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Financial Intelligence, Investment Decision Quality and their impact on Market Value Added: An analytical study of a sample of private commercial Banks in Iraq

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Abstract

This study aims to analyze the impact of both financial intelligence and investment decision quality on achieving added market value, through an analytical study of a sample of private commercial banks operating in Iraq during the period from 2015 to 2022. The study was based on a quantitative analytical approach, benefiting from actual annual data for banks listed on the Iraq Stock Exchange, with the use of a number of financial indicators, most notably: return on assets. (ROA), return on investment (ROI), return on equity (ROE), liquidity ratio, as well as market value added (MVA) calculations, and A number of statistical tools were used, such as linear correlation analysis and multiple regression, to test the relationships between the variables. The results showed that the return on equity(ROE) as a representative of financial intelligence is the most influential and significant factor in explaining the variance in market value added, while investment decision quality indicators did not appear (ROA, ROI) And a moral impact within the approved model, the results also indicated that there is a moderate positive impact of liquidity in supporting market value. The researcher recommends The necessity of raising the efficiency of financial management in private banks, adopting strategic practices that enhance the use of financial intelligence in guiding investment decisions, and linking financial performance to the market position of the bank. A shelf.

Keywords*: Financial intelligence, investment decision quality, market value added, Iraqi banks*

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الذكاء المالي وجودة القرار الاستثماري وأثرهما في القيمة السوقية المضافة: دراسة تحليلية لعينة من المصارف التجارية الخاصة في العراق

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المستخلص

تهدف هذه الدراسة إلى تحليل أثر كل من الذكاء المالي وجودة القرار الاستثماري في تحقيق القيمة السوقية المضافة، وذلك من خلال دراسة تحليلية لعينة من البنوك التجارية الخاصة العاملة في العراق خلال الفترة من 2015 إلى 2022. واعتمدت الدراسة على منهج تحليلي كمي، مستفيدةً من بيانات سنوية فعلية للمصارف المدرجة في سوق العراق باستخدام عدد من المؤشرات المالية أبرزها: العائد على الأصول(ROA) ، والعائد على الاستثمار(ROI) ، والعائد على حقوق الملكية(ROE) ، ونسبة السيولة، بالإضافة إلى حسابات القيمة السوقية المضافة .(MVA) كما استُخدمت عدة أدوات إحصائية، مثل تحليل الارتباط الخطي والانحدار المتعدد، لاختبار العلاقات بين المتغيرات. أظهرت النتائج أن العائد على حقوق الملكية(ROE) ، باعتباره مؤشرًا على الذكاء المالي، هو العامل الأكثر تأثيرًا وأهمية في تفسير التباين في القيمة السوقية المضافة، بينما لم تظهر مؤشرات جودة قرارات الاستثمار (العائد على الأصول، العائد على الاستثمار). كما أشارت النتائج، ضمن النموذج المعتمد، إلى وجود تأثير إيجابي معتدل للسيولة في دعم القيمة السوقية. يوصي الباحث بضرورة رفع كفاءة الإدارة المالية في البنوك الخاصة، وتبني ممارسات استراتيجية تعزز استخدام الذكاء المالي في توجيه قرارات الاستثمار، وربط الأداء المالي بالمكانة السوقية للبنك.

الكلمات المفتاحية: *الذكاء المالي، جودة القرار الاستثماري، القيمة السوقية المضافة، المصارف العراقية.*

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Introduction

Financial institutions, particularly private commercial banks, face increasing pressure in volatile and highly competitive economic environments. The in depth analysis and the quality of decision making and the high skills that deals with financial resources that one of the requirements, beside operational efficiency or financial stability, to achieve the added market value. nowadays, financial intelligence is most notably as an organizational capability that goes beyond mere numerical understanding of indicators to the skill of linking them and making sound decisions. There are several previous studies cover the concept of this study even Iraqi environment but still there is limited studies especially the context of private banks. Furthermore, the association of intertwined dimensions of this study, financial intelligence, the quality of investment decisions and added market value, ate not done with in-depth quantitative analysis. Thus, the contribution of this study appear from the aim to examine the influence of independent variable mediate variable and how this reflected in the added market value of a sample of private Iraqi commercial banks. Another contribution is a quantitative analytical approach is adopted based on real data for the period (2015-2022). The use of multiple statistical tools also to determine the nature of the associations and its movements.

