

دور القيمة المضافة لرأس المال الفكري في تحسين القيمة السوقية للشركات المساهمة المدرجة في سوق العراق للأوراق المالية

The Role of the Added Value of Intellectual Capital in Improving the Market Value of the shareholding companies listed on the Iraq Stock Exchange

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الملخص:

يهدف البحث الحالي الى بيان دور القيمة المضافة لرأس المال الفكري في تحسين القيمة السوقية للشركات المساهمة المدرجة في سوق العراق للأوراق المالية , ولتحقيق هدف البحث تم الاعتماد على استخدام الاحصاء الوصفي من خلال استعمال استمارة الاستبيان اذ كان عدد الاستمارات الموزعة (90) استبانة وكانت المستردة والصالحة للتحليل هي (83) استبانة اذ تم توزيعها على عينة من المستثمرين في سوق العراق للأوراق المالية .وتوصل البحث الى ان الافصاح عن معلومات القيمة المضافة لرأس المال الفكري يسهم في تحسين الابلاغ المالي مما يعزز من قيمة الشركة لاسيما بانه يمثل القيمة الحقيقية للوحدة الاقتصادية والمحرك الرئيسي لأداء الوحدات الاقتصادية ويمثل الجسر بين القيمة السوقية للأسهم وبين القيمة الدفترية لموجودات الوحدة الاقتصادية . واوصى البحث الى ضرورة الاهتمام بالقيمة المضافة لرأس المال الفكري ومكوناته في الوحدات الاقتصادية، لأنه يمثل القيمة الحقيقية للوحدات الاقتصادية.

الكلمات المفتاحية: القيمة المضافة، رأس المال الفكري، القيمة السوقية

Abstract:

The Research aims to demonstrate the role of the added value of intellectual capital in improving the market value of the shareholding companies listed in the Iraq Stock Exchange, and to achieve the goal of the research, the use of descriptive statistics was relied upon through the use of the questionnaire form, as the number of distributed forms was (90) questionnaires and they were recovered and valid For analysis, it is (83) questionnaire, as it was distributed to a sample of investors in the Iraq Stock Exchange. The research concluded that the disclosure of value-added information for intellectual capital contributes to improving financial reporting, which enhances the value of the company, especially as it represents the true value of the economic unit and the main driver. For the performance of the economic units, it represents the bridge between the market value of the shares and the book value of the assets of the economic unit. The research recommended the need to pay attention to the added value of intellectual capital and its components in the economic units, because it represents the true value of the economic entity.

Keywords: Value Added, Intellectual capital, market value

The First Topic: The Methodological Framework of the Study

Introduction

The value-added input is a key metric for evaluating intellectual capital because it allows evaluation of the contribution of each resource (human, structural, and relational) of the economic entity that owns it to the process of adding value. Today's scientific and technological challenge requires attention to knowledge, information, and skills since an entity competes on them. Intellectual capital is an economic entity's real capital because it creates market value through its competitive advantage. The law of increasing returns applies to intangible intellectual property, unlike the law of diminishing returns for tangible goods.

Problem of research:

The research problem was identified in the question "is there a role for the use of Value-Added information for intellectual capital in improving the market value of joint-stock companies listed on the Iraq Stock Exchange"?

Importance of research:

The importance of the research is by highlighting the role played by the added value of intellectual capital in enhancing the market value of economic entity and achieving a competitive advantage in the Iraqi environment, and thus influencing the decisions of users financial statements, as it is one of the important tools that encourage investment in economic entity.

Research objectives: the research aims to achieve the following:

- Statement of the concept of added value of intellectual capital , and statement of the concept of market value of the company.

- statement of the role of the added value of intellectual capital in enhancing the market value of joint stock companies listed on the Iraq Stock Exchange.

Research hypothesis:

The research is based on the following main hypothesis: "there is a significant relationship to the use of Value-Added information for intellectual capital in improving the market value of joint-stock companies listed on the Iraq Stock Exchange".

Research methodology and means of data collection

Data collection for research has two main steps:

Theoretical aspect:

The theoretical part was based on current sources and Arabic and international literature. Books, periodicals, research papers, university theses, and International Information Network studies were used.

Applied aspect:

He used a questionnaire distributed to the accounting staff of Joint Stock companies listed on the Iraq Stock Exchange to conduct the research.

