Does Intellectual Capital Information (ICI) Make Difference to Investors' Decisions?

A Field Study on Egyptian Investors

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Abstract

This study aims to survey the literature and develop a more comprehensive intellectual capital disclosure index (ICDI). It also aims to identify whether intellectual capital information (ICI) have an influence on investors' investment decisions in the Egyptian context and if so, identify the most important ICI elements to their investment decisions. In order to achieve the research objective a field study is conducted on a sample of Egyptian investors (brokers, banks, insurance companies, and other financial institutions). A self-administered questionnaire is used to collect the study data from the sample. A total of 500 questionnaires were distributed to a random sample of Egyptian stock market investors, only 182 questionnaires were collected. Thus, the percentage of initial responses is 36.4% of the total number of the distributed questionnaires. After excluding incomplete and invalid questionnaires, the current study ended up with 177 valid and useable questionnaires- representing 35.4% response rate. The results of the study show that the majority of the respondents agree on the importance of ICI to investors' investment decisions. The finding also revealed that the ICI elements examined are not equal with regard to their influence on investment decisions. The findings of this study are not only important to improving investors' assessments of investment opportunities but also could be useful to regulatory authorities in Egypt for the improvement of disclosure practices by Egyptian companies and enhancing transparency in the capital market. Also, the ranking of IC elements by importance will help eliminate non relevant items from the proposed ICD index and thus reducing the costs associated with disclosing these elements.

Key Words:

IC, ICDI, Factors influencing investment decisions, Field Study.

1. Introduction

Traditionally, land, labor and capital are considered to be the most valuable assets in economics. It is argued that the success of any economic activity is only attributed to physical assets. However, the vast expansion of science, technology and finally the globalization has altered the pattern and the structure of the production system. As the new production system is mainly driven by technology, knowledge, experience, skills and relations with stakeholders which are known as intellectual capital (IC) (Martı´n-de-Castro et al., 2011). In this new economic system, which is commonly known as the knowledge- based economy, intangibles or intellectual assets are considered as the main cause of business success. Software, financial, and pharmaceutical companies, banks, hotels etc. depend to a considerable extent on intellectual capital for earning revenues. Manufacturing companies use IC with its physical assets to obtain a competitive advantage that enables it to continue in the market which is characterized by high competition.

Many of previous studies have revealed that disclosing IC information affects the decision making process. For example, Ousama et al. (2011), found that both preparers and users perceive the intellectual capital information (ICI) disclosed in the annual reports of listed companies to be useful for their decision making purposes. Also, the study of Holland et al. (2012) revealed that ICI contributed to earnings estimates and company valuation, these findings generated opportunities to improve disclosure and accountability between Japanese financial firms (JFFs) and their investee companies. The results of Yu et al., (2014), study revealed that in Taiwan's stock market domestic investors overprice innovation capital and misprice human capital (HC) and relational capital (RC) in information technology (IT) companies.

Garcia-Meca & Martínez (2007) found that financial analysts disclose some types of IC information to investors in their recommendations such as information regarding a company's strategy, customers, and processes. This means that the above information help investors in making investment decisions. Yao et al. (2009), study found that the use ICI in the international equity portfolio investment decision process and in domestic investment is almost similar. The study of Bukh (2003) revealed that ICI is valuable for investors, as it can help them in reducing the

uncertainty associated with companies' future performance, and hence assisting them in making accurate valuations of firms. It is argued that stated that Stock market liquidity and increased demand for companies' securities is enhanced by greater disclosure on intangibles (Diamond and Verrecchia, 1997; Mousavi & Takhtaei, 2012).

However, there is a lack of studies in the Egyptian literature concerning to the importance of the voluntary intellectual capital disclosure (ICD) to rationalizing investors' decisions in the Egyptian stock exchange. Most Egyptian studies focused on identifying the extent to which Egyptian companies disclose IC, the determinants of ICD, and the effect of only one component or even few specific elements of IC on investment decisions. For instance, Alsayed (2014), and Almihy (2013) found that there is a weak disclosure of intangibles in the Egyptian business environment. It also revealed that the extent to which Egyptian companies voluntarily report their IC is influenced by some variables such as firms' profitability and size. Hussainey (2010) focused on the importance of corporate environmental reputation (CER) to investors.

Monsour (2016) studied the effect of one component of IC (HC) on investors' decisions. While, Saleh (2009) examined the role of disclosing companies' environmental performance on rationalizing investment decisions and improving financial reporting. The current study proposes a comprehensive ICD index with wider range of ICI and addresses the relevance of each of the three main components of IC to investors' decisions. In addition, the researcher will provide a ranking to the IC elements based on their relative importance to investors. The current study aims to provide Egyptian companies a list of the most important intellectual capital disclosure (ICD) elements that might highly influence investor's decisions in the Egyptian Enviroment.

2. Research problem

The success of any organization depends on the rationality of the decisions taken by its stakeholders. Moreover, the success or

failure of securities market -like any organization- is affected by the decisions taken by its stakeholders, especially the investors. For the investors decisions should be built on relevant and reliable information to be rational decisions. The information available to decision-makers in the stock market could be generally divided into accounting and non-accounting information. The accounting information could be also divided into information reported in published financial statements and information not disclosed in the published financial statements. However the disclosure of the accounting information is classified into mandatory disclosure and discretionary (voluntary) disclosure. Until now ICI is classified under the voluntarily disclosed information, and there is no obligatory standard for its disclosure. Consequently, there is no constant practice (format) for ICD Disclosure. So, the problem of this research could be summarized in the following main question: **What are the most relevant intellectual capital information (ICI) elements affect the investment decisions in the securities of Egyptian organizations?** This main question could be expressed in a group of sub-questions as follows:

1. Does the disclosure of ICI influence the investors' investment decisions in the Egyptian securities market?
   a. Is human capital (HC) information disclosure affecting the investors' investment decisions in the Egyptian securities market?
   b. Is structural capital (SC) information disclosure affecting the investors' investment decisions in the Egyptian securities market?
   c. Is **relational capital** (RC) information disclosure affecting the investors' investment decisions in the Egyptian securities market?
2. Are there significant differences among ICI elements regarding their relative importance for the investors' investment decisions in the Egyptian securities market?
   a. Are there significant differences among HC information elements regarding their relative importance to the investors' investment decisions in the Egyptian securities market?

b. Are there significant differences among SC information elements regarding their relative importance to the investors' investment decisions in the Egyptian securities market?
c. Are there is differences among RC information elements regarding their relative importance to the investors' investment decisions in the Egyptian securities market?

3. Research Objectives

The main objective of this research is to develop an ICD index, and to empirically test the relevance of its elements to investment decisions in securities. It also aims to determine the relative importance of the proposed IC elements to investment decisions in the Egyptian environment.

4. Research Hypotheses

The current study intends to empirically examine the following research hypotheses:

1. The disclosure of ICI does not affect the investors' investment decisions in the Egyptian securities market.
   a. The disclosure of HC information does not affect the investors' investment decisions in the Egyptian securities market.
   b. The disclosure of SC information does not affect the investors' investment decisions in the Egyptian securities market.
   c. The disclosure of RC information does not affect the investors' investment decisions in the Egyptian securities market.
2. There are no significant differences among ICI elements regarding to their relative importance for the investors' investment decisions in the Egyptian securities market.
   a. There are no significant differences among HC elements regarding to their relative importance for the investors' investment decisions in the Egyptian securities market.
   b. There are no significant differences among SC elements regarding to their relative importance for the investors' investment decisions in the Egyptian securities market.

c. There are no significant differences among RC elements regarding to their relative importance for the investors' investment decisions in the Egyptian securities market.

5. An Overview of IC and its Main Components

Traditionally, land, labor, and capital were considered to be the most valuable assets in economics. The success of any economic activity was attributed only to physical assets (tangible assets). However, the fast expansion of science, technology and finally globalization has altered the pattern and the structure of the production system and intensified competition. The new production system is mainly driven by technology, knowledge, experience, skills, and relations with stakeholders that are known as IC (Seetharaman et al., 2002; Volkov and Garanina, 2007; Abd- Elaal, 2009; Alsayed, 2014).

Al-Ali (2003) argued that in the past, 80% of companies' value was driven by tangible assets and resources and only the remaining 20% was attributed to intangibles. However, in today's knowledge economy, 80% of firm's value is generated by intangibles. This percent is calculated by subtracting the company's book value from its market value, and it reflects the hidden resources that are recognized and valued by the market. This hidden value is commonly known as the company's IC (Ordóñez de Pablos, 2003). The high percentage of a company's value attributed to IC reflects the vital role IC plays in improving company's performance and achieving its goals and strategies (Abeysekera, 2006).

The term IC has been used at the end of the 20th century with the aim of benefiting from the innovations that exist in the organizations (Saleh, 2009). Moreover, it became of great importance by the beginning of 1990 when the manager (Ralph Stayer) of Jonson Fily (Food Company) used the IC expression. Ralph Stayer said, in the past, natural resources were considered the most important driver of national wealth and the most important assets for companies, then after that capital in the form of cash and fixed assets became the main component of companies. Nowadays, IC has replaced natural resources, cash and fixed assets. It became

the prominent factor in companies' success and the main driver of national wealth. (Mifrgy and Saleh, 2003 cited from Alsayed, 2014). Regardless of IC contributions to companies' value creation, it is given a little interest in the current accounting system (Ordóñez de Pablos, 2003). However, only a few components of IC, such as GW, are recognized in financial statements. However, recently a great effort has been exerted by companies to measure and disclose ICI, to meet various stakeholders' information needs (Ousama et al., 2011).

