the lack of transparency with the employees, unfair reward system and unclear work assignment, help in the dissatisfaction of talented workers and thus, the loss of human capital.



The relationship between corporate governance and intellectual capital is complementary, in which effective CG mechanisms may impact the efficiency of IC management, which include, clear information to stakeholders (Taliyang & Jusop, 2011; Clemente & Labat, 2009).

In the past, CG focused on financial and physical resources but recently after discovering that the intangible resources are vital elements of competition among companies, CG members have shifted the focus to those intangible resources (Safieddine, Jamali, & Nouredine, 2008). It can be concluded, that IC alone would not contribute in gaining competitive advantage in the absence of proper management and deployment that the CG enforce.

## **2.2 Intellectual Capital and Financial Performance**

Intellectual capital is the “knowledge and knowing capability of a social collectivity, such as an organization, intellectual community, or professional practice” (Keenan & Aggestam, 2001), it is also the richness of the ideas and innovations embodied in the organization that can help in creating a better future for the organization and the society as a whole (Sharabati & Jawad, 2010). So, the intellectual capital of an organization depends on the conversion of knowledge into something of value.

Intellectual capital resources constitute a vital component and strategic asset as they cultivate the growth of any organization, besides their management is a crucial driver of successful financial performance. Moreover, IC now has turned to be an element of competition among companies which strive to attract

the most valuable and skillful resources (Aprada & Recalde, 2011; Chang & Hsieh, 2011; Ramadan & Majdalany, 2013; Safieddine, Jamali, & Nouredine, 2008). So, it can be expected that existing IC enhances the institution's ability to attract more competent IC.

The existing literature argues that intellectual capital is composed of three sub-constructs: human capital, structural capital, and customer capital (some other writings refer to it as relational capital)

Human capital, which considered one of the core components of IC and is a critical resource in many industries, it represents the individual knowledge of an organization as represented by its employee. While structural capital is the non-human intelligence or knowledge in the organization which include the databases, organizational charts, process manuals, strategies and policies. Finally, customer/relational capital reflects the ability of the firm to deal with its customers or its business community members to create wealth by enhancing the knowledge of both human and structural capital (Bontis & Richardson, 2000; Roos, Edvinsson, & Dragonetti, 1997).

On one hand, Chang (2011) concluded that a company's IC in general has a negative impact on its financial and market performance. However, the association between innovation capital which captured Research & Development expenditure Efficiency (RDE) and companies' operating, financial and market performance is significant (Chang & Hsieh, 2011).

On the other hand, Sharabati and Jawad (2010) in their study of IC in



pharmaceutical sector in Jordan, concluded that intellectual capital variables and sub-variables had a substantive and significant relationship with business performance. Furthermore; the results of this study have shown that there is in fact strong and positive evidence that pharmaceutical firms in Jordan are managing intellectual capital effectively and that in turn is influencing business performance positively (Sharabati & Jawad, 2010).

Moreover, many other studies empirically proved that, there is indeed a significant relationship between intellectual capital and the company's performance. Also suggested that innovative capacity and process reformation shall be considered first, and through the human value-added of human capital, firms can improve their company's performance (Cheng, Hsiao, & Lin, 2010; Seleim & Ashour, 2007; Seleim & Ashour, 2004; Keow & Richardson, 2000).

## Data and Methodology

### 3.1 Hypotheses Development

#### 3.1.1 The Impact of Corporate Governance and Intellectual Capital on the Financial Performance of the Firm

Prior researchers found that scientists on the board of directors have a positive impact on firm value in knowledge-intensive sector. The number of scientists on the board significantly increases the firm's IC. Furthermore, the appointment of scientists to the board of directors lead to positive stock returns in knowledge-intensive sectors. On a more general level, the findings highlight that the board's intellectual capital is an important dimension of corporate governance and a source of

organizational value creation and thus enhancing the financial performance of the firm (Kalyta, 2011).

