



# The Relationship between Intellectual Capital and Competitive Advantages in Financial Public Sector with Application at Banque Misr in Egypt

Dr . Marwa Sayed Mohamed Hussein

Lecturer at Business Administration Department  
Modern Academy for Computer Science  
and Management Technology in Maadi, Egypt  
marwas14@yahoo.com

## Abstract

*The main purposes of this research are to explore the intellectual capital, clarifying the dimensions of intellectual capital, in addition to investigate the relation between the components of intellectual capital and competitive advantage in the financial public sector. The research population focuses on the Egyptian public banks. Literature review, journals and books are used in describing the theoretical framework such as components of intellectual capital and the competitive advantages that also help in analyzing the relationship between the intellectual capital and competitive advantages. Previous studies rarely examined the connection and relevancy of intellectual capital, and the competitive advantage in the financial public sector especially in the public banks.*

*The research concluded a set of results; the most important is that there is a significant positive relationship between the intellectual capital and competitive advantage in public banks. Finally, the research recommended a set of recommendations that would support decision makers to promote competitive advantage.*

**Keywords:** Intellectual Capital, Competitive Advantage.

## Introduction

Nowadays in the business environment, The world of has gradually moved away from tangible asset such as land, natural resources, equipment, etc. as a source of success to intangible asset. Intellectual capital is a concept that deals with intangible asset and resources possessed either by the organization or its employees, it includes the wealth of the ideas, skills and innovation. Some management experts used to describe intellectual capital as terms that creating value and enhancing the competitive advantage and the success of an organization (Obeidat et al., 2017). Therefor intellectual capital consider as one of the most critical factors that bring competitiveness in all organizations.

## Theoretical Framework

### Problem statement

The intellectual capital is one of the most important sources of power, which gives the organization preference to its competitors. Despite the importance of this fact, administrative leaders are often preoccupied with ways of applying regulations and instructions on their financial existence and ignoring the importance of their intellectual assets. Therefore, the purpose of this study is to increase our knowledge and understanding the relationship between the intellectual capital and competitive advantage. Therefore, the main question of this research is:

---

\* This article was submitted in August 2020, and accepted for publishing in September 2020.

DOI: 10.21608/aja.2022.273284

- What is the nature of the relationship between the intellectual capital and competitive advantage in the financial public sector?

To answer this major question, the research intends to find answers to the following questions:

- What is the meaning of intellectual capital? What are the components of the intellectual capital?
- What is the meaning of competitive advantage?
- How does the intellectual capital affect the bank's ability to achieve competitive advantage?

### Research Importance

- 1- The study importance stem from its dealing with important topic which is the intellectual capital and linking it with achieving competitive advantage in an important sector in Egypt which is the financial sector.
- 2- Identify the most effective method in managing the intellectual capital in Egyptian banks in order to enhance their competitiveness
- 3- Presenting the results of the study to Egyptian banks officials in order to achieve maximum benefit from them.

### Research Objective

- 1- Exploring and defining the concept of intellectual capital and competitive advantage.
- 2- Clarifying the dimensions of intellectual capital in literature.
- 3- Examining the relationship between intellectual capital and the competitive advantage in the financial public sector.
- 4- Provide some information, recommendations and suggestions for researchers and interested parties as well as to decision makers in the public banks.

### Research Methodology

#### Research Design

The design of this study has both of descriptive part which found in the theoretical part and Quantitative part which found in the applied study. Theoretically, the researcher adopted the analytical approach to define the main concepts, find out the Importance, Characteristics and components of each Intellectual Capital and competitive advantages. Also the researcher used the applied study to investigate the correlations between the intellectual capital and competitive advantages. In order to accomplish the objectives of the applied study, the research set out the following hypotheses:

The main hypothesis of this study is:

There is a significant positive relationship between the intellectual capital and competitive advantages. The sub-hypotheses are:

- H1 : There is a significant positive relationship between the human capital and competitive advantages.
- H2: There is a significant positive relationship between the structure capital and competitive advantages.
- H3 : There is a significant positive relationship between the relation capital and competitive advantages

#### The Research Variables

The search variables are:

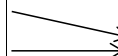
- The independent variable is intellectual capital
- A dependent variable is competitive advantage

#### Independent Variable

Intellectual Capital
1- Human capital
2- Structural capital
3- Relation capital

#### Dependent Variable

Competitive Advantage
- Cost
- Quality
- Innovation
- Customer Responsiveness



### ***Population, Sample and Selection of the Sample :***

The sample survey was conducted during May 2020, the population of Banque Misr at Cairo branches where are about 1280 persons . Because of Corona vireos and the decision to reduce employees, the researcher was hardly able to distribute only (128) sample of survey, which means 10% of the population. Only (83) persons responded to the sample. This sample was randomly selected.