The concept of IC is a newly emerging concept, and until now, it is not fully understood by most Egyptian organizations. The term IC was introduced in 1990 by Thomas A. Stewart in his published papers (Sullivan, 2000). The term IC is often used interchangeably with words such as knowledge assets, non-financial assets, and intangibles in the literature. Although there is an agreement on the importance of IC in the literature, there is no one agreed upon definition of it (Abeysekera, 2006).

Generally speaking, IC can be defined as the difference between the company's market and book value (Ordóñez de Pablos, 2005). This hidden value can be described as things that cannot be priced such as knowledge, skills, experience, and a firm's organizational learning abilities (Sharabati and Jawad, 2010). According to GAAP, IC is the value of companies' intangible assets that do not appear on the balance sheet (Mousavi and Takhtaei, 2012; Neysi et al., 2012). From the value creation perspective, IC can be defined as intellectual material (knowledge, information, IP, and experience) that can be employed to create wealth (Kannan and Aulbur, 2004). From the same point of view, Al-Ali (2003) referred to IC as the knowledge, experience, and brainpower of employees along with knowledge resources stored in companies' databases, systems, processes, culture, and philosophy.

A firm's value is not derived only from financial capital, but a significant portion of it is attributed to IC also (Jelčić, 2007). IC is a permanent (sustainable) source of superior wealth creation (Belkaoui, 2003). IC is the total stock of collective knowledge,

information, technologies, IP rights, skills, experience, customer relations, organizational learning, team communication systems, and brands that create value to the firm (Stewart, 1997 cited from Zerenler et al., 2008).

Also, IC can be defined from the perspective of creating a competitive advantage as, the sum of knowledge owned by every individual in the organization and leads to achieving a competitive advantage in the market (Hassan, 2005 cited from Saleh, 2009). IC includes the intellectual resources processed by a firm (such as technology, experience, professional skills, knowledge, and relationships with customers) that could enable it to create and maintain a competitive advantage that makes it more attractive than its competitors (Starovic and Marr, 2003).

Sharabati and Jawad (2010) defined the IC of an organization as the wealth of ideas and innovation abilities which will identify the future of the organization. This indeed means that IC is used to anticipate an organization's future performance. In other words, it is a driver of future organizational success. According to Jelčić (2007), IC can be defined as intangible assets or intangible business factors that play a vital role in improving a firm's performance and leading business success, although they do not appear on the balance sheet. From Abeysekera (2006) view point IC can be defined as 'unaccounted capital' within the traditional accounting system.

It is argued that some organizations have their own definition of IC. For example, Skandia (the first company to measure and report on its IC) defined IC as "the possession of knowledge, applied experience, organizational technology, customer relationships and professional skills that provide Skandia with a competitive edge in the market" (Starovic and Marr, 2003). Accordingly, most IC's definitions agree that IC refer to any intangibles (knowledge, skills, experience, relationships with customers and suppliers, strategies, and others) that can be used to create value or help a company to maintain a competitive advantage that distinguishes it from other companies and increase its market share.

IC is divided into components. There are many classifications to IC components. One of the first IC classifications was Sveiby (1997) classification. Sveiby divided IC into three broad areas of intangibles internal structure, external structure, and employee competence. Another classification of IC that is commonly used in literature is Stewart's (2000) classification. According to Stewart (2000), IC consists of these three main components HC, SC, and customer capital (Stewart, 2000 cited from Ousama et al., 2011). Based on these two classifications Ousama et al. (2011) study divided IC into the following main categories:

1. **Internal Capital:** It is also referred to as structural capital and include information about the company's patents, concepts, R&D, trademark, network systems, copyrights, administrative systems, innovations, information systems, management's philosophy, and corporate culture (Seetharaman et al., 2004).
2. **External Capital:** External Capital refers to external sources of generating revenue such as relationships with customers and suppliers, business collaborations, customer satisfaction, licensing agreements, franchising agreements, distribution channels, and company's reputation (Bontis, 2003).
3. **Human Capital:** Human Capital refers to employees' education level, competence, skills, attitudes, training programs, experience, and more other information about companies' workforce (Bontis, 2003; Seetharaman et al., 2004).

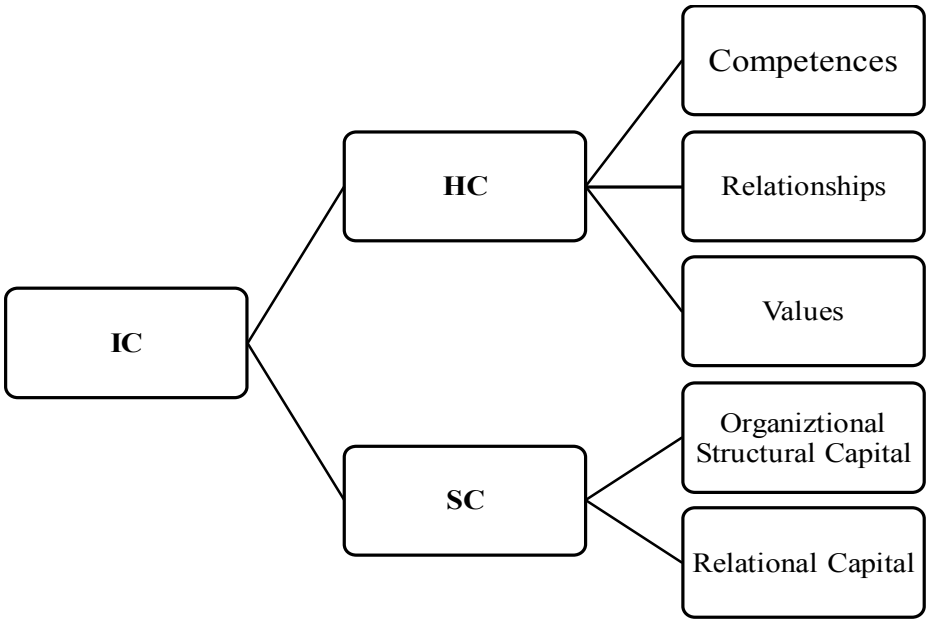

Figure 1: IC Classification (Jelčić, 2007)

According to Jelčić (2007), there are two main categories of IC namely, HC and SC. Each category is divided into further subcategories as follows:

- **Human Capital (HC):** It refers to employees with all the accumulated individual and collective knowledge, experience, skills, attitudes, relations, and emotions. Thus, to be regarded as a firm's HC, Employees must be able to convert their knowledge and competencies into actions, contributing to the firm's tangible and intangible value. HC is further divided to competencies, relationships, and values. Firstly, **competencies** refer to employees' professional skills and experience that ensure that they know how to deal with different circumstances. These competencies include social capabilities (the capability to work with other people such as communication skills and teamwork), commercial competence (employees ability to direct

their actions toward the Firm's main objective), and emotional competence (employees ability to manage their negative emotions in a way that ensures successful work). Secondly, **employee relationships** refer to processing good relationships with colleagues, clients, experts, or partners, which lead to a better overall performance of the company. Finally, **values**, employees should adopt values that support business success such as honesty, responsibility, and ambitions to company's needs and goals to become HC for the company.

- **Structural Capital (SC):** it refers to infrastructure supporting HC. It consists of:
  1- **Organizational Structural Capital (SC)** is the capital that enables the organization to function systematically. It includes four subcategories namely (innovation, processes, culture, and leadership). **Innovation** refers to the organization's ability to improve (adjust) already existing systems, process, and ways of carrying out work, services, and products to adapt to changes. So, innovation is a key factor for building a competitive advantage and progress achievement. **Processes**, this component includes various business processes (such as production, communication, and education), techniques, quality, programs, and others. In other words, anything that contributes to the efficiency of production and service offering. **Culture** is the sum of individuals' opinions, common value systems, norms, attitudes, and behavior which represent the base for acting within an organization and the main driver of business success or failure. **Leadership** is the role of management to direct the company in the desired direction by clearly identifying firm's vision, strategy, objectives, and the role of everyone in achieving the firm's vision and objectives.

  2- **Relational Capital (RC):** It includes relationships with customers, suppliers, and partners who are direct participants in the value creation system for the end users. RC will, in turn, affect the value creation goal of the producer (firm).

In the mid of 1990s IC was defined by academics as intangibles and was divided into three main components: HC, SC, and RC (Mouritsen, 1998). This is the most common classification of IC. In this study, the researcher will adopt this common classification also known as the three-way IC classification. The first component and the most important one is HC. It refers to the skills, knowledge, experience, attributes, and efficiency in carrying out works owned by an organization's individuals in all management levels (Saleh, 2009). It can also be defined as the accumulated value of investments in the employees training and competence (Edvinsson and Malone, 1997 cited from Sharabati and Jawad, 2010). It includes knowledge, creativity, and innovativeness embedded in individuals within an organization (Zambon, 2002 cited from Sharabati and Jawad, 2010). HC plays a major role in increasing firms' productivity and sustaining competitive advantage through improving and developing employee's competencies (Schultz, 1993 cited from Mousavi and Takhtaei, 2012).

On the other hand, SC refers to non-human knowledge stores such as systems, databases and programs (Edvinsson and Malone, 1997 cited from Sharabati and Jawad, 2010). In other words, SC refers to a firm's organizational capabilities that enable it to meet market requirements or what is left when employees go home at night (Sharabati and Jawad, 2010). In contrast to HC, SC can be traded, reproduced and shared within the firm (Zambon, 2002 cited from Sharabati and Jawad, 2010). Some SC components can be legally protected such as patents and trademarks (Ross et al., 1997 cited from Sharabati and Jawad, 2010).

