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THE ROLE OF INVESTMENT IN RENEWABLE ENERGY IN REDUCING CREATIVE ACCOUNTING PRACTICES IN INDUSTRIAL BANK OF IRAQ

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Abstract:

The study aimed to explore the role of investment in renewable energy in mitigating creative accounting practices at Industrial Bank. To achieve its objectives and collect the necessary data, the researcher developed a questionnaire comprising 40 items. The study's population included 150 employees, from which a sample of 110 employees was selected.

A total of 110 valid questionnaires were returned, filled out by senior management, accounting experts, auditors, and accounting professionals. The findings indicated that the number of male participants exceeded that of female participants. The researcher attributed this imbalance to the bank's focus on hiring more males, as many of the required tasks involve fieldwork and technical responsibilities that demand physical effort.

The study revealed a high level of investment in renewable energy, while the reduction of creative accounting practices was found to be moderate. It is recommended that banks actively pursue renewable energy investments and adopt new strategies to attract foreign direct investment in the solar energy sector. Additionally, it suggested encouraging private sector investments by lowering transaction costs related to solar project development and streamlining investment processes.

The study also highlighted the importance of training human resources to address gaps in knowledge regarding various technologies and applications for generating electricity from renewable sources, especially solar energy.

Data analysis was conducted using SPSS software to summarize the demographic and descriptive characteristics of the study sample. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated. To evaluate the study hypotheses, multiple regression analysis was employed. Additionally, the internal consistency of the research instrument was assessed using Cronbach's alpha coefficient.

Keywords: Investment in Renewable Energy, Creative Accounting Practices, Industrial Bank, Iraq.

CHAPTER ONE : GENERAL FRAMEWORK
THE INTRODUCTION

The contemporary world is undergoing significant transformations driven by the rapid advancement of technology. These technological developments have far-reaching impacts across various dimensions of life, particularly in the economic and social spheres, with the industrial sector being among the most affected. Energy is considered a sensitive issue in all countries of the world due to the heavy reliance on it, as it provides many advantages to everyone without discrimination. Due to the problems of non-renewable energy such as oil and gas, and in order to prevent its depletion, it was necessary to turn to other, more sustainable sources, namely renewable energy sources and the mechanism of investment in them .

Renewable energy is an efficient option, as many countries have considered it one of their top priorities,

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and have sought to support and develop its investment policies and benefit from it. Energy is considered a highly important tool for achieving sustainable development goals - economic, social and environmental goals - as it, in addition to securing permanent additional energy sources and meeting the growing demand for energy at a low cost, protects the environment from pollution and reduces carbon dioxide emissions (Al-Zahrani, 2023.(

In recent years, the world has witnessed radical transformations and the emergence of many complex financial and commercial transactions, which has resulted in the issuance of accounting standards containing many preferences and interpretations in order to account for these transactions. This has led to the existence of loopholes in these standards and in the accounting rules due to the availability of generally accepted alternatives, which allows management to manipulate and report on its financial performance in the best possible way, which is what is called creative accounting practices (Al-Sharia, 2025.(

Creative accounting is one of the most recent practices of accounting manipulation that is practiced by exploiting accounting flexibility and the multiplicity of accounting alternatives, methods and policies in a way that affects the quality of accounting information by distorting it and misleading users of financial information without violating accounting laws and standards. Hence, the intensity of the conflict between all parties related to the establishment has increased as a result of the conflict of interest between it and its management. Therefore, it has become necessary to think of solutions to limit these practices to the lowest possible level (Al-Tarli et al., 2021(.

STUDY PROBLEM

For several decades now, the Republic of Iraq has been adopting diverse strategies that focus on the economy and aim to expand the economic base, diversify sources of income and reduce dependence on oil. It relies on a number of non-traditional fields, including renewable energy, in which it possesses resources linked to geographical location and climate, which makes its utilization economically feasible. This supports its efforts in the field of diversifying energy sources and achieving balance in the mix of local energy sources on the one hand, and fulfilling the Kingdom's international obligations towards reducing the causes of climate change on the other hand. Based on this, Iraq has witnessed, over the past years, a serious trend towards utilizing the non-traditional energy resources available in it. Here, the following main question is raised as an expression of the problem that this research addresses in its study :

What is the role of renewable energy investment in reducing creative accounting practices at the Agricultural Bank of Iraq?

Accordingly, the research problem can be articulated as follows:

1. How interested is the Republic of Iraq in utilizing and investing in its available renewable energy resources?
2. How does investment in renewable energy play a role in reducing creative accounting practices?

STUDY OBJECTIVES

This study seeks to achieve the following objectives:

1- To examine the extent to which the Republic of Iraq's interest in benefiting from and investing in the renewable energy resources available to it.

2- To investigate the impact of renewable energy investment on mitigating the use of creative accounting practices.