Also, some prior literature concluded that without good CG, it is difficult to manage a firm and implement successful strategies and projects. The problems of contract incompleteness in a relationship are resolved by an appropriate allocation of power, through ownership of intellectual capital and promotion of responsibility. In this contest, ownership of physical assets is a useful instrument to bond excess power-seeking and enhances the financial performance of the firm. (Rocca, La Rocca, & Cariola, 2007). Therefore, the following relationship is suggested:

*H1:* There is a positive impact of CG and IC on the financial performance of the firm.

#### 3.1.2 The Impact of Corporate Governance on Intellectual Capital

On one hand, some studies suggested that CG and IC are indeed related and that they view CG as a major factor for IC attraction. They also considered that existing IC enhances the firm's ability to attract more IC (Ramadan & Majdalany, 2013; Taliyang & Jusop, 2011; Safieddine, Jamali, & Nouredine, 2008; Keenan & Aggestam, 2001).

On the other hand, a study concluded that intellectual capital theory and corporate governance theory do not have a clear demarcation yet. Both have constructed revolutionary and mighty paradigms. Their rationality, semantics and contents are in a process of constant evolution, growing, consolidation and consensus expansion (Apreada & Recalde,



2011). Therefore, the following relationship is suggested:

*H2*: Good governance system enhances the abilities of IC.

3.1.3 The Impact of Intellectual Capital on the Firm’s Financial Performance

Most of the study’s results showed that the intellectual capital variables and sub-variables had a substantive and significant relationship with business performance; most of the empirical findings suggested a significant relationship between intellectual capital and the company’s financial

performance(Sharabati & Jawad, 2010; Santidrian, 2010; Cheng, Hsiao, & Lin, 2010; Seleim & Ashour, 2007).

In contrast, one study showed that, a company’s IC in general has a negative impact on its financial and market performance. However, the association between innovation capital and companies’ operating, financial and market performance is significant (Chang & Hsieh, 2011). Therefore, the suggested relationship is:

*H3*: There is a strong relationship between IC and financial performance

**3.2 Variables Measurement**

3.2.1 The First Variable of the Research (the Mediator): The Corporate Governance and Its Measures.

3.2.2 The Second Variable of the Research (the Exogenous): Intellectual Capital and Its Measures.

3.2.3 The Third Variable of the Research (the Endogenous): Financial performance and Its Measures

**Table 3-1: Corporate Governance Measures**

CG indicators	Measures	Source
<i>Bank Size</i>	Log of book value of total assets	Annual report
<i>CEO Duality</i>	Coded 0/1 - Coded 1 for separated CEO and Chair roles, and 0 otherwise	Annual report
<i>Board Size</i>	Log of total number of executive and non-executive directors that make up the board	Annual report
<i>Board Independence</i>	Ratio of the outside board members	Annual report
<i>Audit Committee</i>	Coded 0/1 - Coded 1 if there is a AC and 0 otherwise	Annual report





<i>Remuneration Committee</i>	Coded 0/1 - Coded 1 if there is a RC and 0 otherwise	Annual report
<i>Type of audit firm</i>	Coded 0/1 - Coded 1 if It is audited by one of the Big 4 international independent audit firms and 0 otherwise	Annual report
<i>Online Financial statements or reports</i>	Coded 0/1 - Coded 1 if there are Online Financial statements or reports and 0 otherwise	Website
<i>Website</i>	Coded 0/1 - Coded 1 if there is an updated website and 0 otherwise	Internet

**Table 3-2: Intellectual Capital Measures**

	Measures	Comment	Source
<i>Intellectual Capital measured By Value Added Intellectual Coefficient Model</i>	Value Added	Output-Input	Annual Report
	Human Capital	65% of the administrative Expense	Annual Report
	Structural Capital	Value added- human capital	Annual report
	Relational Capital	Book value of net assets	Annual Report

**Table 3-3: Financial Performance Measures**

Variable	Measures	Comment	source
<i>Organization Performance</i>	ROA	Dividing net profit after tax by total assets	EGX
	ROE	Dividing net profit after tax by shareholders' equity	EGX

### 3.3 Data Collection and Analysis

The sample size is limited to the banks listed in EGX, which are eleven banks only based on the EGX website. Those banks are Commercial International Bank (CIB), Qatar National Bank Alahly (QNB), Al Baraka Bank- Egypt, Faisal Islamic Bank of Egypt (FIB), Credit

Agricole-Egypt (CAE), Egyptian Gulf Bank (EGB), Suez Canal Bank (SCB), National Bank Of Kuwait- Egypt (NBK), Union National Bank- Egypt (UNB), Societe Arabe Internationale De Banque (SAIB), and Abu Dhabi Islamic Bank (AIB).