### ***Data Analysis Techniques***

- A- ***Building indicators:*** statistical technique to combine group of related questions (or factors) in one indicator. The indicators are composed by using equal weights method. That is each indicator is calculated by adding the scores of questions which are related to this indicator, and then this sum is divided by the number of related questions. These created indicators in the row form are used in answering the hypotheses.
- B- ***Alpha- Cronbach :*** The internal consistency coefficient (Cronbach's Alpha) reflects the reliability of a scale. It captures the proportion of total variance that is common to all items that form the scale, which presumably corresponds to the underlying construct being measured. Cronbach's alpha takes values between 0 and 1. The nearer the Cronbach's alpha to 1, the better the stability of the questionnaire is. More precise we say that the questionnaire is stable if Cronbach's alpha are greater than 0.5.
- C- ***Correlation Analysis:*** correlation analysis aims to know the direction and the strength of a relation between two variables. In this research Pearson correlation coefficient is used to measure the correlation between two numerical variables, it assesses how well the relationship between two variables can be described using a monotonic function. A perfect Pearson correlation of +1 or -1 occurs when each of the variables is perfect correlated to the other. When the coefficient is positive the relation is direct while when it's negative then there is inverse relation. It takes values between -1,1, the relation is weak if absolute value of coefficient between 0,3 and moderate if it is between 0.3,0.6 and strong if it is greater than 0.6. we decide if there is significant relation at 95% confident or not if the p-value is less than 0.05.
- D- ***Regression Analysis:*** regression analysis aims to select all the independent variables that are believed to have significant effect on the dependent variable to be included in the model. The mathematical representation to the model used to describe the relationship between the dependent variable and other independent variables depend on the nature of the dependent variable. The multiple linear regression model is used when the dependent variable is of ratio scale; the multiple linear regression model is used to test the effect of each of the independent variables on the dependent variable. The estimated model provides the direct effect of each independent variable on the dependent variable. Such effect is the net effect after fixing all effects of other independent variables included in the model. The multiple linear regression model seeks the best model that minimizes the vertical distance between the fitted line and the observed value of the dependent variable. Step wise regression is used to determine which variables have significantly effect on the dependent variable. This is done by using the ordinary least square (OLS) (Chatterjee and Hadi, 1988). As any model, regression model has assumption, which are:
- 1- Normality of dependent variables assumption must be checked before fitting the model. Normality assumption is one of the most important assumptions of regression analysis assumptions. To test this assumption One-Sample Kolmogorov-Smirnov Test which is non-parametric test for testing normality of data is used, Null hypothesis of this test is "variable is follows normal distribution", so if p-value is greater than 0.01 or 0.05 then we do not reject normality of the dependent variable.
  - 2- No Multicollinearity: Multicollinearity defined as a linear relation between explanatory variables, and can be checked through Variance Inflation Factor (VIF). Multicollinearity is suspected if the VIF value is greater than 10.

- 3- Linearity is also one of the assumptions of regression model. The linearity can be checked visually by plotting standardized residuals versus predicted values. If the scatter plot is random around zero then the linearity is confirmed. If the scatter points show pattern then the linearity is suspected. Note that linearity means there is linear relation between dependent and all independent variables, i.e. it does not measure for each independent variable.

## **Literature Review:**

### **First: Intellectual Capital**

The intellectual capital concept is considered as one of new concepts that emerged at the end of the 20th century and the beginning of the 21st century. This concept refers to mental production and innovation. Which considered now as the real source of business organizations wealth, the excellence mine, value creation and success and competition method. This study reviews some literature on intellectual capital to explore the meaning of intellectual capital, importance, Characteristics and components of Intellectual capital in a way that provides a useful understanding.

#### ***Definition of Intellectual Capital***

There are many definitions of intellectual capital, (Hamel and Heene, 1994) were among the first scholars to explain that the intellectual capital is a unique ability that the organization excels over its competitors to achieve integration in the different skills that individuals possess, and which contribute to increasing the value offered to buyers; it is a source of a competitive advantage. (Hunter et al, 2005) defined it as intangible recourse that may generate value in future. (Stewart, 1997) has defined it as the intellectual knowledge, information, belongings, experience – that may be put to use to form wealth. (Model and Ghosh 2012) defined it as Intangible assets or intangible business factors of the corporate, which have a big impact on its performance and overall business success, although they're not explicitly listed within the record.

The researcher considers that intellectual capital is a group of intellectual contributions which provided by distinguished employees in the organization, who have skills, abilities and mental abilities and knowledge, and because of these employees the organization can increasing its value locally and globally.