Study plan

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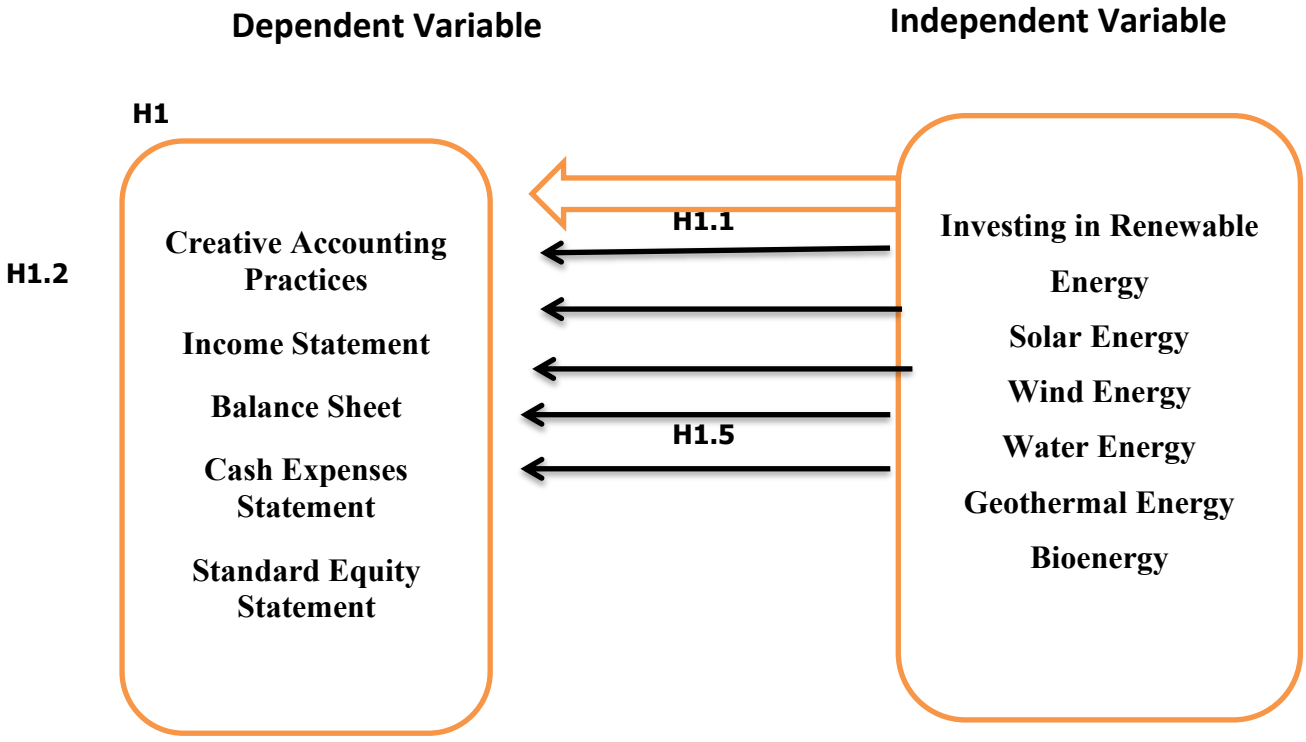

Figure (1) The model was prepared by the researcher.

Study hypotheses

The study is based on a set of primary and subsidiary hypotheses that serve as provisional answers to the research questions and reflect the core problem under investigation. These hypotheses are formulated as follows:

: H 01 The first main hypothesis :

There is a statistically significant effect at the significance level (α ≥ 0.05) for investment in renewable energy in all its dimensions combined (solar energy , Wind energy , Water energy , geothermal energy , Bioenergy) in reducing creative accounting practices in all its dimensions (income statement, balance sheet, cash expenditure statement, equity statement) . The following sub-hypotheses branch off from this hypothesis :

H 01-1: The first sub-hypothesis :

There is a statistically significant effect at the significance level (α ≥ 0.05) of investment in renewable energy on the income statement .

H 01-2: Second sub-hypothesis :

There is a statistically significant influence of investment at the 0.05 significance level (α ≥ 0.05) on renewable energy in the financial position statement .

H 01-3: The third sub-hypothesis :

There is a statistically significant effect at the significance level (α ≥ 0.05) for investment in renewable energy on the cash expenditures statement .

H 01-3: Sub-hypothesis Four :

At a significance level of α ≥ 0.05, investment in renewable energy has a statistically significant impact on the equity statement.

IMPORTANCE OF THE STUDY

The significance of this study is reflected in two main dimensions:

1. Theoretical Dimension:

Investing in renewable energy is crucial for enhancing the institutional framework by supplying accurate and reliable information to investors and other stakeholders. Moreover, it contributes to rebuilding trust and confidence within the investor community by reducing the occurrence of misleading financial reporting through the limitation of creative accounting practices.

With regard to limiting creative accounting practices, management seeks to improve the company's reputation and present it as a strong competitor in a

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highly competitive field by working to fabricate large profits and a strong and coherent financial position based on accounting, but not necessarily on reality .