The Research Problem

There are several tangible challenges are faced the private Iraqi commercial banks especially in their ability to generate added market value expressing attractiveness in the financial market even with their control of human and financial resources which could be invested efficiently. Therefore, one of these challenges is the lack financial intelligence of the top management that leads to limit in the quality of investment decisions. So, this problem arise main question of the study seeks to answer: To what influence of financial intelligence and the quality of investment decision quality in added market value within the Iraqi private banking environment?

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The Research Importance

Scientific importance

By linking modern concepts such as financial intelligence with traditional performance measurement tools like market value added, this research aims to make a valuable contribution to contemporary financial management literature within a local banking context that has not yet received sufficient research attention.

Practical importance:

Enhance banks' competitiveness in the market and increase stakeholder and investor confidence, the study's anticipated findings seek to encourage bank management to adopt more in-depth and effective analytical methods in evaluating their investment decisions.

Objectives:

1- The study seeks to determine the level of financial intelligence in Iraqi private banks
2- This paper aims to analyze the quality of investment decisions made by these banks
3- It also measures the extent to which both financial intelligence and investment decision quality affect market value added
4- This research provides practical proposals that could contribute to rise the efficiency of using financial intelligence which serves investment decisions.

Hypotheses:

1- Financial intelligence has a significant association with the quality of investment decisions
2- The quality of the investment decision has a significant association with the market value added.
3- There is a direct impact of financial intelligence on market value added.
4- There is a direct impact of Investment decision quality on market value added.

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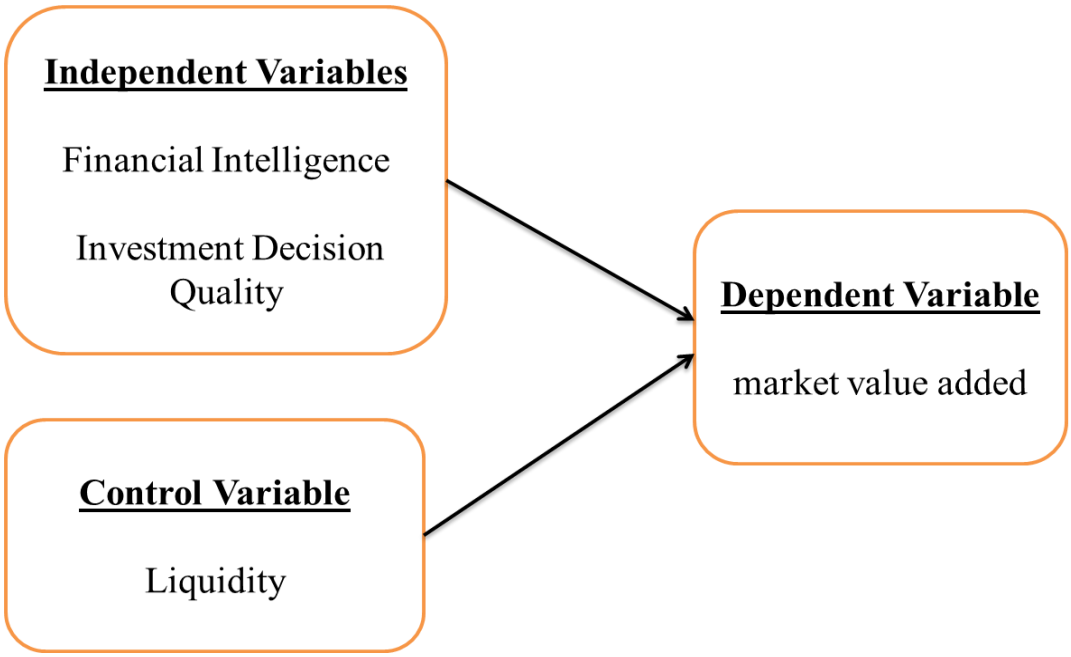
Research Model