RC is the third component of IC. It refers to the firm's relationships with external parties such as customers, suppliers and other stakeholders (Ross et al., 1997 cited from Sharabati and Jawad, 2010). It encompasses parts of HC and SC involved with firms' relationships with its stakeholders and their formed perception of the company (Starvoic and Marr, 2003). In other words, RC refers to the knowledge embedded in the organization's relations with customers, suppliers, and partners (Mouritsen, 1998).

The value of IC elements depends on a firm's strategy as well as their interaction with other resources. For example, a company's brand reputation that is regarded as a critical element for its value creation would diminish rapidly without efficient distribution networks, internal processes, and strong relations with suppliers ((Jelčić, 2007; Marr, 2008). The following figure (2) illustrates that it is the interaction between intellectual capital elements that drive companies' values and that individual IC components are often not valuable alone. Also, it reveals that together HC and SC cooperate to transfer knowledge to XC (Starovic and Marr, 2003; Almihy, 2013).

The IC's main components are further divided to subcomponents. Together, the main and the sub-elements constitute an index for ICD. In fact, ICD index differs from one study to another according to the elements included and the classification adopted by researchers. In this study, the researcher will propose an IC index, based on the common classification of IC.

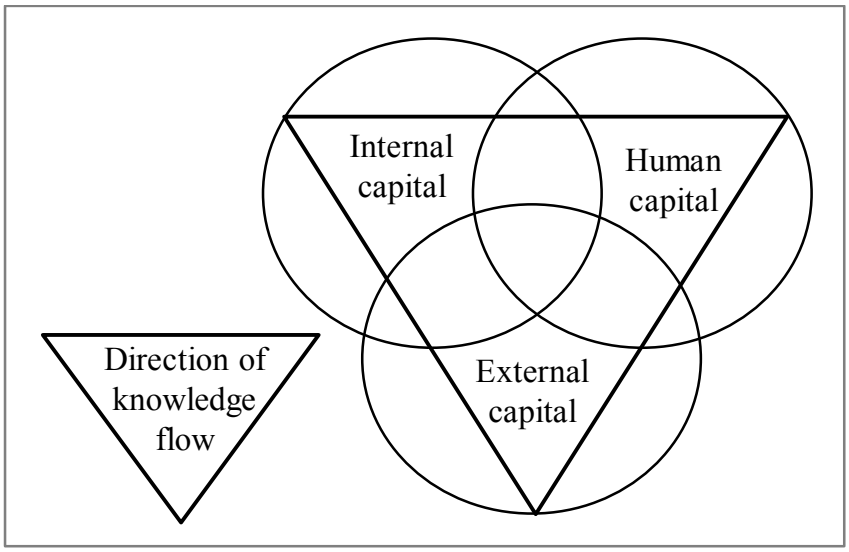

Figure 2: The interaction between IC components (Almihy, 2013)

6. The Transformation to Intangibles (Knowledge-Based) Economy

Knowledge economy refers to a post-capitalist society or what is called knowledge society, in which knowledge is the primary resource for a business success. In this economy, the value is mainly driven by productivity and innovation rather than capital and labor. Moreover, it is led by knowledge workers (knowledge executives, knowledge professionals, and knowledge employees) (Drucker, 1993).

According to Andriessen (2004), there are some characteristics that distinguish knowledge economy from the industrial one. In the knowledge economy, knowledge has replaced capital and labor and became the main element in the production process (Stewart, 1997 cited from Andriessen, 2004). In other words, the largest proportion of a firm's value became attributed to intangibles rather than tangibles. In intangibles' economy, products, services, and business processes are characterized by an increase in their knowledge content. That is, they became more knowledge-intensive. For example, the electronic components of a car are much more valuable than steel (Stewart, 1997).

The importance of services and products became equal in this economy as knowledge it's self-became an important product. In addition, the concept of resources ownership has changed. Because of in the knowledge economy, a company cannot own its most important resource (knowledge) that is embedded in employees' mind. The characteristics of labor have changed in today's economy. In other words, knowledge workers create most of the companies value (Stewart, 1997).

The knowledge economy has also witnessed changes in organizations and their management. Most organizations have transformed themselves into knowledge companies (companies whose balance sheets disclose limited amounts of assets, compared to their perceived value). Consequently, zero-space organizations that depend on networks to create value have occurred (Deprez and Tissen, 2002). Minimizing transactions costs is no longer the main

focus of knowledge companies. Instead, they pay more attention to meeting their customers' ever-changing needs more rapidly through, learning about changes and adapting to them more rapidly than competitors to gain a competitive advantage in today's intense competition (Teece, 2000, cited from Andriessen, 2004).

Finally, managing intangible resources differs from managing physical ones. Companies could not control knowledge professionals with regulations, procedures and information systems because they need to feel free to be innovative and creative (Andriessen, 2004). They require organizations to have the flat hierarchical structure (in which managers cooperate with workers rather than control them and professionals are committed to a team and a task).

This shift from industrial to intensive knowledge economy is driven by globalization, developments in key economic sectors, and Technological changes the field of information and ICTs. It is argued that Globalization has intensified global competition, through the extension of opportunities from the national to the global level (Andriessen, 2004). Globalization also has imposed some constraints on nations to survive in this intensive (global) competition. Companies must be able to provide unique goods and services as compared to their competitors. Indeed such uniqueness comes from proprietary knowledge, unique skills, ways of doing business, and distinctive image created through branding.

The compatibility of the national information technologies applications with the global trends reduces the risk of cut-off from vital economic flows. Also, the companies' entrance into international markets will require them to develop new marketing skills, new types of interaction with customers, and build relationships that are based on trust between partners that will directly affect the distribution of tasks within firms and between firms (Soete and Weel, 1999; Andriessen, 2004).

Another, factor that caused the shift to the knowledge economy is the developments in the field of telecommunications, transportation means, and financial services, which lead to the

movement of goods and services more freely than before. Also, Technological changes, especially in the field of ICTs, played a vital role in this shift. Simply, IT refers to systems (computers and telecommunications) that provide increased memorization and storage, speed, communication and interpretation of data and information. In other words, it refers to the codification of information and knowledge with the aim of making it more accessible to all sectors and agents in the economy. The possibility of ICTs to codify information and knowledge over both distance and time facilitate global accessibility to them. Growth in ICT has resulted in a lower information processing costs, conversion in communication and computing, and rapid growth in international electronic networks. (Soete and Weel, 1999)

7. Business Reporting and the Diminishing Role of Accounting Information in Today's Knowledge- Based Economy

Nowadays increased competition and rapid advances in technology have dramatically changed the way businesses are organized and managed, the way work is carried out, new products are developed, how risks are managed, and their relationships with other organizations. Surviving companies in the market are those businesses that pay more attention to satisfying their customers, eliminate low-value activity, decentralizing decision making, lower the time needed to carry out key activities, and forming new alliances with suppliers, customers, and even competitors (AICPA, 1994). Thus the traditional accounting systems are widely criticized due to the inability of the current financial statements to communicate the value of strategy, processes, and intangible assets such as knowledge, innovation, and customer satisfaction.

In the accounting and performance measurement literature, these "rule-bound" systems are viewed as outdated, inaccurate, and irrelevant in today's service- oriented and knowledge economy (Mavrinac and Siesfeld, 1998). Chen et al., (2004) argued that the

financial accounting system focus on hard facts (quantities) and the outcome of past transactions. It does not focus on qualities (such as customer satisfaction, HC, innovation, and creativity) which constitute a significant part of the companies' values in today's knowledge-based economy. Thus, these old systems became unable to provide an accurate calculation of a company's value. Also, Garcia-Meca and Martinez (2007), stated that financial statements are considered less informative for high market-to-book value ratios. Thus, firm's and investors require more information about the role played by the company's intangibles in value creation.

Lev and Zarowin (1999), stated that usefulness of disclosed earnings, cash flows, book (equity) values to investors has diminished due to changes whether driven by innovation, competition, or deregulation and the inadequate disclosure of the impact of these changes on firms' operations and economic conditions. For example, substantial investments in restructuring and R&D (that create change), are expensed immediately in the income statement because of uncertainty about their benefits, while the benefits of the change are recognized later and not matched with the expensed investments. This means that the matching principle is distorted. Because such expensing will understate current earnings and overstate subsequent earnings when the planned benefits exist.

The lack of adequate information about intangibles will result in inefficient allocation of resources. This would negatively affect economic growth and is considered a strong justification of the increased information asymmetry in capital markets (Guimón, 2005). Kannan and Aulbur (2004) confirmed that the traditional financial statements fail to communicate information about the most important building blocks of business (HC, SC, and RC) to the management and investors.

Riahi-Belkaoui (2002), added that the reliance on the disclosure requirements (standards) had created some limitations and unfairness in reporting and disclosure (Abdel-Fattah, 2008). Marr (2008), supported this by arguing that restrictive accounting standards have caused the traditional financial statement to be an unsuitable source of information about IC.

According to the accounting standards accompany can only recognize an asset if it fulfills the following provisions: identifiable, owned and controlled by the firm, it is expected to provide future benefits, and its cost can be reliably measured. For IC these criteria are met by only a few elements of IC such as GW, R&D, and other identifiable intangibles such as patents, copyrights, brands, licenses, software. However, GW which is the excess cost of an acquired company over the sum of its identifiable net assets appears only in acquisition transactions. Internally developed GW does not appear on a company's balance sheet and has to be expensed with other intangibles to investment in advertising, training programs, customer lists, and start-up costs. Unfortunately, this leads to information asymmetry between managers and investors and in return inefficient allocation of capital in financial markets (OECD, 2006).