2. Practical Dimension:

The practical significance of the study stems from the nature of the findings it produces through limiting creative accounting practices with regard to investment in renewable energy and that creative accounting represents in its entirety the practices of accounting manipulation that is practiced through exploiting accounting flexibility (multiplicity of alternatives, methods and accounting policies) . Therefore, it is necessary to think and research all of these practices as much as possible. It is important to identify the different methods in limiting creative accounting practices and that they may lead together to strengthening each other to combat fraud and financial deception .

SECTION THREE : METHODOLOGY AND OBJECTIVES OF THE STUDY

Study methodology

The methodology of this study encompasses the variables under investigation and their measurement approaches, the study population and sampling techniques, data collection procedures, the sources and nature of the data required, as well as the statistical methods employed for data analysis. These components are detailed as follows:

Study variables and measurement methods: The variables of this study are divided into the following:

1. Independent variable : Investment in renewable energy

The researcher will rely on measuring the variable of investment in renewable energy on each of (Al-Zahrani et al., 2023) , (Al-Bakri , 2023) , (Turkiya and Batoul, 2021) , (Jabari, 2024) and on the study instrument, which is the questionnaire, comprises the following dimensions: (solar energy, wind energy, hydro energy, geothermal energy, and bioenergy).

2. Dependent variable : Reducing creative accounting practices

The researcher will rely on measuring the variable of limiting creative accounting practices on each of (Al-Sharaa, 2025) , (Mamoun, 2020), (Saleh et al., 2024) , (Al-Anzi, 2024) and on the study instrument, represented by the questionnaire, includes the following dimensions: (income statement, financial position statement, cash expenditure statement, owner's equity statement).

Study terms

Below is a theoretical introduction that includes the basic concepts of the research, namely investment in renewable energy and limiting creative accounting practices .

1- Investing in renewable energy

Jabari (2024) defined investment in renewable energy as " investment in a mechanism for obtaining energy streams that are found in nature automatically and periodically, which is the opposite of the energies stored underground, which are permanent, inexhaustible natural resources ."

Creative accounting practices (Mamoun, 2020) defined creative accounting as " the process by which accountants use their knowledge of accounting rules to provide a good picture of a company's financial performance without violating accounting rules and principles ."

Section Two : Review of Previous Studies

Previous studies

The researcher examined a selection of relevant literature, including both Arab and international studies that addressed the research topic or related aspects. These studies are analyzed in terms of their methodologies and key findings. The researcher will comment on them and specify the results that were extracted, while identifying the research gap .

Studies related to investment in renewable energy

- A study (Al-Zahrani et al., 2023) entitled: "The impact of sustainable development indicators on renewable energy consumption in the Kingdom of Saudi Arabia."

This study aimed to assess the influence of various sustainable development indicators on renewable energy consumption in the Kingdom of Saudi Arabia over the period from 1990 to 2020. The research sought to analyze the relationship between renewable energy consumption, treated as the dependent variable, and sustainable development indicators as independent variables, considering both short-term and long-term effects.

The study concluded that renewable energy consumption in the Kingdom of Saudi Arabia was relatively high. It found a positive short-term relationship between renewable energy consumption and foreign direct investment. Conversely, there was a negative relationship between renewable energy consumption and the energy depletion rate in both the short and long term.

Additionally, the analysis revealed an inverse short-term relationship between renewable energy consumption and per capita gross domestic product, while a positive association was observed between renewable energy consumption and the unemployment rate across both time frames, that there was a positive short-term relationship between renewable energy consumption and per capita carbon dioxide emissions, that foreign direct investment and per capita gross domestic product

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had no effect on renewable energy consumption in the long term, and that sustainable development indicators had an impact on renewable energy consumption .

- Study (Jabari, 2024): entitled : "Investing in renewable energy is a strategic approach to achieving sustainable development."

The study aimed to investigate the economic, social and environmental aspects related to sustainable development and the importance and role of energy in achieving sustainable development . It includes economic, social and environmental activities, including water, energy, health, agriculture and biodiversity . Economic, social and environmental activities aim to enhance integration with a coherent international approach to serve sustainable development. Economic and social activities aim to enhance integration with the possibility of access to services at reasonable prices. Therefore, achieving economic goals depends on the extent to which energy services are provided . Social and societal goals depend on justice in the distribution of these services among all countries on the one hand, and among the population within a single country on the other hand. Environmental goals depend on our ability to adapt to environmental resources and requirements. The study concluded that there is an impact of investing in renewable energy in achieving sustainable development.

Studies related to creative accounting

- A study (Al-Anzi, 2024) entitled : "The role of accounting disclosure of exchange rate changes in limiting creative accounting practices: A field study in the Kuwaiti stock market."

The study sought to identify the type and characteristics of the relationship between accounting disclosure of changes in exchange rates and limiting creative accounting practices in the Kuwaiti stock market. This was done by conducting a field study on a sample of (120) individuals from senior management, accountants, auditors and financial analysts. Using statistical methods, the study concluded that the level of creative accounting practices was average. The study concluded that there were no significant differences between the opinions of the respondents regarding the determinants of accounting disclosure of changes in exchange rates, and there were no statistically significant differences in the opinions of respondents concerning the methods of creative accounting practices employed by companies listed on the stock market.