Research population and representative sample:

Due to the size of the community and the difficulty of reaching all members, a random sample was selected in the local environment and 90 questionnaires were distributed, with 83 recovered and valid for analysis. Research companies are Joint Stock Iraq Stock Exchange companies.

Statistical methods used:

The statistical packages for the Social Sciences (SPSS) program was used to determine the degree to which the research sample's responses deviate from the arithmetic mean and simple linear regression for each

phrase of the search variables. Repetition, percentage, mean, and standard deviation were used.

previous studies:

2021 study The study examined the value of adding intellectual capital to measurement inputs. Accounting disclosure of intellectual assets in Saudi Arabia: an applied test of The company's market value and return on equity at the time of application From 2015 to 2019, over 40 banking, industrial, and commercial companies listed on the Saudi stock market. The most important findings were that the coefficient of efficiency of physical capital, followed by human capital, had a positive moral impact on the company's market value and return on equity, while structural capital had a negative non-moral impact.

Xu and Liu 2020 applied the value-added coefficient model of intellectual capital VAIC to Korean companies from 2013–2018 to better understand how intellectual capital affects performance. Physical capital, human capital, structural capital, innovation capital, and relationship capital all affect the company's performance. Profitability, productivity, and market value determined the company's success.

study (Shubita, 2019) tested the intellectual capital value-added coefficient (VAIC) model and its components of used capital, structural capital, and human capital to examine the impact of intellectual capital on the market value of 73 Jordanian industrial companies from 2005 to 2017, using the market value index to total assets. The most important findings were that there is no relationship between intellectual capital and market value.

study (Alwan, 2018) developed a set of proposed measures, taking advantage of the value-added input in measuring intellectual capital at Zagazig University. The study was limited to the intellectual value-added coefficient (VAIC) because it is one of the most accurate inputs at present,

after many problems in other metrics. The study used descriptive methods, a survey to identify intellectual capital issues at Zagazig University, and a survey of experts' opinions on the proposed measures. The study used the value-added input and intellectual value-added coefficient (VAIC) to measure intellectual capital at Zagazig University.

The second topic: The Added Value of Intellectual Capital and Market Value

1–Intellectual Capital

The concept and importance of intellectual capital

The economic value of intellectual capital includes human capital, relational capital, structural capital, embedded self-knowledge, computer systems, Labor Relations, and other intangible moral elements. Dzinkowski (1999) defines it as an organization's book value minus its market value. According to Chang, & et al., intellectual capital is the intangible asset related to an economic entity's focus on knowledge or the difference between its market value and book value. (chang,& et al, 2008:300).

As he knew him (Dumay, Guthrie et al. 2020: 9) as an organization, society, or state's knowledge, experience, and intellectual property used to generate economic, social, and environmental value.

He defined it (Al-Kaabi, 2022) as a group of individuals with experience, knowledge, skill, and values that can be employed and invested in increasing intellectual innovations to improve the work of the economic entity and develop its creative space in a way that achieves effective relations with its stakeholders, which makes the difference between its market value and its book value significant (Al-Kaabi, 2022: 34).

–The importance of intellectual capital

Intellectual capital is the real wealth of the economic entity and the main engine for its performance in various sectors (private and public), as it has become the focus of many professional disciplines, indicating that it is a multidisciplinary professional field (Joia, 2007:2). Its importance lies in the fact that it is the main source through which you can measure the progress of the economic entity with its knowledge and human cadres, po It also connects the market value of shares to the book value of the economic entity's assets, including human capital and knowledge gained over time, as well as structural cap (al-shukrji and Mahmoud, 33: 2010).

–characteristics of intellectual capital

Intellectual capital is a valuable resource because it contains knowledge that has contributed to the discovery of new applications and methods in production and services, most notably reducing the use of raw materials and energy by a large percentage, and it is a resource characterized by scarcity, because it includes multiple experiences and skills, and a variety that enables it to increase innovations, accelerated creations, in record time, and it is a resource characterized by scarcity (Al-Kaabi, 2022: 4).

Components of intellectual capital

Intellectual capital is the interaction between human capital (the knowledge, experience, and skills of employees), structural capital (includes the infrastructure and organizational factors that support the production of workers), relationship capital (includes the relationships that the organization develops with customers and beneficiaries of the service), and institutional capital (the result of official relations and institutions related to the organization):

A–from the point of view (Brooking) consists of four main components , which are as follows (Joia, 2007: 58–59):

market assets: – it is represented by the economic entity's capabilities that it uses to exercise its activity, including the brand , customers, and market channels.