However, this does not mean that financial indicators are no longer of importance or that investor's major concern has changed. Instead, the above studies simply indicate that in a knowledge economy with vast technological changes and short product life cycles, future financial performance is better predicted by non-financial indicators than financial ones (Mavrinac and Siesfeld, 1998).

8. A Proposed ICDI Model

The ICD index developed in this study is based on the common classification of IC components. According to which IC is divided into three main components: HC, SC and RC. In this index, the researcher has tried to include all subcategories discussed in a number of previous studies, in order to provide a more comprehensive and updated ICD index. This index is characterized by simplicity so that it could be easily understood by investors with different levels of education.

In the proposed IC index IC is divided into three main categories: HC, SC, and RC. The first category is HC; it consists of four sub-categories namely information related to acquiring and retaining HC, information related to employees' competencies and its improvement, information related to employees satisfaction and employees' attitudes, and information related to employees' productivity and participation in achieving company objectives. The HC's subcategories include 47 measures of HC.

The second category is SC it encompasses six subcategories of measures: information that refer to the development of the firm internal structure, information referring to the elements of internal structure possessed by the firm, information that refer to the extent to which the firm achieves the goal of developing its products, information that refers to the extent to which the firm achieves the goal of quality assurance, information that refers to the extent to which the firm achieves the goal of increasing operating efficiency, and information about the firm's intellectual IP. The number of developed indices in SC group makes a total of 58 items.

(Table 1: A Proposed ICDI)

Intellectual Capital Information

Firstly: HC Information

A. Information Related to Acquiring and Retaining HC

1.	The company agreements with employees
2.	Employee compensation plans
3.	Employee benefits (housing, insurance, profit sharing, pensions, etc.)
4.	Employee share and option plans
5.	Changes in the number of employees (the ratio of new workers to the total number of workers)
6.	Discussion of employee interviews (age, experience, educational level, nationality, etc.)
7.	The increase in the education and training costs to total managerial costs ratio.
8.	Implementing some safety measures to ensure employee safety.
9.	A statement about the company that shows that discrimination against employees on the base of race, gender, religion or disabilities is prohibited.
10.	The increase in the percentage of employees with more than five years of experience to the total number of employees in the company.
11.	The percentage of employees with Master and Ph.D. degrees to the total number of employees.
12.	The focus of the company's management on attracting talented Individuals with unique academic and vocational qualifications.
13.	Employees' Insurance policies and retirement funds.
B. Information Related to Employees' Competencies and its Improvement:	
1.	Employees Brain power represented in creativity and Innovative capacity.
2.	Increasing the number of competency development programs and activities
3.	Training costs to number of employees
4.	The strategic leadership of the firm's management.
5.	Employees' ability to learn new things.

6. The employee ability to adapt, to change and to deal with unexpected problems.
7. Employees Vocational qualifications
8. Employees' ability to participate in decisions making process.
9. Employee's training processes efficiency.
10. The increased investment in improving employee's continuous learning capabilities.
11. The increase in the percentage of the budget that is allocated for developing HR.
12. The increase in the number of training hours per employee.
13. The increase in the company promotion ratio (the number of promotions/ number of employees)
14. The entrepreneurial spirit of the company's employees which is characterized by innovation and risk-taking.
15. Employees work-related knowledge (those obtained from the job or training that employees undertake)
16. Employees' ability to work in teams and to express their opinions in group discussions.
17. The company devotes enough time and effort to update and develop Employees' Knowledge and skills.
18. Employees' emotional competence, the ability to manage their emotions in a way that ensures successful work.
C. Information Related to Employees' Satisfaction and Employees' Attitudes:
1. The compliance between employees' attitudes and the firm values.
2. The decrease in the employees' absence rate (number of absence days/ total number of days per year).
3. The decrease in employee turnover rate (the percentage of employees who left the company through the year).
4. Employees' involvement within the community.
5. Employee job rotation
6. The decrease in the number of employee complaints.
7. The decrease in the number of managerial investigations with employees.
8. The increase in the ratio of employees participating in setting plans (the number of employees participating in the planning process/ total number of workers).

9. Thanks and appreciations given to employees for positive achievements.
D. Information Related to Employees' Productivity and Participation in Achieving Company Objectives:
1. Employee diversity (by age, gender, nationality, educational level, job function and seniority).
2. Increased dependence on key employee.
3. The increased empowerment to employees.
4. The increase in employee profitability ratio (net income/ total employees).
5. The increase in employee productivity ratio (production volume/ number of employees).
6. The decrease in the ratio of error made by an employee (operating errors/ number of employees).
7. The decrease in the ratio of wasted time (total wasted time to total work time).
Secondly: SC Information
A. Information that Refers to the Development of the Firm Internal Structure:
1. Investment in information technology
2. Training employees on using information technologies
3. The total cost of research and development activities.
4. Creating, retaining and transferring knowledge within an organization through building an internal information network and using it (organizational Learning).
5. Increasing the value of the budget dedicated to investing in IT in the coming period.
6. Increasing the budget dedicated to R&D in the coming period.
7. The increase in the number of suggestions and projects received from the company employees to develop work and products.
8. The increase in the number of employees implemented suggestions.
B. Information Referring to the Elements of Internal Structure Possessed by the Firm:
1. The number of the company's main operations.
2. The increase in the number of computers in the company.
3. The number of computer programs used by the company.

4. The number of databases used in the company.
5. The increase in the percentage of the company investments in research and development to the volume of sales.
6. The coordination between the R&D function, the production function, and other functions.
7. The availability of control tools and performance measurement standards within the firm.
8. The number of accreditations awarded to the firm.
9. Offering information about the current business state, what the firm does (business knowledge).
10. Business model (the plan implemented by the company to generate revenue and make profit from operations).
11. Corporate culture (norms, values, and beliefs shared by the employees of the organization).
12. Systems that the company has in place including information and networking systems.
13. Building an internal information network and using it.
14. Management processes (methods that aid in structuring, investigation, analysis, decision making and communication of business issues).
15. The way the leaders in the organization think about the organization and its employees. In other words, the set of rational principles which form the basis for guiding and controlling the performance of a business activity (management philosophy)
16. The company's relationship with fund granting parties.
17. The validity of the control system within the organization and the existence of obvious relationships between authorities and responsibilities (organizational structure).
18. The company's efforts in the working environment.
19. The implementation of quality management approach (TQM).
20. The existence of customer's support functions.
21. The company's ability to adapt to changes (organizational flexibility).
22. Information regarding the company distribution channels (how the company's service and products reach its customers).
23. The company's efficiency (ability to avoid wasting materials, energy, efforts, time and money in doing something) or, best

utilization of materials, effort, time and money.
24. The company's culture and atmosphere are supportive and comfortable.
25. The company's recruitment programs are dedicated to hiring the best candidates available.
26. Possessing a well-developed reward system tied to performance.
27. The company is not a "bureaucratic nightmare."
28. The company's management highly trusts and support the R&D department.
29. Credibility and consistency of strategy.
C. Information that Refers to the Extent to which the Firm Achieves the Goal of Developing its Products:
1. The increase in the number of new products introduced by the company.
2. The increase in the percentage of new products sales to total sales.
3. The decrease in the average time needed to develop the product.
4. The increase in the number of patents registered and to be registered to the company.
5. The decrease in customers' complaints from new products.
6. Taking customers' suggestions for developing the company products in account.
D. Information Refering the Extent of Achieving the Goal of Quality Assurance:
1. The increase in the percentage of sold units to total units produced.
2. process quality awards
3. The decrease in the percentage of reprocessing cost to total production cost.
4. The decrease in the percentage of customers' returns to total units sold.
5. The decrease in the percentage of sold units repairs and maintenance cost to total sales revenue.
6. The existence of a system that motivates the company's employees to be creative.

E. Information that Refers to the Extent to which the Firm Achieves the Goal of Increasing Operating Efficiency:
1. The efficiency of the company's operating cycle (the time of value-added activities / total operating time).
2. The ratio of production flexibility (time needed to produce special orders / ordinary production time.
3. The increase in the ratio of delivery flexibility (the number of orders delivered on time/total processed orders.
4. The decrease in the average time needed for processing(the total time used for processing orders /total number of processed orders)
5. The decrease in the average production cost per unit.
F. Information about the Firm's Intellectual Property (IP):
1. The number of patents registered and to be registered for the firm.
2. The company trademark.
3. The company has a higher number of intellectual IP per year compared with competitors.
4. The company supports and rewards the creation of new ideas and its extended use to maximize the income from IP.
Thirdly: RC Information
A. Information Related to Efforts Exerted by the Company to Improve its Relations with Different External Stakeholders:
1. The costs of contacting with customers and suppliers.
2. Offering post-sale services to customers.
3. Enhancing the corporate image (the public perception of the firm) using various corporate advertising techniques in order to improve the desirability of customers, suppliers, borrowers, and others to deal with it.
4. Developing the society and environment serving activities.
5. Increasing the percentage of the budget allocated for serving customers to the total budget allocated for sales and marketing.
6. Studying the market to determine customers' needs and desires (customer knowledge).
7. Competitive intelligence (Collecting and analyzing information to anticipate competitive activities see past market disruptions and dispassionately interpret events).
8. Training employees on Customer service activities.
9. Customer involvement(empowerment) in developing the company's products and services
10. Possessing good relations with finance providers (financial contacts) through meeting borrowing requirements and terms.