Furthermore, only the data of five international and private banks were available for the researcher, as most of the banks in Egypt have an inadequate disclosure of their financial positions. Those banks are; Arab African International Bank (AAIB), Misr Bank, Housing and Development Bank, National Bank for Development and HSBC.

Data related to the indicators of CG implementation in the banks were obtained from the most active companies EGX book and the bank's annual reports published online. At the same time, the data related to the bank's IC and financial performance was obtained from the financial statements of each bank. The researcher preferred using secondary data to ensure a precise and reliable outcome.

The collected and coded data have been analyzed using path analysis. Path analysis is used mainly in the attempt to understand comparative strengths of direct and indirect relationship among a

set of variables, in this way it is unique from other linear equation models as it has a mediated pathway in which this pathway can be examined (Nowar, 2010). Factor analysis is used, to combine the nine indicators of CG in to two factors, the four indicators of IC into one factor and the financial performance indicators into one factor. By so doing, it is much easier and quicker to measure than without using the factor analysis.

Software like, AMOS, SAS, and LISREL...etc. is used those days to calculate the path coefficient and goodness of fit statistics automatically, in this study AMOS software was used.

**Empirical Results**

**4.1 Descriptive Results**

Reported results in Table (4-1) include the mean, standard error, skewness, statistical value and significant (based on Kolmogorov-Smirnov approach) of each nominal variable of the study

**Table 4-1: Summary of the normality distribution of the variables measures**

Measures	Mean	Standard Error	Skewness	Kolmogorov-Smirnov Statistics	Significance
VA	20.2407	0.17259	-0.219	0.1770	0.006
HC	19.4042	0.13520	-0.752	0.111	0.200
SC	19.3292	0.27967	-0.653	0.201	0.001
RC	19.3446	0.14797	-0.213	0.153	0.032
Bank size	23.9685	0.13470	-0.518	0.146	0.050
Non-Executive members	0.7620	0.05819	-1.065	0.288	0.000
Executive members	0.5338	0.05195	0.092	0.245	0.000
Total number of members	1.0792	0.01720	0.004	0.220	0.000
ROA	1.6285	0.1027	0.065	0.081	0.200
ROE	16.8014	1.33809	1.470	0.118	0.014





4.2 Path Analysis Results  
 4.2.1 The First Hypothesis

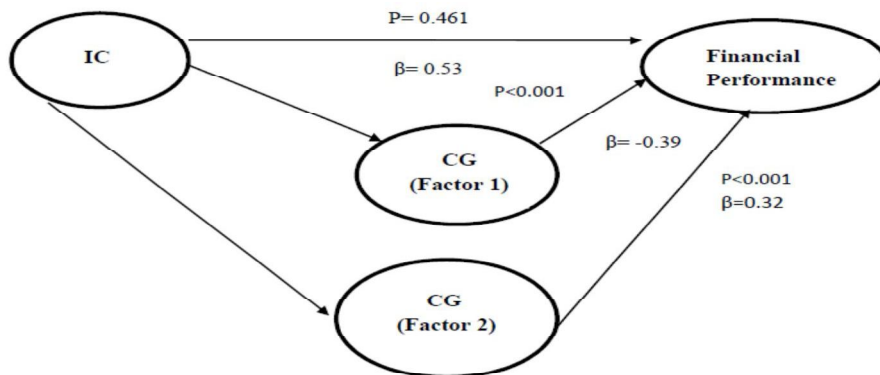


Figure 4-1: Path analysis results for the impact of IC and CG on financial performance