All intellectual property assets: – include knowledge, trade secrets, copyright, patent and design rights.

Specific human assets: – include skill , education , experience , knowledge, competence.

Infrastructure assets: – includes information, procedures and policies that enable the operation of the economic entity .

B-IFAC classification 1998, IFAC classification of intellectual capital into (Marr, 2004: 7).

–Human Capital –Organizational Capital –Relationship Capital (customers)

2–The Relationship Between the Added Value of Intellectual Capital and Market Value

The added value of intellectual capital and market value is evident in the fact that it is an intangible asset that contributes to the market value of the economic entity through operating programs in the modern environment based on competition in obtaining intellectual capital, as knowledge-intensive economic entities own 15–25% tangible assets and the rest intangible assets, making it of fundamental value. So the topic of value generation occupied the first priority of attention instead of making profits, and through studies that dealt with the added value of intellectual capital and market value he found economic entity (Nadeem, Gan et al. 2017:5). Intellectual capital improves capital market efficiency and stock prices by providing better information to current and prospective investors, thereby reducing stock prices.

He points out (Stewart 2010: 44) that there is a correlation of the market value of a entity with intellectual capital and that it is one of the main entrances to measure and develop its value over different years and compare it with other economic entity, as it reflects the real value of it including all the elements of material and intellectual assets and that the difference between market and book with financial markets, as well as the impracticality of this method of fluctuating stock prices Up and down the market.

Thus, the model of the value-added coefficient of intellectual capital (VIAC) is the best model for interpreting the market value of an economic entity (Venugopal & Subha 2012: 120), as many studies have used this model to measure the impact on market value and the VIAC was used to express the efficiency of intellectual capital (Sardo & Serrasqueiro 2017:77). asset yield ROA and ROE return on equity are accounting-based measurements of an economic entity's value. The Roe index has been used to measure the amount of profit an economic entity can achieve for each dollar of shareholders' equity and is an indicator of the earning power of the book value of shareholders' investments. It is often used to compare one economic entity to another in the same sector. previous studies show the discrepancy and difference in the results of the relationship between the coefficient of efficiency of intellectual capital and market value from one country to another and within one country, as well as at the level of the total index of intellectual capital and its components, in a study (Berzkalne & Zelgalve 2014: 31) Sardo& serrasqueiro 2017: 7) confirmed that intellectual capital affects performance.

The coefficient of added value of intellectual capital can be determined by the following (Ahmed, 2021: 22):

–Estimating the coefficient of value added to human capital: or the coefficient of efficiency of human capital, which shows the relationship

between the added value achieved by the economic entity and human capital by measuring the amount of added value contributed by the amounts invested in human resources, and measured by the total value of salaries, wages, bonuses, incentives, and training plans, where these values the human (Zhang, Qi et al. 2018: 8).

–Estimation of the value-added coefficient of structural capital: or the coefficient of efficiency of structural capital, as this coefficient shows the relationship between gross value added and structural capital or the amount of added value contributed by structural capital to the economic entity, and structural capital is calculated by the difference between added value and human capital (Zhang, Qi et al. 2018: 8), then this coefficient is $c. SCVA = SC/VA$

Estimating physical capital's value-added coefficient, or efficiency coefficient. This coefficient represents the physical capital's contribution to the entity's added value. This coefficient gives a more complete view of the added value generated from all its resources by dividing the added value by the physical capital, which is the difference between total tangible and intangible assets (Firer & Williams 2003: 4).

Value calculation-added coefficient of intellectual capital: this coefficient measures the amount of added value generated by a single investment in all sources of intellectual capital of the human, structural, and material economic entity ($VAHU + SCVA + VACA$). (Zhang, Qi, et al. 2018:8).

The Third Topic: The added value of intellectual capital and its role in improving the market value of Joint-Stock Companies-the applied aspect

The questionnaire data will be analyzed using statistical methods in this section of the report to test the research hypothesis.