B. Information Reflecting the Company Possesses Good Relations with its Stakeholder:
1. The expansion of the company's client base.
2. Winning new clients
3. Collaborations with other local or global organizations.
4. The Company's trade mark and trade name reputation.
5. Current customers retention
6. The company dependence on key customers.
7. The increase in the number of marketing and distribution channels.
8. The increase in the number of franchising agreements.
9. The increase in the number of governmental units enhancing and granting licenses to the company.
10. The increase in the percentage of the company's market share.
11. The increase in the percentage of new customers to the total number of clients.
12. Becoming the leader in a given market (possessing the highest profit margin or market share in a given market).
13. Building and using a database for the company clients.
14. The increase in the number of markets in which the company markets its products.
15. The number of suppliers that the companies deal with.
16. A high ratio of company's business is done with strategic alliances.
17. Maintaining a long-standing relationship with suppliers.
C. Information Related to Customers Satisfaction and Loyalty:
1. The decrease in Customer turnover rates(number of customers leaving the firm / total number of customers)
2. Meeting the quality standards.
3. The decrease in the number of customer's complaints.
4. The decline in the percentage of returns by customers to the total number of units sold.
5. The increase in the number of suggestions received from the company clients.
6. The increase in the ratio of customers' orders response (the orders delivered in the definite time / the total number of orders delivered).
7. Litigation costs per customers.
8. Litigation costs per supplier.
9. Litigation costs paid to the society and the environment in which a company operates.
10. The decrease in the percentage of returns to suppliers to total purchases from suppliers.
11. The reduction of time the company takes to solve a customer's problem.

12. Description of brands owned/bought by the firm.
D. Information that Reflects a Company's Achievement of the Goal of Maximizing Benefits Achieved from Stakeholders:
1. The increase in customer profitability ratio (net profit/ number of customers)
2. The ratio of purchased raw material quality (the cost of damaged materials/ the cost of materials purchased).
3. The percentage of discount obtained from suppliers.
4. The suppliers' on time delivery of the company purchase orders.
5. The number of licenses obtained by the firm during the year.

The third component is RC, it is subdivided to information related to what the company did to improve its relations with different external stakeholders, information that reflect that the company possess good relations with its stakeholder, information related to customers satisfaction and loyalty, and information that reflect a company's achievement of the goal of maximizing benefits achieved from stakeholders. RC encompasses 44 elements. The entire index makes up a total of 149 IC's elements. The elements of the index were extracted from a number of IC studies (Mavrinac and Siesfeld, 1998; Beattie and Thomson, 2007; Garcia-Meca and Martinez, 2007; Jelčić, 2007; Vergauwen et al., 2007; Saleh, 2009; Sharabati et al., 2010; Yi and Davey, 2010; Singh and Kansal, 2011; Abdul Rashid et al., 2012; Wagiciengo and Belal, 2012; Alsayed, 2014; De Silva et al., 2014; Goebel, 2015; Maaloul and Zeghal, 2015; Goebel, 2015; Martini et al., 2016; Monsour, 2016; Mariappanadar and Kairouz, 2017).

In fact, Saleh (2009) and Alsayed (2014) formed its base and more elements from some earlier studies and recent studies were added to the index with an effort to include a large number of elements that were viewed by different researchers to pertain to IC. It is important to note that there is no right or wrong classification of IC. In this framework, the researcher tried to provide a broad range of IC elements to provide readers with a complete picture of what IC encompasses and to facilitate the identification of IC within organizations.

9. Investors Information Needs

Investors' information needs are not only financial. Epstein and Freedman (1994) found that there is a strong demand from investors on information regarding product safety, quality, and company's environmental activities. Furthermore, they want companies to report on corporate ethics, and community involvement. As we can see all these demanded elements are considered ICI and are found in chapter two under the various categories of IC. Since investors require companies to disclose this information, this means that they are relevant to their investment decisions.

Harsha and Kerav (2012) concluded that investors are influenced with a number of factors when taking investment decisions in equity shares. These factors are:

1. **Firm Image:** this factor include elements that reflect the performance of the firm such as corporate earnings, expected dividends, expected revenue of the firm, company's position in industry, company's reputation, market capitalization of the firm etc.
2. **Investors' Personal Financial Position:** how much they can afford to spend on shares.
3. **Advocate Recommendations:** an outside expert's viewpoint of the firm's position and what they think about the firm. These recommendations are usually developed based on conversations with company executives and sector experts and a study of the firm's annual reports.
4. **Track Record:** this factor focuses on the firm's contributions toward social and natural causes, in addition to tracking the firm's past financial/ accounting performance.
5. **Relevance to the Community:** the compatibility of the firm's operations with environmental regulations and requirements.
6. **Neutral Information:** include forecasts prepared by independent investment company and expected firm's losses in both national and international markets.

7. **Economic Factors:** include the firm's financial statement conditions.
8. **Individual Dynamics:** such as firm's perceived ethics, trading cost, and bid-offer spread.

Ayieye (2004) specified factors upon which individual investors build their investment decisions. These factors are:

1. **Firm's profitability**, the main aim of any investment decision is maximizing the investor's wealth.
2. **Firm's liquidity position,** it provides an indication that the firm will be able to pay dividends and interest to its investors (debt and equity investors).
3. **Monetary and fiscal policies** of the government such as taxes, interest rates, inflation, and government borrowing, as these policies can encourage or discourage investors from buying securities. For example, investors must take in account that dividends payments are taxable. This means that dividends are subject to double taxation (Mogu, 1999). While interest rates are tax exempted.
4. **Industrial factors,** such as the firm's possession of a competitive advantage that distinguishes it from competitors in the industry in which it is operating. Maintaining a competitive advantage provides an indication to the investors of good company's performance, leading to an expected high return in the future.
5. **Firm's financial policy and capital structure,** as depending more on debt in financing its operations will provide investors with an indication that the firm will use most of its earnings in serving debt financing. Also, issuing a lot of shares may threat their share in the firm's earnings, as it will be divided on a larger number of shareholders.
6. **Firm's cost of capital,** as investors will not undertake an investment before comparing its returns to the cost of capital. This means the lower the firm's cost of capital, the more attractive the firm to investors.

7. **Risk,** associated with future returns uncertainty. That is, the probability of variation between realized returns and the expected one. So, when determining whether to invest or not investors must relate the risk to the return from the investment (risk-return tradeoff) (Mogu, 1999).
8. **Other factors** such as Future expansion plans, diversification into new markets, information about the management and staff of the company etc. as these factors will affect the firm's ability to sustain and distribute dividends.

With regard to individual investors' information needs Jagongo and Mutswenje (2014) also found that among the most important factors are:

- Firm's reputation (which is a relational capital element);
- Firm's status in the industry(a RC element);
- Expected corporate earnings (which is the result of successful performance caused by firms' IC);
- Firms' shares price (which is affected by firm's ICD);
- And expected dividends (that is affected by firm's financial performance which is the result of successful management of firm's IC).

On the other hand, institutional investors are influenced mostly by firm's management quality, technological advancements, changes in investments trends, amount of capital, safety of the principal capital, return on equity, and company growth in sales (Mogu, 1999). It is clear that most of these items fall under the structural capital component of IC. Thus, it can be concluded that SC plays a vital role in assisting institutional investors in making rational investment decisions.

Garcia-Meca and Martinez (2007), revealed that financial analysts rely on some ICI when they are forming their recommendations concerning a firm's conditions. The most relevant ICI for analysts' recommendations is found to be: coherence and credibility of a firm's strategy, new investments, and firm's products, alliances, or leadership. Since this ICI are used by analysts to convince decision makers with their recommendations, we can

conclude that these ICI has a significant influence on investor's decisions. It also found that analysts did not mention information about R&D and innovation. In fact, this does not mean that they are of no relevance to decision making process but they are hard to obtain and the disclosure of such information could be beneficial to competitors.

According to AICPA (1994), an investor's primary objective is to form opinions about the absolute and relative value of companies and their equity securities. That is, they seek to predict the financial future of companies in order to invest in the one with the highest profit and the lowest risk. Thus they need to adopt a forward-looking - perspective when valuing their investment opportunities. According to this perspective, investors need to:

1. **Obtain information about a company's past and present to obtain insights into its future**, aid in identifying opportunities and risks facing the company, and understanding the impact of business events and activities on the financial position of a company which indeed help in forecasting its future financial performance.
2. **Focus on leading indicators in historical data that provide insight into the future**. Three examples are trends affecting the business, performance measures (are indicators of how well a company performs key business processes, such as a new product that wins awards for performance or quality), and correlated measures (are conditions closely correlated with a company's future performance. For example, housing starts may be a good leading indicator of revenues for companies producing building materials.
3. **Look for any prediction or information that aids prediction (Forward-Looking Information)** such as management's plans, assessments of opportunities and risks, and forecasted data.

According to the study conducted by the special committee, formed by AICPA in 1991 to answer the question about the information firms should provide to investors and creditors for the purpose of improving business reporting. Users (investors and

creditors) need the following information that falls in five main groups in order to make more informed and rational decisions:

1. **Financial and Non-Financial Data**: this category includes information from financial statements and related disclosures in addition to high-level operating data and performance measures used to manage the business. For financial statements and its related disclosures, they are the core of business reporting. They represent the financial position of a company at a point in time and over a period of time through expressing many of its events and activities in terms of money.

Investors use financial statements as an analytical tool, a warning device, and a mean for control and accountability. In addition to financial statements, investors need high-level operating data and performance measurements. In other words, they need data about a company's business activities and its key processes other than those reported in financial statements. For example, they need information about the quality of goods and services, the relative cost of activities, the time required to perform key activities, productivity measures, number of employees, new products development, and others. Although the outcome of users' analysis is expressed in a financial terms such as the value of securities or the amount of cash flow available for debt services, their analysis is rarely limited to mere financial measures.