- A study (Saleh et al., 2024) entitled: "The role of banking governance in limiting creative accounting practices: A field study"

This study sought to examine how banking governance contributes to the reduction of creative accounting practices. To achieve the goal, a field study was conducted through a survey of faculty members from the faculties of commerce at Egyptian universities (Accounting and Auditing Department) , considering that they represent the academic point of view, the central accounts department at the banks under study, auditors and users of published financial reports. The study concluded that the principles of banking governance have a statistically significant effect in reducing the prevalence of creative accounting practices, and that the level of creative accounting practices was moderate.

Comment on previous studies and identify the research gap

Through the previous studies presented, the most important results can be reached:

Previous research has demonstrated a general consensus regarding the variables employed, particularly the use of investment in renewable energy as a key variable. These studies were conducted across various contexts, including stock markets, banking institutions, and companies in general. Building on the foundations laid by these studies, the current research seeks to extend their findings by offering new insights and highlighting aspects that were not previously explored. Furthermore, it draws on the measurement indicators adopted by earlier researchers.

As for the variable of creative accounting, numerous studies have addressed it in diverse settings, examining a range of influencing factors—both positive and negative—that affect the extent to which such practices are employed.

Through the review of this body of literature, the researcher was able to gather substantial information related to the study's core variables, their measurement indicators, and the objectives and findings of prior research. The distinct contribution of this study lies in its focus on the relationship between investment in renewable energy and the reduction of creative accounting practices—a link that has not been thoroughly examined in prior research, particularly within the context of Rasheed Bank in Iraq.

THEORETICAL CONSTRUCTION OF THE RELATIONSHIP BETWEEN INVESTMENT IN RENEWABLE ENERGY AND REDUCING CREATIVE ACCOUNTING PRACTICES

Section One : Investment in Renewable Energy

Introduction

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Renewable energies are the energies that we obtain through energy streams that are repeated in nature automatically and periodically. They are the opposite of non-renewable energies that are often found in solid underground storage. In other words, they are permanent, inexhaustible natural resources available in nature in a limited or unlimited manner, but they are constantly renewed. Their use or utilization does not produce any pollution to the environment. They are clean energies. For example, we find that solar energy, wind energy, water energy, and geothermal heat do not produce any pollution when used. However, the combustion of living mass produces some gases, but they are less than those produced by the combustion of fossil fuels (Jabari, 2024).

The beginning of interest in this type of energy source dates back to the beginning of the seventies, and mainly to the energy crisis of 1973 AD and its repercussions on the economies of developed countries, which found that the available solution to eliminate the dependence of their economies on oil was to develop alternative sources that are local, but this interest quickly faded after the decline in oil prices in the global market (Mustafa, 2007).

The concept of investing in renewable energy

(Turkiya, 2021) defined investment in renewable energy as " investing in sustainable energy and providing clean energy for all to eradicate poverty, save lives, improve health, and meet basic human needs, meaning that all individuals from all over the world benefit from this energy ."

(Qadi et al., 2010) defined it as " the energies that are repeated in nature in a spontaneous and periodic manner and are obtained from nature, which is renewed and cannot be exhausted ."

Dimensions of investment in renewable energy

There are several sources of renewable energy, including : the sun, wind, water, geothermal heat, and biomass, but they all originate from the sun. These sources either produce mechanical energy , such as wind energy, biomass, and geothermal heat, or thermal energy, such as solar energy and biomass, or electrical energy, such as solar energy and geothermal heat. Therefore, these sources produce energy that meets the direct needs of the population .

1- Solar energy

The sun serves as the fundamental source of life on Earth and represents the primary origin of energy for the planet. All forms of existing energy originate from the sun. Fossil energies derive their stored energy from it. Tidal energy is also a type of kinetic energy derived from it, because the origin of tides is the attraction of the sun and the moon to the Earth's waters, and the same is the case with wind energy .

The sun's energy is a continuous energy whose flow is never interrupted. It is a tremendous energy by all standards. Considering the size of the Earth, its surface receives only a small part of the total energy emitted from it, amounting to about one part in 2000 million parts of the sun's energy. Despite this, this energy coming to the Earth is more than the total

The world's energy needs are about 5,000 times greater than what can be obtained from sunlight for 105 minutes, enough to meet the world's consumption needs for a year .

The importance of solar energy

The importance of solar energy lies in its unlimited availability , its free availability , and its ability to reach remote areas that other energy sources cannot reach. Furthermore, it does not contribute to any form of environmental pollution, which has become one of the greatest challenges facing the world today. Furthermore, this enormous amount of solar energy, which, as previously mentioned, exceeds the world's needs by 5,000 times, makes it the most abundant source of energy .