Methodology:

Depend on the published annual data of a selected group of private Iraqi commercial banks listed on the Iraq Stock Exchange during the period from 2016 to 2023, the researcher use the quantitative analytical approach. According to the criterion of data availability and stability, the sample was selected with the identification of accurate quantitative indicators.

Analysis Tools:

SPSS and Eviews are used to apply the following:

- Descriptive analysis of indicators (mean, standard deviation, coefficient of variation)
- Multicollinearity Diagnostics Using Variance Inflation Factor (VIF) and Tolerance
- Linear correlation analysis using Pearson's coefficient
- Simple and multiple regression tests
- Testing the stationarity of time series using the extended Dickey-Fuller test (ADF)

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Previous Studies : In order to build the theoretical framework, I relied on Search On A collection of peer-reviewed research papers that dealt with topics close to the axis Research ,From it:

1- **Chen(2022):**
His study concluded that financial intelligence is a crucial factor in improving the efficiency of investment decision-making in volatile markets. The research was conducted in the Chinese corporate environment.

2- **Al-Zwyali(2021):**
A Jordanian study examined the relationship between investment decision quality and a company's market value, and emphasized the importance of accurate financial information in supporting investment decisions.

3- **Ntimetal(2020):**
I addressed the dual role of governance and financial intelligence in supporting market value added in British financial institutions, through an analysis of banking sector data.

4- **Mahmood(2019):**
The research focused on the banking sector, and indicated that enhancing the analytical and mental skills of financial managers represents one of the most important drivers of achieving added value in the future.

Literature Review

1. Financial intelligence

To make effective economic decisions, financial intelligence raises to the ability of an individual (institution) to interpret and examine financial indicators. This type of intelligence is a combination of cognitive, analytical, and behavioral skills that enable the decision-maker to read the financial reality and take highly efficient investment steps.(Kaplan & Norton, 2021)

As seen Brigham & Ehrhardt (2022) argue that financial intelligence is not limited to individuals but can be developed as an organizational resource that enhances the organization's ability to respond to market changes.

Its measurement indicators: Return on assets(ROA), return on equity (ROE), asset turnover ratio, and liquidity ratio are used as quantitative tools to measure the extent of financial and managerial awareness within the organization (Gitman & Zutter, 2022)

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2. The quality of the investment decision.

The quality of the investment decision reflects the management's ability to choose alternatives that achieve the highest possible return with the least amount of risk. A study has confirmed thatAl-Zwyalif (2021) stated that decision quality is related to data analysis, cost estimation, and future feasibility study of the investment.

Metrics: Return on Investment(ROI), Tobin's Q ratio, working capital turnover ratio, are indicators used to estimate the efficiency of resource allocation within a decision environment (CFA Institute, 2022)

3. Added market value(MVA) .

Market value added is one of the modern indicators used to measure the extent of an organization's success in achieving economic value that exceeds the invested capital and indicates Koller et al (2023) indicate that this indicator is a true mirror that reflects the efficiency of the financial performance of the institution from the perspective of shareholders.

Approved formula:

$$MVA = Market\ Value\ of\ Equity - Invested\ Capital$$

It is an analytical tool that measures whether management decisions have actually contributed to maximizing shareholders' wealth, and not just to achieving accounting profits.