The integration of both financial and non-financial data will provide them with a better understanding of the cost, volume, and profit relationships within a company. Thus, enabling investors to anticipate the profit given that the volume has decreased or increased by any percent, what will happen to the profit if the company restructure and terminates a percentage of its workforce? To sum up, financial data along with non-financial data improve investor's predictions of a firm's future financial performance leading to accurate valuations of firms and in turn rational investment decisions.

2. **Management's Analysis of Financial and Non-financial Data:** management analysis provides users with two categories of information. The first includes the reasons of changes in financial, operating and performance related data (changes related to market acceptance, cost of key resources, productivity, profitability, innovation, liquidity) and the effect of unusual or non-recurring transactions and events. The second group identifies the company's key trends and the past effect of these trends.
3. **Forward-Looking Information:** mainly include two groups of information. The first is information about a company's opportunities and risk (such as opportunities and threats caused by changes in the industry and those associated with company's assets, customers, or suppliers. Indeed assessments of a company' opportunities and risks directly affect investor's valuation of a company and their judgments about credit risks.

The second group of forward-looking information that attracts investors' interest is information about management plans. Because they are considered as important leading indicators of a firm's future. Information about a company's plans helps investors understand the general directions of the company in addition to helping them assess the opportunities and risks it may face. Investors and creditors also find information about the critical success factors, factors or conditions that management assumed that their existence would ensure the success of their plans essential. For example, the plan of computer producer to be the first to market innovative and technologically superior products may be based on the assumption that key suppliers will choose to assist the company to incorporate leading technologies in its products rather than treating all computer producers equally. This information also enables investors to assess opportunities and threats that may face the company.

4. **Information about Management and Shareholders:** investors need information about a firm's directors and shareholders such as information about the background of directors, type and

amount of their compensations and the method for its calculations, the number of shares owned by senior directors, information about related-party transactions, and the relationships among managers, shareholders, suppliers, customers, and competitors.

5. **Background about a Company:** investors and creditors find information about a company's strategy and objectives useful because it will provide them with insights regarding where the management intends to lead the company. Thus enabling them to anticipate a company's future position. They also need information about the scope and description of business as they form the basis for their analysis of the company. Moreover, the impact of industry structure on a company is another piece of information that benefits investors and creditors in evaluating its opportunities and risks. It addresses new products and services affecting the company's market, the bargaining power of customers and suppliers, and the intensity of competition facing a company.

It is observed that, most of these information needs of investors are intangible and can be classified under IC, which reveals the importance of ICI to investor's decisions.

10. Literature Review

Many prior studies revealed that investment in intangibles (IC) contributes to companies' future performance (Emadzadeh et al., 2013; Jafari, 2013; Sydler et al., 2014; Nezhad et al., 2014; Onyam et al., 2015; and others). Abd Elaal (2009), found that there is a significant statistical relationship between IC components (HC, SC, and RC) and improving companies' performance. It also found that among the three components of IC, HC had the higher influence on companies' performance especially employees' experience level, competencies, and skills elements of HC. Kehelwalatenna& Gunaratne (2010), stated that IC is positively associated with firm performance, and investor response.

Emadzadeh et al. (2013), found that IC has positive and significant impact on financial performance (the first dimension of

the BSC), customers (the second dimension of the BSC), business processes (the third dimension of the BSC), and learning and growth (the fourth dimension of the BSC). Melegy (2015), found that although there is a low level of accounting disclosure for IC in the listed Egyptian companies during the study period, there is a positive and significant relationship between the level of ICD and the financial performance of the listed Egyptian companies.

According to Martini et al. (2016), disclosure of the social and relational dimensions of IC clearly affected the total sales amounts generated by the sample companies. This study also revealed that there is a positive link between RCD and net operating cash flow. Tahat et al. (2017), found that there is strong evidence on the role of intangibles in boosting firms' performance. It also revealed a strong significant positive associations between a firm's goodwill (GW) and R&D and future financial and market performance indicating that GW and R&D can contribute positively to earnings enhancement and they are of interest when making investment decisions.

Indeed this positive effect of IC on firms' future earnings will make difference in investors' investment decisions in companies' shares. Because maximizing profit is a primary consideration that investors take in account when choosing between investment opportunities (Baker and Haslem, 1973). Lim and Dallimore (2002), found that the investment community in Australia places greater emphasis on the customer capital component of the strategic marketing capital and the HC component of the strategic management capital. It also revealed there is an inter-relationship between Knowledge of indicators and its perceived importance among investors. That is there is a positive relationship between investors' understanding of an IC element and its perceived importance.

Abdolmohammadi (2005), found a highly significant effect for the ICD on Companies' market capitalization (Stocks' market valuation). Garcia- Meca& Martínez (2007), found that Analysts usually report information regarding a company's coherence and

credibility of strategy, new investments, and firms' products, alliances, or leadership. This ensures the importance of such ICI elements in making difference in investors' investment decisions. It is obviously harder for analysts to obtain data on R&D, and innovation because companies want to avoid the risk of releasing information that could be beneficial to competitors. Alkhaial (2009), found that Saudi corporations' traditional financial disclosure is not sufficient for investors to make rational investment decisions. And they all agreed that voluntary disclosure is very important to investment decisions in shares. Saleh (2009), revealed that there is positive relationship between disclosing information about the environmental performance in the financial reports of the listed industrial companies and both rationalizing finance and investment decisions and maximizing companies' competitive capabilities. Cormier et al. (2010), found that social disclosure and environmental disclosure substitute each other in reducing stock market asymmetry.

Foda (2010), found that the current financial reporting system used by Egyptian companies is insufficient to provide investors with the information needed to rationalize their investment decisions. It also found that the disclosure of IC components can provide additional information that positively affects the economic and informative content of the published financial statements. Schiemann et al. (2011), concluded that customer capital, HC, and process capital are reported more often than other IC categories in Roadshows and Investor Conferences, which reveals the importance of these IC components to investors' decision making process.

Abhayawansa & Guthrie (2012), found that analysts use ICI to manage perceptions. In particular, analysts attempt to use ICI in their reports to subdue the pessimism associated with an unfavorable recommendation, increase credibility of favorable recommendations and distinguish sell from hold recommendations. Alghaish (2013), found that one of the most important factors that increased the importance of intangibles is the shift of management interest to the value creation concept in order to achieve the

satisfaction and loyalty of their customers and other stakeholders. This indeed has altered stakeholders' information needs and forced accountants to pay more attention to measuring and disclosing information about intangibles. It also revealed that intangibles indirectly influence companies' value and share price and even though they do not appear in the balance sheet.

Thus, is considered important information to different stakeholders. Moreover, it stated that the Egyptian market appreciates and understands intangible assets that exist in telecommunication and pharmaceutical firms because these firms mainly rely on human capabilities, organizational capabilities, and investment in new technologies. Kim& Taylor (2014) found that the productivity of HC, SC and RC are significantly positively related to share price (i.e. have value-relevance). Sharaf (2015), stated that there is appositive effect of nonfinancial disclosure in integrated business reports on stakeholders (especially investors) ability to evaluate companies' value creation abilities. Because integrated reports provide a complete image about the company which enables investors to evaluate its ability to generate value.

According to Monsour (2016), HC is considered one of the most important resources of organizations in today's knowledge economy. It plays an important role in value creation and enhancing companies' competitive advantage. This role has increased investors' demand for HC information. There are several benefits of HC voluntary disclosure such as building trust with investors, enhance the company's reputation in market, reducing the costs of uncertainty, and reduce information asymmetry between managers and investors which in turn positively affect investment decisions. Monsour (2016), also revealed that there is a significant positive impact of the HC information disclosed on investment decisions regardless of the form of information disclosed (quantitative or qualitative). Verbeeten et al. (2016) found a positive association between CSR disclosures and share price.

Although many studies have addressed the importance of some ICI elements to investors, there is a lack of studies that

examined the relevance of all three components of IC. However the current study is conducted to contribute to this area of research and specify which HC, SC, and RC elements are the most relevant to investors' investment decisions in Egyptian organizations.

11. Research Methodology

The current research will use the deductive approach to develop a proposed ICD index based on surveying the relevant previous studies and available literature in this area. The deductive approach will be also used in developing the main research hypotheses and justifying and reasoning it. Furthermore, the inductive approach will be used to empirically test the stated research hypotheses related to the main elements of the proposed ICD index and its effect on the investment decisions in securities in the Egyptian environment.

To achieve the main aim of this study which is empirically testing the relevance of ICI to investors' investment decisions in the Egyptian securities market, a self-administered questionnaire was developed. The questionnaire consists of two parts. The first part consists of four questions for gathering general information about respondents: investor type, current occupation, experience, and educational qualification. The second part of the questionnaire is divided to three subdivisions. The first one is dedicated to information related to the first component of IC, HC and is further divided into four sub-groups of HC measures (A, B, C, and D). The second is dedicated to information related to the second intellectual capital component (SC) and is further divided into six sub-groups of SC measures (A, B, C, D, E, and F). The final sub-division is for information related to the third intellectual capital component (RC) and is divided in to four sub-groups of RC measures (A, B, C, and D). In the second part of the questionnaire a Likert scale of five points ranging from (1) that indicates that the given element has no influence on investment decisions to (5) that indicates that the given element is very influential to investment decisions, is used to express the extent to which respondent consider the given ICI relevant to their investment decisions.

A total of 500 questionnaires were distributed to a random sample of Egyptian stock market investors, 182 were gathered. Thus, the percentage of responses is 36.4% of the total number of the distributed questionnaires. After excluding incomplete and invalid questionnaires, the current study ended up with 177 valid and useable questionnaires- representing 35.4% response rate.