#### ***The Importance of Intellectual Capital:***

Through the concepts of intellectual capital we find that it has great importance which can be summarized in the following points:

- 1- Intellectual capital is the strongest weapon and the foundation of the institution, because the intellectual presence is a hidden force to ensure its survival and continuity.
- 2- Intellectual capital is a treasure buried within the institution that needs to be sought and extracted to exist and practice, for successful investments and high returns to the institution.
- 3- Intellectual capital is considered a strategic resource for the institution as it helps to generate wealth for itself and individuals and develop it.
- 4- Intellectual capital contributes to the establishment of smart organizations that require the availability of distinct minds intelligent and capacity

#### ***The Characteristics of Intellectual Capital:*** (Elsaid Hany, 2008)

- 1- Intellectual capital is independent in thought and action.
- 2- Represents an intangible asset.
- 3- Intellectual capital interacts more positively in a decentralized administrative environment in decision-making.

- 4- Intellectual capital represents knowledge that can be converted into profits.
- 5- Intellectual capital exists in all administrative levels, but to varying degrees.
- 6- The difficulty of separating intellectual assets from each other.
- 7- The difficulty of putting some intellectual assets under the control of business organizations.
- 8- The difficulty of measuring and evaluating many intellectual assets.

### ***The Components of Intellectual Capital***

Intellectual capital (IC) includes three primary interrelated components: (Edvinsson and Malone, 1997)

- 1- ***Human Capital (HC)***: Is the knowledge, experiences, capabilities and skills that are related with the employees and which are used through them within the organization (Subramaniam and Youndt, 2005).
- 2- ***Structural Capital (SC)***: Is supportive framework that gives physical form and power to human capital, as well as an organized capacity that includes the tangible system intended for communications or the storage of intellectual materials.
- 3- ***Relation Capital (RC)***: Represents on organizations relations with its external stakeholders and the perceptions.

### ***Human Capital***

Human capital can be viewed as the foundation of intellectual capital and the most important component in the performance of the intellectual capital activities. (Bontis, 1998) explain human capital as knowledge of people in a firm. Also (Swart, 2006) identify the human capital as a critical and strategic source of creativity and innovation in any business. Also the research conducted by (Joia, 2007), indicate that human capital tends to be the key driver of growth in a firm.

### ***Human Capital Includes:***

professional competence and social competence,

- Professional competence can be defined as the experience and the expertise that has been gained during the work, such as training, experience and courses.
- Social competence, includes the interpersonal skills, the ability to relate well with others, ability to communicate and the ability to discuss in a constructive way; Social competence enhances good cooperation and learning ability of the employees and motivating them (Swart, 2006).

Now many Organizations may require the employees to have a professional knowledge and qualification in certain areas since such employees may contribute more in the value creation process in the firm.

### ***Structural Capital***

Consider also an important part of the organizational performance. The processes, culture, management, and technological knowledge are important factors that affect organization performance (Herzog, 2011). Therefore; most experts are considering the structural capital as a part of the intellectual capital which can boost the organizational performance (Gamal et al., 2011).

### ***Relational Capital***

(Mondal, 2012) defined relational capital as the knowledge that can effect on the relationships with stakeholder. It includes; customer relationships, the supplier relationships, the public relationships, and the investor relationships.

- a- Customer relationships: can be defined as an intangible asset if a contractual relationship exists (Daum, 2003), which means provide good customer service to build good relationship with the customers.
- b- Supplier relationships, relate to the relationship with the suppliers including the current and potential suppliers. Managing the supplier relationships means undertaking activities which improve relations during purchasing. For example purchase and sales, orders can be identified as an intangible asset and may even sometime be recognized in the financial statements (Nahapiet, 2000).
- c- Investor relations, businesses take actions that improve the investor relationships such as those that provide accurate information to the investors to aid them in decision making.

## **Second: Competitive Advantages**

The competitive advantages are one of the most important strategic elements in providing an essential opportunity for the organization to generate greater value for a firm and its shareholders compared to its competitors.

### ***Definition of Competitive Advantages***

The business literature has recently focused on the competitive advantages that would serve as strategic capabilities for organizations; this capability help in creating, developing, and maintaining the competitive advantage. However, the competitive advantage can defined as the aspects that an organization's system must own in order to enhance the market demand in the marketplace that organizations are looking to compete in (Krajewski and Ritzman, 1993). In the same direction (Phusavat and Kanchana, 2007) identified the main criteria's of competitive advantages can represent for example at Time, Cost, Quality and Innovation.

The competitive advantages can also defined as the ability of the organization to apply new production processes that have not been applied in competing organizations (David, 2009). ( Heizer & Render, 2008) defined it as a process of finding or creating a system that has a unique advantage that is superior to that of competitors and that the idea focuses on creating value that is provided to the customer in an efficient way .