2- Wind energy :

Wind energy is the ability that the wind has to move things, i.e. the kinetic (mechanical) energy that the air has as a result of movement. It is free energy that basically comes from the sun, as the sun's rays heating the air causes these hot air layers to rise upwards, leaving a vacuum underneath that is filled with cold air that flows as wind. So the origin of wind energy is the sun, as scientists have estimated that 2% of the solar energy falling on the Earth's surface is converted into wind energy .

Wind energy is a source of energy that is sensitive to changes in the topography and climate patterns of the region. In addition to spatial variation, there is also temporal variation, as there is a difference in the energy produced by wind during a single day, during the seasons, and even from one year to the next. In addition, there is a problem that hinders the exploitation of this source, which is the difficulty of identifying the best locations and determining the wind resource that can be practically obtained in a particular region .

3- Geothermal energy

Geothermal energy is defined as the latent heat energy within the Earth's interior, generated when hot rocks rub against nearby water or water delivered by humans. The friction produces vapors used to generate electricity. Geothermal energy is a primary source of renewable energy for approximately 58 countries, 39 of which can be supplied 100% by this energy . It has been proven that the temperature of the Earth's crust increases with depth, with the core temperature reaching approximately 2,500 to 3,000 °C . The flow of

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this geothermal heat across continents results from the radioactivity of the Earth's crust. Geothermal energy is an inexhaustible resource stored in hot water or rocks. Beneath our feet, the Earth is boiling, with the temperature of 99% of the planet exceeding 1,000 °C, dropping to less than 100°C at the outer layer. Therefore, geothermal heat is a renewable resource and enables the production and fulfillment of two important types of energy needs: electricity and thermal energy .

4- Bioenergy

Biomass refers to all organic materials derived from plants, including agricultural residues rich in starches and sugars, as well as animal waste, and solid waste of industrial and human origin. These materials possess latent energy that can be harnessed through methods such as direct combustion, fermentation, and other processes. Biomass is considered a significant energy source in many Arab countries, including Tunisia, Sudan, Algeria, and Iraq, and remains a primary energy source in several nations. Typically, biomass is composed of approximately 85% firewood, 13% animal waste, and 2% agricultural residues, with the majority of this energy used in rural areas for domestic purposes such as cooking and heating.

The importance of bioenergy

Wood was one of the earliest and most essential energy sources utilized by humans, particularly to meet their basic needs. It played a vital role in energy supply prior to the discovery of coal, the invention of gas engines, and the widespread production of other fossil fuels. However, the advent of these alternative energy sources—characterized by their relatively low cost and high efficiency—led to a decline in the reliance on biomass, especially in developed countries.

Nonetheless, in countries where biomass resources are readily available, they continue to play a significant role—particularly in remote areas and rural villages—where they are still widely used for cooking and heating. Additionally, biomass remains important in certain traditional industries and agricultural practices, such as tobacco drying and other similar activities. In addition, ethanol has proven its effectiveness in the field of transportation, and thus contributes effectively to practices in terms of the amount of gases that pollute the environment. For this reason, reliable efforts are being made to reduce its cost and make it competitive compared to other energy sources .

5 - Hydropower :

Hydropower can be defined as the potential energy or capacity possessed by large quantities of water, whether in bodies of water, running rivers or waterfalls, where the kinetic capacity of water is at its highest value. Water is one of the renewable sources of energy that humans have known since ancient times, as it began to be exploited in raising water for irrigation and operating wheels and mills. However, the direct use of hydropower faced many problems that limited the expansion of its use .

SECTION TWO : CREATIVE ACCOUNTING PRACTICES

INTRODUCTION

The main concept of creative accounting is to serve users of financial statements by providing transparent and reliable information that can be relied upon in decision-making. However, sometimes management resorts to manipulating and distorting financial reports and statements to serve itself at the expense of other parties that use these reports (Laroussi and Hasna, 2020).

The concept of creative accounting practices

(Saleh et al., 2024) defined creative accounting as " a comprehensive and general description of the process of manipulating the accounting numbers included in the financial statements or financial presentation for management motives ."

(Naqmoush, 2019) believes that creative accounting, from the point of view of the investment analyst, represents " the apparent growth in profits that occurs as a result of the sleight of hand of accounting ingenuity and not as a result of real economic growth.

Dimensions / Methods of Creative Accounting Practices

(Al-Maghribi, 2020) , (Laroussi, 2019) , and (Boukthir and Awadi, 2014) see that many studies have dealt with the classification of creative accounting methods that affect the financial statements through They deliberately manipulate it to make it appear contrary to the truth in order to mislead its users, relying on modern, innovative and complex methods, which they explained as follows :

1. Methods In The Financial Position Statement

The importance of the budget is evident in the information it provides to its users with information regarding the organization's assets and liabilities. However, this financial statement may be subject to manipulation through the use of creative accounting techniques, which can affect the presentation of its items in the following ways: (Al-Maghribi, 2020).

* Over-valuing intangible assets resulting from the merger process, or reducing asset depreciation rates below unjustifiably modifying the depreciation method used by institutions, which in turn affects the applicable rates.

* Non-disclosure of the company's assets.