The collected data were processed using the Statistical Package for Social Science (SPSS) version 16. Descriptive statistics of the collected data were analyzed for the purpose of understanding the main characteristics of the research variables. Non-parametric tests such as Kruskal-Wallis were carried out on the collected data to investigate the significant differences among Egyptian investors regarding their awareness of the relevance (importance) of ICI to their investment decisions in the Egyptian securities market. Also, Kolmogorov-Smirnov Z (normality test) was carried out to ensure that the selected sample is unbiased and representative to study population.

The illustrated statistics in table (2) show that 51 of the respondents are banks and 116 are other financial institutions, representing 28.8% and 65.5% of the total responses respectively. While, 6 of the respondents are brokers (3.4%) and 4 of the respondents- representing 2.3% of the total responses are insurance companies (Table 2).

Table (2) also shows that 68 of the participants (38.4% of the total responses) belong to the category of accountants, and 15 of the participants (8.5% of total responses are executive managers. While 11 of the participants (6.2% of total responses) are internal auditors and 10 of the participants (5.6% of responses) are supervisors. The sample also includes 5 data and system analysts, 3 information technology specialists, and 3 external auditors, representing 2.8%, 1.7%, and 1.7% respectively. The rest of the participants are in other job positions (62 participant, representing 35.0% of the total responses).

From table (2) it can be observed that 101 of the respondent (57.4% of total respondents) have experience more than 5 years, while 75 of them (42.6%) have experience between 1-5 years. Moreover, table (2) indicates that most of the respondents (149 –

representing 84.2% of the total respondents) have bachelor degree, 13 of respondents (7.3%) have master degree, 8 of the respondents (4.5%) are secondary school graduates, and 7 of the respondents (4.0%) have Ph.D.

(Table 2: The Research Sample)

	General Information	#	%
1	**Investors Type:**		
	Banks	51	28.8
	Brokers	6	3.4
	Insurance Companies	4	2.3
	Other Financial Institutions	116	65.5
	Total	**177**	**100.0**
2	**Current Occupation**:		
	Executive Manager	15	8.5
	Information Technology Specialist	3	1.7
	Internal Auditor	11	6.2
	Supervisor	10	5.6
	Data and Systems Analyst	5	2.8
	Accountant	68	38.4
	External Auditor	3	1.7
	Others	62	35.0
	Total	**177**	**100.0**
3	**Experience:**		
	1-5 Years	75	42.6
	6-10 Years	43	24.4
	11-15 Years	25	14.2
	16-20 Years	15	8.5
	More than 20 Years	18	10.2
	Total	**176**	**100.0**
4	**Educational Qualifications:**		
	Secondary School	8	4.5
	Bachelor Degree	149	84.2
	Master Degree	13	7.3
	Ph.D.	7	4.0
	Total	**177**	**100.0**

12. The Results and Discussion

The statistical results of the current research will be presented under four main sections: Descriptive analysis of the human capital information (HCI); Descriptive analysis of the structural capital information (SCI); Descriptive analysis of the relational capital information (RCI); and the statistical results of testing the research hypotheses:

12-1. Descriptive Analysis of the Human Capital Information (HCI)

Table (3) illustrates that the vast majority of the study's participants perceived the importance of HC information to investment decisions to range from very important to important, with responses ranging from 59.3% to 16.9% and from 49.2% to 19.2% respectively. This is justified by the mode values which vary between 5 and 4 for all HC information elements except for HC elements: 5 (Changes in the number of employees- the ratio of new workers to the total number of workers), 6 (Discussion of employees' interviews- age, experience, educational level, nationality, and other discussed information), and 35 (employees' involvement within the community) having a mode equal to 3. Accordingly, the research hypothesis saying that "The disclosure of HC information does not affect the investors' investment decisions in the Egyptian securities market" could be safely rejected. The alternative hypothesis that the disclosure of HC information has a positive effect on the investors' investment decisions in the Egyptian securities market is accepted at significant level $\alpha = 0.05$.

Table (3) also shows that respondents who believe that HC information are of no importance to investment decisions range from 0.6% to 11.9% for all given HC elements except for elements: no. 14 (employees' brain power represented in creativity and innovative capacity), 15 (number of competencies' development programs and activities), 18 (employees' ability to learn new things), 20 (employees' vocational qualifications), 28 (employees' work related knowledge), and 44 (increase in employees' profitability ratio-net income/ total number of employees). Thus, it

can be concluded that there is a total agreement among respondents on their importance to investment decisions.

The mean column in table (3) reveals that in general, different HC information elements are not equal in their importance to investors' investment decisions in the Egyptian securities market, as their mean values range from 4.41 and 3.21. However, the most important recognized HC information elements according to its mean value are:

Employees' compensation plan (element No. 2), and employees diversity (element No. 41), with a mean value of (4.24).

- Employees benefits (housing, insurance, profit sharing, pensions, etc.) (Element No. 3), investment in employees' continuous learning capabilities improvements (element No. 23), and employees' ability to work in teams and to discuss their opinions in group discussion (element No. 29) have equal relative importance to investment decisions with a mean value of (4.12).
- Discussion of employees' interviews (age, experience, educational level, nationality, and other discussed information) (element No. 6), and employees' involvement within the community (element No.35), are equally important with a mean value of (3.21).
- Implementing safety measures to ensure employees safety (#8), employees' work related knowledge (# 28) and the decline in an employee's error ratio (operating errors/ number of employees) (# 46) are equally important with a mean value of (4.16).
- A statement ensuring the prohibition of employees' discrimination by race, gender, religion, or disabilities (9) and number of competencies' development programs and activities (15), are equally important with a mean value of (4.38).
- The management's focus on attracting talented individuals with unique academic and vocational qualifications (12) and increase in employees' productivity ratio (production volume/

number of employees (45), are equally important with a mean value of (4.35).

- The strategic leadership the firms' management (17) and increased dependence on key employees (42), are equally important with a mean value of (4.15).
- The compliance of employees' attitudes with the firm's values (32) and the decrease in employees' absence rate (33), are equally important with a mean value of (4.05)
- Employees' vocational qualifications (20) and the increase in the number of employees participating in setting plans (39), are equally important with a mean value of (4.03).
- The decrease in the number of employees' complaints (37) and the decrease in the number of managerial investigations with employees (38), are equally important with a mean value of (3.90).
- Training hours per employee (25) and employees' entrepreneurial spirit (27), are equally important with a mean value of (3.67).

From the mean column it is also observed that element (14) employees' brain power represented in creativity and innovative capacity has the highest mean value of 4.41 which indicate that it is the most important HC information element to investors' investment decisions. On the other hand, elements (6) discussion of employees' interviews- age, experience, educational level, nationality, and other discussed information and (35) employees' involvement within the community, have the lowest mean value of 3.21 which mean that they are the least important to investment decisions. Based on the obtained statistical results (Table 3) the second null hypothesis stating that "There are no significant differences among HC elements regarding to their relative importance for the investors' investment decisions in the Egyptian securities market" could be rejected at significant level $\alpha = 0.05$. Therefore, the alternative hypothesis saying that there is significant difference among HC elements related to their relative importance for the investors'

investment decisions in the Egyptian securities market" could be accepted with confidence level 95 percent.

12-2. Descriptive Analysis of the Structural Capital Information (SCI)

Table (4) illustrates that the vast majority of the study's participants perceives the importance of Structural Capital (SC) information to investment decisions. It ranges from very important to important, with responses ranging from 28.8% to 54.2% and from 24.3% to 43.5% respectively. This is justified by the mode values which vary between 5 and 4 for all SC information elements. Accordingly, the research hypothesis saying that "The disclosure of SC information does not affect the investors' investment decisions in the Egyptian securities market" could be safely rejected. The alternative hypothesis that the disclosure of SC information has a positive effect on the investors' investment decisions in the Egyptian securities market is accepted at significant level $\alpha = 0.05$.

The above table (Table 4) also shows that respondents have a complete agreement that the following SC information is important and have significant effect on the investment decision:

- Element no. 1 (investment in information technology),
- Element no. 2 (training employees on using information technology,
- Element no. 4 (creating, retaining, and transferring knowledge within the organization through building an internal information network and using it),
- Element no. 9 (the number of the company's main operations),
- Element no. 15 (the availability of control tools and performance measurement standards),
- Element no. 20 (systems that the company has in place), 26 (the company's efforts in the working environment) ,
- Element no. 31 (the companies efficiency in utilizing its resource),
- Element no. 32 (the company's culture and atmosphere are supportive and comfortable),
- Element no. 39 (the increase in the percentage of new products sales to total sales), and
- Element no. 40 (the decrease in the average time needed to develop the product). These elements are believed to be important to investment decisions by 100% of respondents.

While, the vast majority of the research respondent believe that the other SC listed above are important and affect the investment decisions in market securities in the Egyptian environment. However, the respondents who believe that SC information have no importance to investment decisions are relatively low and not exceed 13% of the total responses (range from 0.6% to 13.0% for all given SC elements).