### ***The Basic Factors that Build the Competitive Advantage***

There are four factors that build competitive advantage: cost, quality, innovation, and customer's responsiveness (Hill and Jones, 1998). Any organization can adopt factors regardless of their products or services provided by all these elements integrated with each other, (Hill & Jones, 2010).

- 1- **Cost**: It means the organizations have ability to design, manufacture and market a product or service at a lower cost than other organizations, which lead to great return by reducing waste while maintaining the required quality.
- 2- **Quality**: The quality concept refers to excellence and reliability of products. The high quality gives the company many advantages, including the good reputation that allows the company to provide products that vary remarkable from its competitors and therefore create customer responsiveness, which gives the organization the chance to increase the prices for its products. Also it means eliminating defects and errors that occur in the production process, reducing waste, increasing efficiency, and lowering the cost structure of the organization in order to increase its profitability. Innovation.
- 3- **Innovation**: Innovation consider as the most important factors of competitive advantage. It leads to new products that aim to better satisfy customer needs by improving quality or reducing cost, so if the company seeks to maintain the competitive advantage, it must have a continuing commitment to innovation, because competitors are always trying to imitate successful innovations.

- 4- **Customer Responsiveness:** Responding to customers is a special and important feature provided by any organization because it helps build brand loyalty and strong product differentiation. This benefits the organization by giving it more pricing choices. The organization that is more receptive to the needs of its customers than its competitors will have a competitive advantage and can get the response of the customers by giving them what they want. To achieve superior responsiveness to customers, the organization has to listen to its customers, explore their needs and identify them and need to pursue better ways to satisfy those needs continuously.

### **Third: The Relationship between Intellectual Capital and Competitive Advantages**

Competitive advantage is a concept that means much more than the financial performance and shareholder value; these are both a measurement at a moment in time, usually short-term. Today's, globally competitive environment requires speed, dynamic capabilities, fast responsiveness and flexibility, and shift the objective of the organizations from profit maximization to value maximization. Hence the value of the firm that is generated through the intangible assets and more specifically through the intellectual capital carries more importance than financial profit.

We can obtain the competitive advantage when a firm develops a distinctive core competency (Hoffman et al., 2006) and mobilizing their intangible assets in the form of knowledge, experience, technological skills, and employee capabilities to create new processes and offering new services (Tovstiga and Tulugurova, 2007).

#### ***The Relationship between Human Capital and Competitive Advantages***

The presence of natural, financial and technological resources is not sufficient to achieve a competitive advantage, but it is necessary to have human competencies that have the ability to think, innovate and create to maximize the benefit from those resources. These competencies must be distinguished by the following: (Olalia, Marta Fossas, 1999)

- create added value for the organization.
- Rarity and distinction from what competitors have
- Support and training are continuing to develop the performance of these competencies

#### ***The Relationship between Structural Capital and Competitive Advantages***

In order for the organization to raise its market value and achieve a competitive advantage, it must rely on a comprehensive, integrated development process in structural capital, and this can be done through the following:

- Encouraging and developing the creativity and participation capabilities of individuals and disseminating knowledge in order to increase productivity.
- Intensifying activities and developing the infrastructure to adapt them to the changes required by the internal and external environment of the organization, for example, the acquisition of the latest information systems, software and databases.
- Adopting an appropriate organizational structure that encourages individuals to do more.

#### ***The Relationship between Relational Capital and Competitive Advantages***

Relational capital reflects the strength of the relationship between the organization and its customers and suppliers, as the starting point for any organization is the customer and the end point is to maintain existing customers and acquire distinguished clients and meet their needs as well as maintain existing markets or gain new market shares. And this can be done through the following:

- Carrying out serious and effective market research and studies.
- Measuring the size of clients and their affiliation with the organization.
- To have a distinct strategic relationship with customers and suppliers.



## Empirical Study

Banque Misr is one of the public banks that operate in Egypt. The bank was established in 1920 by Mohamed Talaat Harb to demonstrate sustainable economic growth. , the approach that bank adopted focused three points: attaining financial profit, having a sustainable impact and a mission to develop a strong national economy. The bank serving about 10 million clients in Egypt and has international presence in other countries like : United Arab Emirates , France, Lebanon , Germany, China, Russia, South Korea and Italy .