4. The relationship between variables:

According to Ntim et al (2020), the relationship between financial intelligence and investment decision quality is related to the level of the institution's interaction with financial data and its analysis in light of risks and returns. Chen's study (2022) also showed that financial intelligence is an indirect catalyst for enhancing added market value by improving the efficiency of investment decisions.

1- practical aspect

Bank of Baghdad: Bank of Baghdad was established in **February 18, 1992**As an Iraqi private joint-stock company, it is one of the first private commercial banks to obtain a license from the Central Bank of Iraq after amending Article 5 of the Central Bank Law. The bank is considered one of the largest private commercial banks in Iraq, providing a variety of banking and financial services, including commercial and investment services.

Ashur International Investment Bank: In **April 25, 2005,** Ashur International Investment Bank was established as a private united stock company within the

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private banking sector in Iraq. The bank provides integrated banking services to individuals and companies, with a focus on providing innovative financial solutions. This bank has several branches in many Iraqi governorates and is known for its commitment to providing high-quality services.

Mosul Bank for Development and Investment: In **August 23, 2001,** Mosul Bank for Development and Investment was established as a private joint stock company with a nominal capital of one billion Iraqi dinars. In December 3, 2001, the bank obtained a banking license from the Iraqi Central Bank. So, this bank provides several banking services and by financing investment projects, it contributes to supporting economic development in Iraq.

Descriptive analysis

Table (1) Descriptive Analysis of Variables

The highest	The lowest	standard deviation	Average	Number of values	variable
3,851	-0 088	1 120	1 443	24	Return on Assets(ROA)
17,346	0 016	5 284	3,881	24	Return on Investment(ROI)
70 719	3,042	23 16	42 27	24	Return on Equity(ROE)
91,443	36,856	17 68	64 91	24	Liquidity
1843 44	87 97	571 94	1153 73	24	added market value(MVA)

The table above displays the basic statistical characteristics of the five study variables. So, these results could be discussed as bellow:

Return on Assets (ROA) : The average return on assets for the study sample banks is approximately, 1443%, that is an uncertain indicator of the ability of banks to generate profits from the total assets. However, the standard deviation of 1120 It indicates a significant variation in the performance of banks on this indicator, with values ranging between -0.088% (operating loss index) and 3.851%, reflecting the large differences in the efficiency of operational use of assets among banks.

Return on Investment (ROI) : This indicator is one of the most important indicators of the quality of investment decisions. Its average reached 3.88%, which is considered a low level compared to international standards, which may reflect weakness in investment decisions or a high cost of capital. The high standard deviation (5.284) also indicates sharp differences between banks, as the minimum reached 0.016%, which is very marginal, while the maximum reached

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17.346%, which reflects the existence of successful investment experiences in some banks and not others.

Return on Equity (ROE) : This indicator is considered the most important in measuring financial intelligence, as it reflects the management's ability to maximize shareholders' rights and has shown a relatively high average of 42 27%, indicating the efficiency of a number of banks in generating profits from their capital, but in contrast, the standard deviation of 23 16 It shows a wide disparity in this financial intelligence between banks, especially since the lowest value was 3,042% and the highest was 70,719%, which is a percentage that reflects exceptional performance in some cases.

Liquidity : Average liquidity of 64 91%It is a good indicator of the ability of banks to meet their short-term obligations. The differences between banks were also liquidity significant (standard deviation = 17.68), with ratios ranging between 36.856% and 91.443%. In practice, high may indicate a conservative policy, but it may sometimes mean that there are funds not being employed productively, which may weaken the investment return.

Market Value Added (MVA) : Average MVA is about 1,153 73 million Iraqi dinars, indicating the ability of a number of banks to create a market value that exceeds the invested capital. However, the large standard deviation (571 94) highlights a clear gap in performance between banks; some of them recorded a very low value of 87 97 million dinars, while others recorded the highest value of 1,843 44 million dinars. In the results of ROE and ROI, this large disparity enhances the importance of studying the variables that explain this value.