The mean column in table (4) reveals that in general, different SC information elements are not equal in their importance to investors' investment decisions in the Egyptian securities market. .As their mean values are ranged between 4.40 and 3.82. However, some SC elements seem to have the same relative importance to investors' investment decisions, and they scored the same mean value (Table 4), these SC elements items include:

- (6) Increasing the budget dedicated to R&D, (29) organizational flexibility, and (57) the company has a higher number of IP per year compared to competitors, are equally important with a mean value of (4.19).
- (7) The increase of the number of suggestions and projects received from employees to develop work and products, (28) the existence of customers support functions, and (46) the decrease in the percentage of reprocessing costs to total production costs, are equally important with a mean value of (4.04).
- (8) The increase in the number of employees' implemented suggestions, (13) the increase of the percentage of investments in R&D to sales volume, (53) decrease in the average time needed for processing orders, and (54) the decrease in the average production cost per unit, are equally important with a mean value of (4.08).
- (9) The number of the company's main operations, and (17) information about current business state, are equally important with a mean value of (4.15).
- (11) The number of computer programs used by the company and (16) the number of accreditations awarded to the firm, are equally important with a mean value of (3.96).
- (12) The number of data bases used by the company and (26) the company's efforts in the working environment, are equally important with a mean value of (3.95).
- (14) The coordination between R&D function, the production function, and other functions, (20) systems that the company has in place, and (36) the company's management highly trust

and support the R&D department, are equally important with a mean value of (4.11).

- (15) The availability of control tools and performance measurement standards and (56) the company's trademark, are equally important with a mean value of (4.23).
- (18) The business model, (33) the company's recruitment programs are dedicated to hire best available candidates, (38) the increase in the number of new products introduced by the company, and (45) process quality awards, are equally important with a mean value of (4.24).
- (21) Building an internal information network and using it, (32) the company's culture and atmosphere are supportive and comfortable, and (50) the efficiency of the companies operating cycle (time of value-added activities/ total operating time), are equally important with a mean value of (4.14).
- (22) Management processes and (40) the decrease in the average time needed to develop products are equally important with a mean value of (4.07).
- (24) The company's relationships with funds granting bodies, (34) possessing a well-developed reward system tied to performance, and (42) the decrease in customers' complaints from new products, are equally important with a mean value of (4.21).
- (31) The companies efficiency in utilizing its resource and (37) credibility and consistency of strategy, are equally important with a mean value of (4.22).
- (35) The company is not a "bureaucratic nightmare" and (55) the number of patents registered and to be registered for the firms are equally important with a mean value of (3.94).

From the mean column it is also observed that element (2): training employees on using information technologies, has the highest mean value of 4.40 which indicates that it is the most important SC information element to the investors' investment decisions. On the other hand, element (44): The increase in the percentage of sold units to total units produced have the

lowest mean value of 3.82 which mean it is ranked as the least important SC element that might affect the investment decisions.

Based on the obtained statistical results (Table 4) the second null hypothesis stating that "There are no significant differences among SC elements regarding to their relative importance for the investors' investment decisions in the Egyptian securities market" could be rejected at significant level $\alpha = 0.05$. Therefore, the alternative hypothesis saying that there is significant difference among SC elements related to their relative importance for the investors' investment decisions in the Egyptian securities market" could be accepted with confidence level 95 percent.

12-3. Descriptive Analysis of Relational Capital Information (RCI)

Table (5) illustrates that the majority of the study's participants see that the importance of RC information to investment decisions ranges from very important to important, with responses ranging from 59.9% to 28.2% and from 48.9% to 27.8% respectively. This is justified by the mode values which vary between 5 and 4 for the entire elements of relational capital information. Accordingly, the research hypothesis saying that "The disclosure of RC information does not affect the investors' investment decisions in the Egyptian securities market" could be safely rejected. The alternative hypothesis that the disclosure of RC information has a positive effect on the investors' investment decisions in the Egyptian securities market is accepted at significant level $\alpha = 0.05$.

The above table also shows that vast majority of respondents (Approximately 90% of the total respondents) believe that the following RC information elements are importance and have significant effect on the investment decisions: elements no. 4 (developing society and environmental serving activities), 9 (customers' involvement in developing the company's products and services), 12 (winning new clients), 16 (the company dependence on key customers), 23 (building and using a database for the company's clients), 24 (the increase in the number of markets in which the company markets its products), 27 (maintaining long-standing relationships with suppliers), 33 (the increase in the ratio of customers' orders response) and 43 (the suppliers' on time delivery of the company purchase orders). Thus it can be concluded that there is a total agreement among respondents on their importance to investment decisions.

The mean column in table (5) reveals that in general, different RC information elements are not equal in their importance to investors' investment decisions in the Egyptian securities market. The mean values of RC information elements are ranged between 4.45 and 3.81 (Table 5).

However, some RC elements have the same mean value, and accordingly it might have the same effect on the investment decisions. These items include:

- (6) Studying the market to determine customers' needs and desires, (23) building and using a database for the company's clients, and (43) the suppliers' on time delivery of the company's purchase orders, are equally important with a mean value of (4.32).
- (10) Possessing good relations with finance providers through meeting borrowing requirements and terms, (20) the increase on the company's market share, and (21) the increase in the ratio of new customers to the total number

of clients, are equally important with a mean value of (4.25).

- (11) The expansion of the company's client base and (29) meeting quality standards, are equally important with a mean value of (4.38).
- (13) Collaborations with other local or global organizations, and (28) the decreases in customers' turnover rates are equally important with a mean value of (4.13).
- (14) The company's trademark and trade name reputation and (24) the increase in the number of markets in which the company markets its products, are equally important with a mean value of (4.37).
- (17) The increase in the number of marketing and distribution channels and (33) the increase in the ratio of customers' orders response, are equally important with a mean value of (4.16).
- (18) The increase in the number of franchise agreements and (31) the decline in the percentage of returns by customers to total number of units sold, are equally important with a mean value of (4.20).
- (22) Becoming a leader in a given market and (44) the number of licenses obtained by the firm during the year, are equally important with a mean value of (4.29).
- (30) The decrease in the number of customers' complaints and (40) the increase in the customer profitability ratio (net profit/ number of customers), are equally important with a mean value of (4.21).

From the mean column (Table 5) it is also observed that element (12) winning new clients has the highest mean value of 4.45 which indicate that it is the most important RC information element to investors' investment decisions. On the other hand, element (36) litigation costs have the lowest mean value of 3.81 which mean that they are the least important to investment decisions.

Based on the obtained statistical results (Table 5) the second null hypothesis stating that "There are no significant differences among RC elements regarding to their relative importance for the investors' investment decisions in the Egyptian securities market" could be rejected at significant level $\alpha = 0.05$. Therefore, the alternative hypothesis saying that there is significant difference among RC elements related to their relative importance for the investors' investment decisions in the Egyptian securities market" could be accepted with confidence level 95 percent.

13. Summary and Recommendations for Further Research

The current study aims to survey the literature and develop a more comprehensive and updated intellectual capital disclosure index (ICDI). It also aims to identify whether intellectual capital information (ICI) have an influence on investors' investment decisions in the Egyptian context and if so, determine the most important ICI to investors' investment decisions. A total of 500 questionnaires were distributed to a random sample of Egyptian stock market investors, only 182 questionnaires were collected. Thus, the percentage of initial responses is 36.4% of the total number of the distributed questionnaires. After excluding incomplete and invalid questionnaires, the current study ended up with 177 valid and useable questionnaires- representing 35.4% response rate. The results of the study show that the majority of the respondents agree on the importance of ICI to investors' investment decisions. The finding also revealed that the ICI elements examined are not equal with regard to their influence on investment decisions.

The results of the study also revealed that element (14) employees' brain power represented in creativity and innovative capacity has the highest mean value of 4.41 which indicate that it is the most important HC information element to investors' investment decisions. On the other hand, elements (6) discussion of employees' interviews- age, experience, educational level, nationality, and other discussed information and (35) employees' involvement within the community, have the lowest mean value of 3.21 which mean that they are the least important to investment decisions.

With regard to SCI the study found that element (2): training employees on using information technologies, has the highest mean value of 4.40 which indicates that it is the most important SC information element to the investors' investment decisions. On the other hand, element (3): total costs of R&D activities have the lowest mean value of 3.91 which mean it is ranked as the least important SC element that might affect the investment decisions.

Moreover the study results found that of all RCI elements, element (12) winning new clients has the highest mean value of 4.45 which indicate that it is the most important RC information element to investors' investment decisions. On the other hand, element (36) litigation costs have the lowest mean value of 3.81 which mean that they are the least important to investment decisions.

The current study recommends the following:

- Adjusting the traditional reporting systems to be able to meet the information needs of stakeholders in today's knowledge based economy. Through, being able to measure and report the main value drivers (IC) in todays' economy which is characterized by severe competition.
- Egyptian companies are advised to measure and disclose ICI because of its importance both internally (to the company itself) and externally (to the company's stakeholders).
- The accounting profession organizing authorities in Egypt should issue general guidelines for measuring and disclosing IC in each sector that suits all companies in the same sector. In order to enable comparability among Egyptian companies within the same sector. Consequently, enabling investors to take the right investment decisions in the marketable securities.
- Increasing the top management awareness of the importance of efficiently managing their HC, SC, and RC because it is the main driver of company's value and the enhancer of its competitive position that enable it to survive in todays' severe competition.

- Enhancing the stakeholder's awareness of the importance of ICI to the rationality of their decisions in order to increase their demand of ICI. Thus, forcing Egyptian companies to disclose ICI. This would positively affect economic growth in Egypt.
- It's important to conduct more researches to examine the costs and benefits of each HC, SC, and RC information element to disclose only valuable ICI elements for which the benefits overweight's the costs.
- Analyzing ICI and providing the interested readers with the type of signals each IC element can convey them (interpret the effects of the disclosed IC indicators to IC statement readers). Because there is a direct relationship between understanding ICI elements and its usage.
- Reinvestigating the relevance of ICI disclosure on investors' investment decisions in the Egyptian security market using real data, and empirically examine its effect on market share prices in the Egyptian environment.

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