First: analysis of the results of the sample response

This paragraph analyzes questionnaire axes statistically. Since the first axis guarantees the added value of intellectual capital and the second axis guarantees the intellectual capital and market value of Joint-Stock Companies, the calculation circles and percentages will be used in addition to the correlation test to determine the trends of the research sample, which are as follows:

The first axis: – the added value of intellectual capital

1. The sample agreed that the value-added coefficient of human capital explains the relationship between economic entity added value and human capital by assessing human resource investment value. The arithmetic mean of this paragraph was (4.39), suggesting that the sample answers were headed toward agreement and agreement totally with an agreement percentage of (87.9%).
2. The sample agreed that the value-added coefficient of structural capital contributes to the statement of the relationship between gross value added and structural capital, or the amount of added value structural capital contributes to the economic entity, as the arithmetic mean of this paragraph reached (4.37), indicating a trend toward agreement and complete agreement.
3. The sample agreed that the value-added coefficient of physical capital explains the relationship between added value and physical capital, or the amount of physical capital's contribution to the economic entity's added value, as the value of the arithmetic mean of this paragraph (4.48). The sample answers trended toward agreement and complete agreement with a 90.3% agreement rate.
4. The sample agreed that the calculation of the value-added coefficient of intellectual capital contributes to showing the amount of added value generated as a result of a single investment in all sources of intellectual capital of the human, structural, and physical economic entity, as the arithmetic mean of this paragraph reached (4.37), indicating that the

sample answers were headed towards Agreement and agreement completely (84.3%).

5. The value-added coefficient of intellectual capital components affects the market value of the economic entity, as the sample answers confirmed. The arithmetic mean of this paragraph was 4.41, which was greater than the hypothetical mean, indicating that the sample answers were oriented toward agreement and agreement completely (87.9%).

Table (1) general description of the paragraphs of the first axis

paragraphs	Totally agree%	I agree%	Neutral %	I do not agree %	I don't quite agree%	Arithmetic mean%	standard deviation%
The value added coefficient of human capital shows the relationship between the added value achieved by the economic entity and human capital by measuring the amount of added value contributed by the amounts invested in human resources.	53.0	34.9	10.8	1.2	–	0.73	4.39
The coefficient of the value added of the structural capital contributes to the statement of the relationship between the gross value added and the structural capital or the amount of the added value of the economic entity contributed by the structural capital	53.0	31.3	15.7	--	–	0.74	4.37
The coefficient of added value of physical capital explains the relationship between added value and physical capital, or the amount of contribution of physical capital to the	57.8	32.5	9.6	--	–	0.67	4.48

achievement of added value of an economic entity							
The calculation of the value-added coefficient of intellectual capital contributes to the statement of the amount of added value generated as result of a single investment in all sources of intellectual capital of the human, structural and material economic entity.	54.2	30.1	14.5	1.2	–	0.78	4.37
There is an effect of the value-added coefficient of the components of intellectual capital on the market value of the economic entity	54.2	33.7	10.8	1.2	–	0.73	4.41
General arithmetic mean						0.73	4.43

The table is prepared by the researcher

The data presented in the table above demonstrates that the arithmetic mean of this axis was (4.43), which is greater than the value of the hypothetical mean of (3). This indicates that the sample responses in this axis are trending towards agreement and agreement completely, with a standard deviation of (0.73), and the values of the standard deviation ranging between (0.67 – 0.78). This also indicates that the responses of the sample members were homogeneous around the paragraphs of this axis.

The second axis: – intellectual capital and market value

1. The sample agreed that relational capital is one of the elements of the external environment that can achieve a market value for the economic entity depending on the conviction and loyalty of customers, brand, reputation, market share, size and value of investment in it, as the value of the arithmetic mean of this paragraph reached (4.45), that is, the trends of the sample answers were headed, towards Agreement and agreement completely and with an agreement percentage (88.2%).
2. The sample confirmed that the physical capital includes all the elements of assets that represent the infrastructure of the economic entity and which contribute to the formation, formation and development of human capital elements in the economic entity, as the value of the arithmetic mean of this paragraph reached (4.39), that is, the trends of the sample answers were headed towards Agreement and agreement completely with a percentage of agreement (85.5%).
3. The sample answers were in agreement that intellectual capital is one of the primary pillars for creating market value, and that the difference between the market value of the entity and the book value of its net assets is due, for the most part, to the presence of intellectual capital – intangible assets, reaching the value of the arithmetic mean, for this paragraph (4.51), that is, the trends of the sample answers were headed

towards agreement and agreement completely with a percentage of a per cent. 4. The percentage of respondents.