Multicollinearity Diagnostics

Table (2): Multicollinearity Diagnostics

variable	Tolerance	VIF
ROA	0.59	1.73
ROI	0.65	1.61
ROE	0.42	2.45
Liquidity	0.68	1.44

Table 2 illustrate that there is multi collinearity problem based on the values of VIF and Tolerance. According to literature, all tolerance value are above

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minimum accepted value (0.10) and also, the VIF values are less than 10 that all values are accepted. Thus, the estimated model has no Multicollinearity problem and no a serious concern.

Correlation matrix

Table (3): Correlation matrix

variable	ROA	ROI	ROE	Liquidity	MVA
ROA	1,000	-0 234	0 255	0 495	0 253
ROI	-0 234	1,000	0 199	0 035	0 182
ROE	0 255	0 199	1,000	0 197	0 998
Liquidity	0 495	0 035	0 197	1,000	0 218
MVA	0 253	0 182	0 998	0 218	1,000

The matrix above displays the degree and strength of the relationship between the variables studied in the study model, using Pearson's coefficient. These interactions can be examined as follow:

The association between ROA and other variables

- ROA has a moderate positive relationship with liquidity is 0.495 representing banks with higher liquidity typically earn a better return on the assets. That is logically accepted because an abundance of cash may enhance banks' ability to efficiently meet short-term financing needs.
- As for the connection ROA was weakly positive with ROE (0.255), indicating only partial overlap between asset performance and return on equity.
- The connection between ROA and market value added (MVA) were also weak (0.253), meaning that using assets efficiently does not necessarily directly maximize market value.

The relationship between return on investment (ROI) and other variables

- The connection between ROI and ROE were weak (0.199), which is lower than expected and may be attributed to the diversity of investment instruments or the variance of investment performance between banks despite the similarity of overall returns.

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- The relationship between ROI and MVA were also poor (0.182), reflecting that the quality of the investment decision, as measured by the return, does not necessarily translate into added market value.
- It is noteworthy that ROI showed only a very slight correlation with liquidity (0.035), which may indicate that the amount of cash available is not being used effectively in investing activities.

The relationship between return on equity(ROE) and variables

- Showed ROE has a very strong relationship with MVA, which reached (0.998), and it is almost a perfect relationship. This relationship is explained by the fact that ROE represents a clear indicator of the management's efficiency in converting capital into profits, which is directly reflected in the market value of the bank.
- Other relationships that connect ROE with the variables were all weak, but in the positive direction (ROA = 0.255, Liquidity = 0.197), which strengthens the hypothesis that ROE is the critical variable in the model.

The relationship between liquidity and other variables

- A moderate relationship emerged between liquidity and ROA (0 495), previously interpreted
- As for her relationship with ROE and MVA were weak (0.197 and 0.218 respectively), indicating that liquidity availability is not necessarily linked to achieving added market value, but may reflect excess cash that is not being invested effectively.

The relationship between market value added (MVA) and other variables

- The strongest relationship was between MVA and ROE (0.998), as above
- The remaining relationships were weak, indicating that financial intelligence represented by ROE is the most influential component, while investment decision quality and liquidity play secondary and inconclusive roles.

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Regression analysis

Table (4): Regression analysis

variable	B (Impact Factor)	standard error	T	Sig (significance)
(Constant)	64 5588	31 5259	2,048	0 0547
Return on Assets (ROA)	-12 8785	8 6470	-1 489	0 1528
Return on Investment (ROI)	-2 6932	1 5977	-1 686	0 1082
Return on Equity (ROE)	24 7532	0 3619	68,407	0 0000
Liquidity	1 1092	0 5154	2 152	0 0445

Constant : The coefficient of the constant came(B) with a value of 64.5588, with a significance value of 0.0547, which is slightly higher than the conventional accepted limit (0.05). This means that the model contains a basic value for the added market value even in the absence of the influence of the independent variables, but it is not strongly statistically significant.