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* Manipulating market prices when evaluating and classifying fixings .
* Manipulating the valuation and categorization of fixed assets by misrepresenting prevailing market prices.
* Implementing unjustified modifications to the methods used for inventory valuation.
* Recognizing company assets in a manner that violates the principles and guidelines established by international accounting standards.
* Manipulating exchange rates when converting transactions into foreign currency and not disclosing the institution's cash items .

2. Techniques In The Income Statement

The most important methods of manipulation of the income statement can be summarized as follows : (Boukthir and Awadi, 2014)
Recording revenues before they are actually realized .

- Filing fictitious or fake wills .
- Increase revenue through a one-time return *
- Transferring current expenses to previous or subsequent accounting periods .
- Failure to record or inappropriate reduction of liabilities
- Transferring current revenues to a later financial period .
- Record future expenses in the current cycle

.Creative accounting techniques in the cash flow statement

The cash flow statement outlines all cash inflows and outflows, categorizing them according to their sources and uses over a defined period. Its primary purpose is to assist investors, creditors, academics, and other stakeholders in analyzing cash movements by providing detailed information on cash receipts and payments within the specified timeframe. Below is an overview of potential avenues for manipulating accounting figures in the cash flow statement through creative accounting techniques: (Nazim, 2011)
The accountant classifies operating expenses as investment expenses or financing expenses and vice versa. These procedures and practices do not affect or change the final values. The establishment can also pay capital development costs and record them as investment cash outflows and separate them from operating cash outflows. Therefore, these practices increase cash inflows (Al-Maghribi, 2020).

The researcher believes that there is also the possibility of manipulating operating cash flows with the objective is to partially evade taxes by manipulating operating cash flows. This can be achieved by adjusting figures such as reducing reported gains from the sale of investments and certain ownership interests. Additionally, in cases of discontinued operations, the tax impact on these activities may be excluded from operating cash flows to alter their reported values, as any cash received as a result of incomplete operations or as a result of their disposal is considered to result from investment activities. Therefore, when calculating operating cash flows, the effect of gains or losses from incomplete operations is removed or disposed of from net income. Also, creative accounting is used to inflate profits with fictitious profits in order to raise the share price in the financial markets .

3. Creative Accounting Techniques in Equity Statement

The statement of changes in equity serves as a bridge connecting the income statement and the statement of financial position. It tracks and monitors the fluctuations in equity components from the beginning to the end of the financial period and is prepared on an accrual basis. Consequently, all items within this statement are vulnerable to manipulation through creative accounting techniques, including fictitious alterations in the processes related to increasing or decreasing paid-up capital, as well as acquired capital and imputed capital, which are practiced by re-estimating the size of previous errors or previous option losses and foreign currency balances. We can cite the creative accounting practices in the financial statements that were the reason for the collapse of the companies (Worldkom Enron) and were considered a deep crisis of confidence or an ethical crisis resulting from the dominance of greed, private interests, and issues related to corruption, fraud, and lying about the financial troubles of those companies through : (Al-Halabi, 2009).

A. The company's management resorted to inflating the company's profits in the year preceding its collapse, especially with the failure of the internal control system from an ethical and financial standpoint as a result of the ongoing deception and conspiracy in the accounting and financial information .
B. The Board of Directors assigned the task of reviewing the company's transactions to a subcommittee within the company. The committee only conducted a superficial and quick review of those transactions. The Board of Directors also failed to disclose some important information, the disclosure of which could have led to taking appropriate measures .
C. The company issued shares to another company in exchange for bonds, which led to an inflated asset and shareholders' equity without any real cash flows as a result of incorrect accounting treatments that led to some information being considered off-balance sheet items .

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D. The company's senior officials disposed of its shares by using inside information that informed them of the company's imminent collapse, and thus sold its shares at very high prices, which reflects the issue of asymmetric and misleading information between those inside and outside the company .

E - Fraudulent accounting practices by manipulating the company's cash flow accounts and accounting tricks to cover up its deteriorating financial position in a manner consistent with the expectations of stock market investors .

THE THIRD TOPIC: THE ROLE OF ELECTRONIC ACCOUNTING SYSTEMS IN STRENGTHENING THE INTERNAL CONTROL SYSTEMS

Renewable energy is a significant step toward achieving environmental and economic sustainability. This requires significant investments in new technologies, using unconventional accounting methods to improve a company's financial profile, avoiding misleading investors and stakeholders, and making companies more aware of their financial practices.

Investing in renewable energy requires transparency in financial reporting, which limits creative accounting practices. These companies also require risk management because companies investing in renewable energy may face greater pressure from shareholders to comply with strict accounting practices (Ki, & Park , 2020) . Regulatory compliance also affects companies investing in renewable energy. Governments may impose strict laws on companies investing in renewable energy, which limits creative accounting practices . Reputational impacts affect companies that commit to investing in renewable energy. They may build a strong reputation, making them less vulnerable to creative accounting practices (Delmas , & Montes , 2021).