## Creating Indicators

8 indicators are created in this research; these indicators represent the research variables. Each indicator is created by averaging the questions which measure this question. The following table represents the created variables:

**Table (1): Created Variables of the Study**

Variable	Number of Questions Measure the Variable
Human Capital	8
Structural Capital	5
Relation Capital	4
Cost	3
Quality	4
Innovation	3
Customer Responsiveness	3

### Analysis of Constructs Validity and Reliability

#### Cronbach Alpha and AVE.

The internal consistency coefficient (Cronbach’s Alpha) reflects the reliability of a scale. It captures the proportion of total variance that is common to all items that form the scale, which presumably corresponds to the underlying construct being measured, and average inter-item correlation to measure intrinsic validity , also, AVE is a measure of the amount of variance that is captured by a construct in relation to the amount of variance due to measurement error. Cronbach’s Alpha reflects that good reliability of questions as ranged from (0.693 to 0.985. Also, inter-item correlation for all items is greater than 0.5 which support the intrinsic validity of the questionnaire. Regarding the AVE all values are greater than 0.7 which indicates that that the amount of variance that measured by the construct is greater than 70%.

**Table (2.): Reliability of Questionnaire in Each Category by Using Cronbach’s Alpha Coefficient**

	Cronbach’s Alpha	Average item Correlation	Average Variance Extracted (AVE)
Human Capital	0.693	0.882	0.726
Structural Capital	0.963	0.972	0.873
Relation Capital	0.968	0.977	0.913
Competitive Advantage	0.985	0.987	0.851

From the table above, the numbers reflect that all the variables of the study seem to stable, reliable and valid.

### Sample Characteristics (Demographic and Professional Characteristics of Respondents):

Table (3) provides some descriptive statistics of the sample to give a general view of the demographic and professional characteristics of respondents.

**Table (3): Sample Description According to the Basic Characteristics of Respondents**

Variable	Gender		Age				Education			
	Male	Female	Less than 30	30-40	40-50	More than 50	B.Sc.	Master	Phd	Total
Number	65	18	36	27	11	9	76	6	1	83
Percentage	78.3%	21.7%	43.4%	32.5%	13.3%	10.8%	91.4%	7.1%	1.4%	100%
Variable	Job Title		Work Duration			Total				
	Manager	Employee	Less than 5 years	5-10 years	More than 10 years					
Number	29	54	35	21	27	83				
Percentage	34.9%	65.1%	42.2%	25.3%	32.5%	100%				

- The previous table indicates that the sample consists of 65 males and 18 females, this is normal in banks.
- For age variable the results indicate age groups diversity for study sample subjects, so this serves



study objectives. This ensures investigating views of age levels, which have accumulated experience to determine the impact of intellectual capital on achieving competitive advantage. The researcher found that the majority of the age was (less than 30) is 43.4%, while 32.5% aged between (30-40), 13.3% aged (40-50), and 10.8% aged more than 50 years.

- Regarding the education 8.5% are post graduates while 91.4% are B.Sc. Also 34.9% are managers and 65.1% are employee.
- With respect to years of experience the results indicates diversity of sample's subjects years of experience which in its turn makes them able to form more accurate positive or negative views towards intellectual capital dimensions in the bank, the majority of samples have (less than 5 years) that is 42.2%, while 21 their work duration (from 5: 10 years) is 25.3% and 27 their work duration (more than 10 years) is 32.5%.

### Descriptive Statistics of Variables of the Study

In this section, the researcher provides descriptive statistics and analyses for each item of the model's variables. The descriptive analysis is comprised of the following: Mean, minimum, maximum, and Standard Deviation, C.V for each question.

From the following table, we can conclude that the average of all variables are around 4 which mean that respondents are tend to agree to most of the statement that measure these variables. The variable with highest agreement is the quality that is offered by the bank, while the variable with least agreement is the human capital. Also, the homogeneous variable (the variable with least variation) is human capital with coefficient of variation = 12%, while the variable with highest variability is innovation with coefficient of variation = 19.8%.

**Table (4): Descriptive Statistics of Variables of the Study**

	Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation	C.V
Human Capital	83	2.38	4.63	3.76	0.45	12.0%
Structural Capital	83	1.60	5.00	4.18	0.77	18.5%
Relation Capital	83	1.50	5.00	4.19	0.77	18.3%
Cost	83	1.67	5.00	4.25	0.74	17.4%
Quality	83	1.75	5.00	4.27	0.75	17.6%
Innovation	83	1.00	5.00	4.21	0.83	19.8%
Customer Responsiveness	83	1.33	5.00	4.24	0.79	18.6%
Competitive Advantage	83	1.46	5.00	4.25	0.74	17.5%

### Correlation Analysis

#### Correlations between the Variables of the Study

In this subsection the correlation analysis between the variables of the study is presented. From the following table it is clear there is positive strong (as all coefficients are positive and greater than 0.7) significant correlation between human capital and each of human capital, structural capital, and relation capital, and this with confident 95%, as the p-value associated with them less than 5%.

**Table (5): Correlations between the Variables of the Study**

		Competitive Advantage	Human Capital	Structural Capital	Relation Capital
Competitive Advantage	Pearson Correlation	1	.804**	.844**	.855**
	Sig. (2-tailed)		.000	.000	.000
	N	83	83	83	83

\*\* Correlation is Significant at the 0.01 Level (2-Tailed).