4. Intellectual capital is treated as an integrated entity with continuous interaction, and it is not permissible to fragment it into its basic components because doing so does not give a clear picture of the overall performance of the economic entity. This is what the sample agreed upon, if the value of the arithmetic mean, for this paragraph (4.40), that is, the trends of the sample answers were heading towards Agreement and agreement completely with a percentage of agreeme. 4. Intellectual capital is treated as an integrated entity with continuous interaction 4.
5. There is an impact of each of the components of intellectual capital on the market value of economic entity , depending on the nature of their activity and size, this is what the sample agreed, as the value of the arithmetic mean of this paragraph reached (4.43), that is, the trends of the sample answers were heading towards Agreement and agreement completely with an agreement percentage (85.5%).

Table (2) general description of the paragraphs of the second axis

Paragraphs	Totally agree%	I agree%	Neutral %	I do not agree %	I don't quite agree%	Arithmetic mean%	standard deviation%
Relational capital is one of the elements of the external environment that can achieve market value of the economic entity depending on the conviction and loyalty of customers, brand, reputation, market share, size and value of investment	55.4	33.7	10.8	--	-	0.69	4.45
Physical capital includes all the elements of assets that represent the infrastructure of the company and that contribute to the formation and development of	54.2	31.3	13.3	1	-	0.76	4.39

human capital elements in the economic entity							
Intellectual capital contributes to the generation of market value and the difference between the market value of a entity and the book value of its net assets is largely due to the presence of intellectual capital – intangible assets.	59.0	32.5	8.4	--	-	0.65	4.51
Intellectual capital is treated as an integral entity with constant interaction, it is not allowed to be fragmented into its basic components, since they do not give a clear picture of the overall functioning of the economic entity	53.0	34.9	10.8	1	-	0.73	4.40
There is an impact of each component of intellectual capital on	57.8	27.7	14.5	--	-	0.74	4.43

the market value of economic entity depending on the nature of their activity and size.							
General arithmetic mean						0.714	4.40

The table is prepared by the researcher

From the table above, the arithmetic mean of this axis was (4.40), which was greater than the hypothetical mean of (3), indicating that the sample answers were heading toward agreement and agreement completely, with a standard deviation of (0.714) and a standard deviation range of (0.65 –0.76), indicating that the sample members' answers were homogeneous around the paragraphs of this axis.

Second: – testing the research hypothesis statistically

To test the basic research hypothesis that "there is a significant relationship to the use of Value–Added information for intellectual capital in improving the market value of joint–stock companies listed on the Iraq Stock Exchange," the hypothesis test showed that the calculated value of F was (22.389), which was greater than its Tabular value at the indicative level (0.05) and the degree of freedom (82) of (3.96), indicating efficacy. Positive, this means the effect is positive (centrifugal relation), and the coefficient Definition R² (0.88) means that (88%) of the changes in market value are due to the provision of information on the added value of intellectual capital, and the beta coefficient has reached (0.93), which is a positive value, meaning that changing one entity in the added value of intellectual capital will increase (93%) in i. The regression equation.

$$Y = 0.42 + 0.93 X$$

whereas:

Y: market value

X: The added value of intellectual capital

Table (3) results of simple linear regression

Acceptance (rejection) of the hypothesis	R	R Squ are	Adjuste d R Square	Std. Error of the Estimate	F	B	Beta	df	depen dent variabl e	the independent variable
Reject the null hypothesis and accept the alternative hypothesis	.939	.88 2	.842	.01895	22.38	.425	.939	82	Marke- t value	The added value of intellectual capital

The table is prepared by the researcher

Conclusions

1. intellectual capital is considered to have a value within the economic entity that exceeds the value of tangible assets by several times, and this contributes to raising its market value compared to economic entity in the same sector.
2. there is a significant moral impact of using Value-Added information for intellectual capital in improving the market value of joint stock companies listed on the Iraq Stock Exchange.

Recommendations

1. the need for the Supervisory Authority in the Iraqi securities market to direct the Joint-Stock Companies to pay attention to the information of the added value of intellectual capital because of its impact on the market value.
2. the need to pay attention to the value-added information of intellectual capital because of its role in improving the market value in joint-stock companies.
3. the need to motivate economic entity to follow the strategies and plans for the development of intellectual capital and to explore ways to improve

and develop it because of its expected effects on the market value of the economic entity.

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