Return on Assets(ROA) : Record coefficient ROA has a negative value of -12.8785, indicating that an increase in this variable may be associated with a slight decrease in the market value added. However, the significance value (Sig) = 0.1528 is higher than the statistically acceptable level, which means that the effect is insignificant. This result can be explained by the fact that ROA does not necessarily reflect general market efficiency, but only operational efficiency, which may not be directly translated into market value added.

Return on Investment(ROI) : The coefficient came ROI is also negative (-2.6932) indicating a weak inverse relationship with MVA, however this effect was not statistically significant (Sig = 0.1082). This result is somewhat surprising from a theoretical perspective, but it can be explained in practice by the fact that investment decisions in the Iraqi environment may not bear fruit directly due to external factors such as political risks or a weak capital market, which weakens the relationship between the quality of the investment decision and market value.

Return on Equity (ROE) : The results came ROE is prominent and distinctive, as the coefficient was positive and very high (24 7532) with a

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significance value almost equal to zero (0 0000). This confirms the existence of a very strong and significant direct relationship between financial intelligence and market added value. This reflects that institutions that make good use of shareholders' rights and achieve high returns from them often succeed in achieving a real market value recognized by the market and investors.

Liquidity : Liquidity also had a positive impact on MVA, as its coefficient reached 1.1092, and was statistically significant at the 0.0445 level, which indicates that increasing the liquidity ratio - within acceptable levels - may contribute to enhancing the market value of the bank, perhaps through its ability to finance sudden opportunities and avoid operational risks, which enhances market confidence.

Conclusions

Based on the statistical analyses conducted on a sample of private commercial banks in Iraq for the period (2015-2022), the following results can be drawn

1- Return on equity is(ROE) is the most effective and influential indicator in explaining the change in market value added (MVA), which confirms the role of financial intelligence, represented by management's efficiency in investing capital, as a decisive determinant in creating real market value.
2- The results show illustrates that the Liquidity has a significant positive impact on market value added indicating that leads to enhance banks' flexibility in meeting their obligations and realizing immediate investment opportunities which in turn contributes to enhancing market confidence.
3- Although the return on investment(ROI) and return on assets (ROA) are essential indicators in evaluating the quality of investment decisions, but their results were not statistically significant in the model, which reflects a weak relationship between operational or investment efficiency on the one hand, and market value on the other.
4- It was clear from the correlation matrix that the strongest relationship was between ROE and MVA, while the rest of the relationships were either weak or moderate, which reinforces the central hypothesis of the study that financial intelligence is the primary driver of value.
5- The levels of financial and investment performance varied among the banks under study, as shown by the measures of central tendency and standard

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deviation, reflecting a variation in the level of financial and institutional maturity among these banks.

Recommendations

In light of the results achieved, the study recommends the following:

1- The need to enhance the capabilities of senior management in banks to develop financial intelligence, especially by focusing on improving...ROE is the most closely linked indicator to market value, through effective policies in the use of capital and the achievement of real profits.
2- In banks, reevaluating the investment policies especially, private Iraqi banks, are based on accurate analytical foundations, that take into account market risks and actual economic returns, leading to ensure that investment decisions translate into real value
3- Improving liquidity management mechanisms as a strategic tool to support rapid operational and investment decisions not only cover the short-term obligations but also could enhance the bank's market position.
4- In financial management evaluation, supports financial intelligence, should focus on building an organizational culture, including continuous training for staff and adopting actual performance indicators. (ROE, EVA, MVA).
5- To supports the accuracy of investment decisions and increases the reliability of the bank’s overall financial assessment, adopting more in-depth analysis models and linking them to market valuation such as using economic value added analysis. (EVA) or time value of money analysis.
6- In order to reach a more comprehensive understanding of the factors affecting the market value of financial institutions, expanding the scope of future studies to include qualitative data such as investor trends and market behaviors alongside quantitative indicators,

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