The result of the path analysis to test the relation between IC, CG as a mediator and the financial performance of the firm as shown in figure (4-5), indicated that, the calculated level of significance (P value) for IC-financial performance relation, is greater than the predetermined level of significance (0.05, 5%), while, the estimate ( $\beta$ ) is greater than the predetermined estimate (0.20, 20%), which means that there is a significant effect of IC on the bank's financial performance:

Moreover, the calculated level of significance for CG1, CG2 and the bank's financial performance relation is less than the predetermined level of significance, besides, the level of estimate of CG1 on the banks financial

performance has a negative effect (-0.39) and CG2 has a positive effect (0.32), which means that, CG1 as a mediator has a negative effect on the bank's financial performance, while CG2 as a mediator has a positive effect on the bank's financial performance, however, both of has no significant effect (P value less than 0.005).

Thereupon, this non-significant relationship of CG as a mediator between IC and financial performance, led the researcher to reject the first hypotheses. The following equation summarizes the relationship between the three variables:

$$\text{Financial performance} = 0.53IC - 0.39CG1 + 0.32CG2$$



4.2.2 The Second Hypothesis

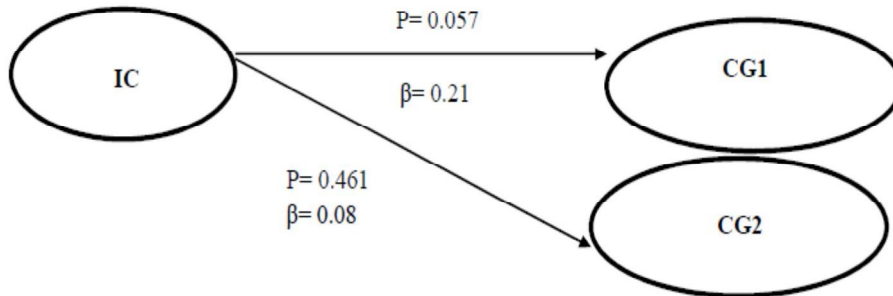


Figure 4-2: Path analysis results for the impact of CG on IC

The result of the path analysis to test the relation between IC and CG1 as shown in figure (4-6), indicated that, the calculated level of significance for IC-CG1 relationship is greater than the predetermined level of significance (i.e. 0.057), while the estimate is greater than 20% (i.e. 21%). This indicates that there

is a significant positive effect of CG1 on the bank's IC. Note that, CG1 include, CEO duality, audit committee, the ratio of the independent board members to the total number of members and the number of executives and non-executives' members.

4.2.3. The Third Hypothesis

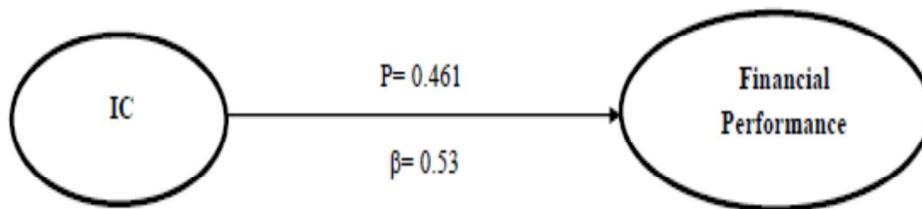


Figure 4-3: Path analysis results for the impact of IC on financial performance

Furthermore, the path analysis result to test the relation between IC and CG2, indicated that, there is no effect (as the  $\beta$  is smaller than 0.20), while, the level of significance is higher than the predetermined level (i.e. 0.46). This means that, there is a significant non-effect of CG2 on IC. Note that, CG2 include, on-line financial statements. The result of the path analysis to test the relation between IC and the financial

performance of the firm as shown in figure (4-2), indicated that, the calculated level of significance for IC-financial performance relation, is greater than the predetermined level of significance (0.05, 5%), while, the estimate ( $\beta$ ) is greater than the predetermined estimate (0.20, 20%), which means that there is a significant effect of IC on the bank's financial performance.