#### Regression Analysis

Multiple regression analysis will be used to assess the independent variables against the dependent variable. A stepwise multiple regression test can be applied to categorize the independent variables according to their significance effect on the dependent variable. The following model that will be estimated

$$\text{Competitive advantage} = \beta_0 + \beta_1 * \text{human} + \beta_2 * \text{structural} + \beta_3 * \text{relation}$$

Where

- $\beta_0$  : is the constant term
- $\beta_i$  : is the regression coefficient for independent variable I
- $\epsilon$ : is the regression residual term

As mentioned before normality must be checked before estimating the regression model.

### Normality Test

From the above table, p-value greater than 0.01 that is we do not reject null hypothesis with confidence 99%, which means that Competitive advantage follows normal distribution with confidence 99%. This also appears from the following graph; all the points are near the 45-degree line which supports that Competitive advantage follows normal distribution. Therefore, the researcher uses Stepwise Multiple Linear Regression analysis to test the hypotheses in the study.

### Regression Model Summary

As shown in the following Table, using a stepwise multiple regression on the collected sample resulted in the following:

- All the predictors have significant effect on the competitive advantage.
- Adjusted  $R^2$  value of 0.796 indicates that the proposed model could infer 79.6% of the variation of the competitive advantage.
- From the value of Durbin Watson it is clear that there is no serial autocorrelation between residuals, as the value is near to 2. No serial autocorrelation is one of the assumptions of the regression model.

### ANOVA Test Results

- ANOVA results are summarized in the following table. According to the listed results, the variance analysis can be explained as follows:
- The p-value equals 0.000 which is significant (less than 0.05). This means that the proposed model predicts the dependent variable better than the intercept-only model (model with no predictors).
- The F-value of 107.649 supports that the model explained variance is greater than the unexplained variance.

### Coefficients Summary

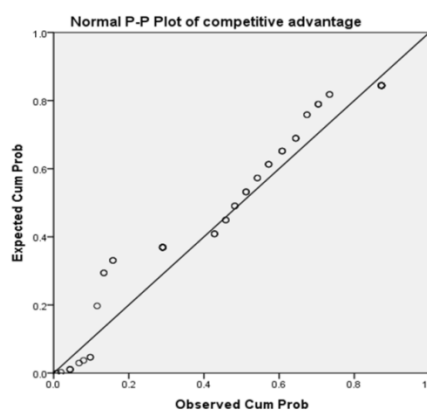
- The following tables summarize coefficients of the independent variables
- **Relation Capital** has significant impact on competitive advantage, this with confidence 95%. The

**Table (6): Correlations One-Sample Kolmogorov-Smirnov Test**

		Competitive Advantage
N		83
Normal Parameters <sup>a,b</sup>	Mean	3.3598
	Std. Deviation	.222187
Most Extreme Differences	Absolute	.105
	Positive	.105
	Negative	-.063
Kolmogorov-Smirnov Z		1.436
Asymp. Sig. (2-tailed)		.032

a. Test distribution is Normal.

b. Calculated from Data.



**Table (7): Correlations summary of the stepwise regression model**

R	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.896 <sup>c</sup>	.803	.33559911	2.184

**Table (8): results of Anova test**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	36.373	3	12.124	107.649	.000 <sup>d</sup>
Residual	8.898	79	.113		
Total	45.270	82			

p value is 0.000 (less than 0.05) and  $\beta$  coefficient equals 0.431 Thus, there is a significant positive effect of relation capital on competitive advantage, and this support hypothesis 3.

- **Human capital** has significant impact on competitive advantage, this with confident 95%. The p value is 0.000 (less than 0.05) and  $\beta$  coefficient equals 0.462 Thus, there is a significant positive effect of human capital on competitive advantage, and this support hypothesis 1.
- **Structural capital** has significant impact on competitive advantage, this with confident 95%. The p value is 0.000 (less than 0.05) and  $\beta$  coefficient equals 0.462 Thus, there is a significant positive effect of structural capital on competitive advantage, and this support hypothesis 2.
- **VIF for the independent variables** are less than 10 this mean that there is no multicollinearity problem.