To discuss the relationship between renewable energy investment and creative accounting practices, we find that renewable energy investment affects financial transparency. Companies that invest in renewable energy tend to adopt more sustainable and transparent practices . These companies are often under greater scrutiny from investors and civil society, which limits creative accounting practices. Therefore, investing in renewable energy enhances a company's image as a socially and environmentally responsible entity, increasing pressure on it to adhere to strict accounting standards and avoid creative practices that could harm its reputation . Orsato , R. J., & Wells, P, 2020) Companies operating in sectors with significant environmental impact (such as energy) are subject to greater regulatory pressures. These pressures push them to adopt more accurate and transparent financial reporting to avoid legal penalties or loss of investor confidence, which reduces the need for creative accounting practices (Lee, & Min, 2021).

Companies that invest in renewable energy tend to achieve better financial stability in the long term due to lower energy costs and reduced reliance on volatile traditional energy sources. This necessitates a reduced need to resort to creative accounting to seemingly improve financial results (Busch, & Schnippering , 2022) .

The role of environmental, social and corporate governance is highlighted by making companies and institutions less vulnerable to creative accounting practices (Dhaliwal , et.al, 2020) . Investing in renewable energy is considered an essential part of adopting environmental, social and corporate governance standards , as this enhances transparency and accountability, which limits the opportunities for manipulation of financial statements . Eccles , & Klimenko, 2019 Investors and civil society prefer companies that demonstrate a genuine commitment to sustainability. These companies are subject to greater oversight, which reduces opportunities for creative accounting practices. Investing in renewable energy attracts investors interested in sustainability, which increases pressure on companies to adhere to ethical accounting practices (Zhang, & Wang , 2022).

Companies that invest in renewable energy play a significant role in mitigating environmental and financial risks, reducing their exposure to environmental risks (such as climate change) and associated financial risks . This reduces the need to manipulate financial statements to hide potential losses. Reducing environmental and financial risks enhances confidence in financial reporting and limits the need for creative accounting (Al- Shaer & Zaman , 2022).

The applied framework of the research

This section includes the field framework of the research, which concerns the variables under study, as follows :

Study community and sample

The study community consists of employees of Rashid Bank (150) , as the workforce comprised a total of 110 employees, including both males and females from accounting experts, auditors, accounting officers, accounting employees, a group of legal experts and professors. The researchers selected a simple random sample consisting of 110 valid questionnaires suitable for analysis. These questionnaires were distributed among senior management, accounting specialists, auditors, and accounting professionals.

Study procedures

To accomplish the study's objectives, the researcher undertook the following steps:

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- Defined the study population and selected the sample individuals.
- Developed the study instrument and ensured its validity and reliability.

The study instrument, a questionnaire, comprised three sections: the first focused on (demographic variables), the second addressed (investment in renewable energy), and the third examined (creative accounting practices).

The responses collected from the sample members were input into the computer system, and statistical analyses were performed using the SPSS software.

Statistical Methods Used:

1. Data analysis was carried out utilizing the SPSS statistical software.
2. Descriptive statistics, including frequencies, percentages, arithmetic means, and standard deviations, were calculated.
3. Correlation coefficient , simple and multiple regression analysis to determine whether there was an effect of the independent variable and its various dimensions on the dependent variable .
4. Cronbach's alpha coefficient to ensure the reliability of the study tool .

Description of the Study Population Characteristics

This section presents the results of the analysis concerning the study population's data, detailing its distribution across various demographic and professional variables, including gender, age, work experience, educational level, and job title. Frequencies and percentages for these characteristics were calculated, and the findings are summarized in the following tables:

The current study sample amounted to (110) male and female employees from Rashid Bank. The following tables show the distribution of sample members based on demographic variables .

Results related to the study questions

This chapter presents the findings obtained from the responses of the members of the study sample regarding the role of investment in renewable energy in reducing creative accounting practices, according to the study questions and hypotheses. The arithmetic mean value of the study tool phrases (questionnaire) can be interpreted as follows :

The first question :

How interested is the Republic of Iraq in utilizing and investing in its available renewable energy resources?

In order to answer this question, the relevant arithmetic means and standard deviations were computed in and investment in renewable energy were calculated, as follows:

Table (1)
Arithmetic means and standard deviations of interest in and investment in renewable energy, arranged from highest to lowest based on their arithmetic mean values.

Level	standard deviation	arithmetic mean	Dimension	The number	Rank
high	.443	4.18	solar energy	1	1
high	.448	3.87	wind energy	5	2
high	.475	3.82	Water energy	4	3
middle	.862	3.46	geothermal energy	3	4
middle	1.171	3.30	Bioenergy	2	5
high	.335	3.73	**Investing in renewable energy**		

Table (1) indicates that the arithmetic means ranged from (3.30) to (4.18). Solar energy ranked first, recording the highest mean value of (4.18), while bioenergy ranked last with a mean of (3.30), and the arithmetic mean for investment in renewable energy as a whole was (3.73).

Question 2 :

How does investment in renewable energy play a role in reducing creative accounting practices?