Therefore, the third hypothesis is accepted based on the path analysis

#### 4.3 Discussion of the Results

The first hypothesis developed for this research, was supporting the view of corporate governance principles affect the retention of existing and the gaining of new intellectual capital, which in turn, may enhance the financial performance of the firm. Surprisingly, the empirical results indicated that in Egypt, corporate governance implementation doesn't affect the relation between intellectual capital and financial performance, in other words, CG is not a good mediator between IC and the firm's financial performance. So the first hypothesis was rejected. These results support the view of Apreda & Recalde (2011), in which they have concluded that intellectual capital theory and corporate governance theory do not have a clear demarcation yet. Both have constructed revolutionary and mighty paradigms. Their rationality, semantics and contents are in a process of constant evolution, growing, consolidation and consensus expansion (Apreda & Recalde, 2011).

The second and the third hypotheses were accepted as the empirical results indicated that there is a significant impact of CG on IC and that by the right adaptation of the CG principles in the Egyptian banks, the IC may significantly increase, those results support many of the previous studies which claimed that CG is an important factor for the retention of IC (Kalyta, 2011; Cheng,

results. The equation that summarized this relation is:

$$\text{Financial performance} = 0.53IC$$

Hsiao, & Lin, 2010; Collier, 2008; Keenan & Aggestam, 2001).

The third hypothesis was accepted because the empirical results indicated that there is indeed a significant impact of IC on the bank's financial performance, which means that, by increasing the IC, the banks may enjoy higher returns. Many previous studies reached the same conclusion (Chang & Hsieh, 2011; Sharabati & Jawad, 2010; Seleim & Ashour, 2007; Bontis, 2004; Seleim & Ashour, 2004; Fitz-enz & Bontis, 2002; Keow & Richardson, 2000). Most of the relevant literature surrounding IC and CG in Egypt, used perception-based questionnaires, but few studies have used financial data. This study adopted financial data using different indicators of CG and different components of IC. Some of the results achieved, supported the previous literature, while, others did not.

In summary, one of the three hypotheses was rejected, while the other two were accepted. Therefore, it can be said that, CG implementation in Egyptian banks may significantly affect the bank's IC in a positive way, but cannot act as a mediator for enhancing the financial performance, this may be, due to several factors, or several contingent variables that were not tested in this research. The other two accepted hypotheses indicate that, if the Egyptian banks focused more on enhancing the abilities of their IC, their financial performance might significantly increase, in addition to that, by adopting good governance system, they may enjoy the retention of their IC and even the attraction of new IC.



## 5. Concluding Comments

The target of this paper is to address the persistent problem that CG is facing, which is the increasing shift towards knowledge-intensive organizations, thus the increasing importance of IC.

Nsour (2001) argued that for the Arab countries to develop in such a changing economic conditions, they have to change the existing processes, mindsets and methods by altering the industrial mentality to the human capital mentality (Ramadan & Majdalany, 2013; Nsour, 2001).

It is worth to be said that, based on the study's results, in Egypt many successful banks realize that investing in knowledge is essential for their ability to create wealth and increase the value of their products, however, they attempt to ignore the importance of IC because of the challenges they face in measuring it. Based on the literature review and the empirical assessment of this study's hypotheses, the following can be concluded:

□ There is no significant impact of CG on IC as a mediator for enhancing the bank's financial performance.

□ There is a positive impact of CG principles implementation on the bank's IC.

□ There is a significant relationship between CG principles and IC.

□ There is a positive impact of IC on the bank's financial performance.

Therefore, managers need to make sure that solid corporate governance principles are in place and that good relationship are developed with their stakeholders, to be able to achieve the best financial results. On the other hand, employees-who are the human capital of the firm, need to understand the principles of CG

and to act in the best interest of their firm by adapting those principles in the most accurate way. In addition to that, the board of directors should invest more in the infrastructure of the firm-which is the structural capital-to ensure the safety and the satisfaction of their employees as well as shareholders. Finally, self-monitoring behavior and fair rewarding system are the most important pillars of success for any firm.

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