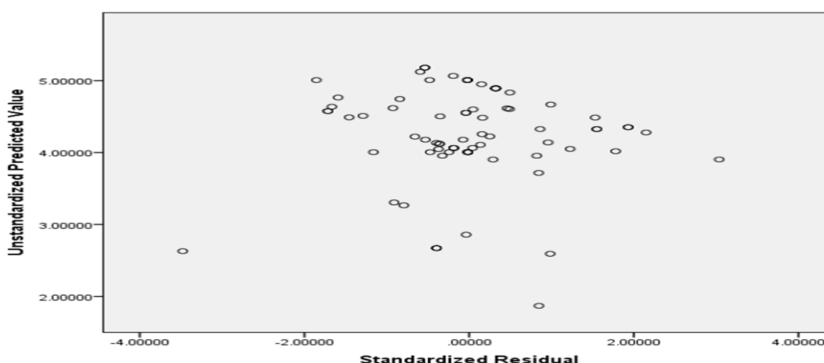
To be sure that model results are reliable we must check the Linearity assumption, from the graph below it is clear that points are random then linearity satisfied.

**Table (9): The Regression Coefficients**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.234	.324		-.720	.473		
Relation capital	.431	.094	.446	4.570	.000	.262	3.824
Human capital	.462	.144	.281	3.203	.002	.324	3.089
structural capital	.224	.108	.233	2.073	.041	.197	5.078

**Conclusion:**

This research offers several contributes to the literature by explain how the intellectual capital important for any organization, particularly in the Egyptian financial public sector. Thereby, the research aims to understand the main components of intellectual capital and how they effect on



competitive advantage more than the other traditional tangible assets. The research proposes recommendations that would support decision makers to promote competitive advantage.

**Results**

- The result of research analysis indicates in general that there is a significant positive relationship between the intellectual capital and competitive advantages, here some other results:
- The theoretical part of research indicates that intellectual capital is recognized as a major asset capable of generating competitive advantages, also the Practical implications confirms the validity of that opinion , Banque Misr consider the employees are the most important asset due to their unwavering commitment to fulfill sustainable growth strategy and deliver value to stakeholders.
- The theoretical part of research clarify that human capital is the most innovative feature for any organization , but in the Practical implications the results shows that human capital received the lowest estimates compared to structural capital and Relation capital, which means that employees of Banque Misr need more skills , knowledge , in the other hand the management must give the employees the chance to express their opinions in developing work procedures.
- The theoretical part of research indicates that structural capital consider as supportive framework that gives physical form and power to human capital but in the Practical implications the results

shows the questions that related to customers , the speed of meeting their needs and providing solutions have low results , it does not only mean that employees do not fully understand the needs of customers, in fact the structural capital can play an essential role in this part .

- The analysis results show that Banque Misr has strong relation capital with stakeholders and the perceptions such as Central Bank of Egypt, the Ministry of Finance, and other relevant authorities which support the banking sector.

### **Recommendations and Future Research:**

The analysis of this the research can be used to provide some recommendations

- 1- The organizations should pay more attention for intellectual capital and its components in order to achieve a competitive advantage.
- 2- The organizations need to provide their services at competitive benchmarks and update it according to the customer's opinions.
- 3- The organizations need to attract creative-minded employees and motivate them through their knowledge, experience, and capabilities; they can deliver the best experience to the customers and improve the organization efficiency.
- 4- Banque Misr needs to expand the number of branches and give more attention to the application of the latest international systems.
- 5- The bank management need raise the efficiency of the human by focus on employee training, engagement, role definition, performance, talent management, continuous learning, leadership development, and care about employees.
- 6- It is essential to create an environment that encourages self-realization and a sense of fulfillment among the employees.

### **Future Research**

A similar study might be conducted with comparison between the public sector and private sectors to achieve greater diversity and comparative study.

## References

- Bontis, N. (1999). "Managing Organizational Knowledge by Diagnosing Intellectual Capital: Framing and Advancing the State of the Field", *International Journal of Technology Management*, Vol. 18 Nos 5/6/7/8, pp.433-462.
- Bozbura, F. T. (2004). "Measurement and Application of Intellectual Capital in Turkey", *The Learning Organization*, Vol. 11 No. 4/5, pp.357-367.
- David, Fred R. (2009). *Strategic Management: Concepts and Cases*. Pearson International Edition, 12<sup>th</sup>ed .pp. 9-10.
- Edvinsson, L. & Malone, M. (1997). *Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Brainpower*. New York: Harper Collins. pp. 366-373 .
- Elsaid Hany. (2008). *Intellectual Capital*. Dar Elshab, Cairo, p. 23.
- Fitz-enz, Jac. (2001). "The ROI of Human Capital", *American Management Association*, NY, USA, Vol. 17, No. 22, p. 2.
- Hamel, Gary & Heene, Aimé. (1994). *The Concept of Core Competence-Based Competition*. John Wiley: Chichester et al., pp. 11-33.
- Heizer, Jay & Render, Bary. (2008). *Operations Management*. 8<sup>th</sup>ed., Prentice Hall Inc., New Jersey.
- Hill, C. W. & Jones, G. R. (2010). *Strategic Management of an Integrated Approach*, 9<sup>th</sup>ed., South-Western Cengage Learning, Mason, USA, pp. 74-77.
- Hofman, J.; Hoelscher, M. & Sorenson, R. (2006). "Achieving Sustained Competitive Advantage: A Family Capital Theory", *Family Business Review*, 19 (2), pp. 135-145.
- Hunter, L.; Webster, E. & Wyatt, A. (2005). "Measuring Intangible Capital: A Review of Current Practice", *Intellectual Property Research Institute of Australia*, Vol. 16, No. 4, pp.1-46.
- Krajewski, L. J. & Ritzman, L. P. (1993). *Operations Management: Strategy and Analysis*. 3<sup>rd</sup> ed., Addison-Wesley, Wokingham .
- Model, A. & Ghosh, S. K. (2012). "Intellectual Capital Efficiency and Firms Performance: Study on Malaysian Financial Sectors", *International Journal of Economics and Finance*, 1 (2), 206-212.
- Obeidat, B. Y.; Tahrini, A.; Masa'deh, R. E. & Aqqad, N. O. (2017). "The Impact of Intellectual Capital on Innovation Via the Mediating Role of Knowledge Management: A Structural Equation Modeling Approach", *International Journal of Knowledge Management Studies*, 8 (3-4), pp. 273-298.
- Phusavat, K. & Kanchana, R. (2007). "Competitive Advantage of Manufacturing Firms in Thailand", *Industrial Management and Data Systems*, 7 (7), pp. 979-996.
- Robert H. Ashton. (2005). "Intellectual Capital and Value Creation: A Review", *Journal of Accounting Literature*, Vol. 24, pp. 53-134.
- Subramaniam, M. & Youndt, M. A. (2005). "The Influence of Intellectual Capital on the type of Innovative Capabilities", *Academy of Management Journal*, 48, pp. 450-563.
- Swart, S. (2006). "Intellectual Capital: Disentangling an Enigmatic Concept", *Journal of Intellectual Capital*, Emerald Group Publishing Limited, 7 (2), pp. 136-159.

## Questionnaire

### First: Demographic Data

#### Personal Data :

- **Sex:** Male                      Female
- **Age:** Less than 30      From 30 to 40 years      From 41 to 50 years      More than 50 years
- **Job:**                              Manager                      Employee
- **Educational level:** Bachelor's Degree      Master Degree      PHD
- **Experience:** Less than 5 Years      From 5 to 10 Years      From 10 to 15 Years  
More than 15 Years

### Second: The Intellectual Capital

No	Sentence	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<b>Human Capital</b>						
1	The employees from Management views consider as a source of cost, not investment.					
2	The Management consider the employees as the most important investment					
3	Jobs are assigned according to the to the skills and knowledge					
4	the Promotion is made on the basis of seniority					
5	The management is interested in developing the skills of employees through job rotation					
6	learning and developing the employees are taking top priority					
7	The bank has a policy to attract those with sufficient experience in strategic planning field to occupy important administrative positions.					
8	The management gives employees the chance to express their opinions in developing work procedures.					
<b>Structural Capital</b>						
9	The relations between the all departments in the bank are characterized by cooperation, integration, and exchange of knowledge and experiences					
10	The bank provides all necessary information to employees to perform and develop the work					
11	The bank provides an internal communications network that facilitates communication between employees at different managerial levels					
12	The organizational structure of the bank helps employees to provide excellent banking services					
13	The bank's procedures help employees to perform their duties efficiently and effectively					
<b>Relation Capital</b>						
14	The employees have authority that enable them to provide banking services to their clients quickly					
15	The bank departments have a high ability to determine customer needs and provide solutions quickly					
16	The bank has excellent relationships with external parties (suppliers, civil society organizations, etc.)					
17	The bank provide to the permanent customers additional benefits.					

### Third: The Competitive Advantage

No	Sentence	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<b>Cost</b>						
1	The bank always trying to reduce the cost of services without compromising their quality					
2	the communication technology contributed to reducing the costs of banking services					
3	the employees always seeking for new methods that can reduce the banks costs.					
<b>Quality</b>						
4	The bank offers high quality of services that meet the customer's needs .					
5	The bank is assessing the quality of its services in order to improve them					
6	The bank seeking to find out customer opinions of the banking services provided to them					
7	The bank observes international quality standards for the services provided to clients					
<b>Innovation</b>						
8	The bank pursues a policy of innovation and creativity in working methods					
9	The bank uses unconventional methods to promote its products					
10	The bank is always keen to provide banking products that exceed customer expectations					
<b>Customer Responsiveness</b>						
11	The bank provides its services quickly					
12	The bank is keen to provide its services at competitive benchmarks and update them according to the clients opinions					
13	Information technology has helped to speed service delivery to clients					