To answer this question, the arithmetic means and standard deviations were calculated to limit creative accounting practices at Rashid Bank, as follows :

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Table (2)
Arithmetic means and standard deviations of creative accounting practices at Rashid Bank, arranged in descending order according to their arithmetic means

Level	standard deviation	arithmetic mean	Dimension	The number	Rank
middle	.746	2.91	Income statement	1	1
middle	.474	2.83	Financial Center List	3	2
middle	.577	2.67	Cash Expenses List	2	3
middle	.535	2.58	List of Copyrights	4	4
middle	.355	2.71	**Creative accounting practices**		

Table (2) shows that the arithmetic averages ranged between (2.91-2.58) , where the income statement ranked first, achieving the highest arithmetic mean of (2.91), whereas the equity statement ranked last with a mean value of (2.58) , and the arithmetic mean for creative accounting practices as a whole was (2.71).

Testing study hypotheses :

The researcher formulated a set of primary and secondary hypotheses that serve as provisional answers to the research questions and reflect the core issue under investigation. These hypotheses are outlined as follows:

H 01 : The first main hypothesis :

There is a statistically significant effect at the significance level (α ≥ 0.05) for investment in renewable energy in all its dimensions combined (solar energy , Wind energy , Water energy , geothermal energy , Bioenergy) in reducing creative accounting practices in all its dimensions (income statement, balance sheet, cash expenditure statement, equity statement) . The following sub-hypotheses branch off from this hypothesis :

H 01-1: The first sub-hypothesis :

"There is a statistically significant effect at the significance level (α ≥ 0.05) of investment in renewable energy on the income statement."

H 01-2: Second sub-hypothesis :

"There is a statistically significant effect at the significance level (α ≥ 0.05) for investment in renewable energy in the financial position statement."

H 01-3: The third sub-hypothesis :

"There is a statistically significant effect at the significance level (α ≥ 0.05) for investment in renewable energy on the cash expenditures list."

H 01-4: Sub-hypothesis Four :

"There is a statistically significant effect at the significance level (α ≥ 0.05) of investment in renewable energy on the equity statement."

Testing study hypotheses:

: H 01 The first main hypothesis :

There is a statistically significant effect at the significance level (α ≥ 0.05) for investment in renewable energy in all its dimensions combined (solar energy , Wind energy , Water energy , geothermal energy , Bioenergy) in reducing creative accounting practices in all its dimensions (income statement, balance sheet, cash expenditure statement, equity statement)

To test this hypothesis , simple (binary) regression analysis was used. Investing in renewable energy can reduce creative accounting practices as shown in the following table.

Table (3)
Simple regression analysis of renewable energy investment in creative accounting practices

standard error	Modified R coefficient	determination R2	Correlation coefficient R	.independent variable
.288	.431	.452	.672	**Investing in renewable energy**

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Dependent variable: Creative accounting practices

The table presents the summary results of the model used to test the main hypothesis. It shows that the correlation coefficient between the independent variable (investment in renewable energy) and the dependent variable (creative accounting practices) is (0.672), indicating a positive relationship between the two variables. Additionally, the coefficient of determination (R^2) is (0.452), which implies that the model accounts for (45.2%) of the total variance in the dependent variable (creative accounting practices), while the remaining variance is attributed to other influencing factors.

Table (4)
Results of multiple regression analysis of the impact of investment in renewable energy and its dimensions on creative accounting practices at Rashid Bank (ANOVA)

Significance level Morale of F sig	**Calculated F value**	**mean squares**	**degrees of freedom df**	**sum of squares**	**Data source**	**The model**
.000	21,624	1.798	4	7,190	**Regression decline**	1
		.083	105	8,728	**Residual error**	
			109	15,919	**the total**	

The table shows the results of the regression variance analysis of the effect of the variable of investment in renewable energy with its dimensions on the creative accounting practices in Rashid Bank , where the table displays the calculated value of the F-statistic, which reflects the overall suitability of the model for regression analysis and confirms that the relationship between the independent and dependent variables follows a linear pattern. The F-value was (21.624) at a significance level of (.000). According to the decision rule, the model is deemed appropriate if the significance level (sig) is less than (0.05). Based on these results, the null hypothesis is rejected, indicating a statistically significant relationship between the variables.

Table (5)
Transaction results for the impact of the variable of investment in renewable energy on creative accounting practices at Rashid Bank

Significance level sig	**t value**	**Standard transactions**	**Non-standard transactions**		**Independent variables**
		Beta value	standard error	B value	
.000	7,444		.214	1.594	**(Constant) constant**
.000	3,701	.363	.050	.186	**Income statement**
.033	2.164	.215	.066	.142	**Financial Center List**
.041	2,011	.180	.085	.145	**Cash Expenses List**
.029	2.213	.161	.052	.115	**List of Copyrights**

The table shows the results of the coefficients of the impact of investment in renewable energy in its combined dimensions (solar energy, wind energy, water energy , geothermal energy, bioenergy) on reducing creative accounting practices in its combined dimensions (income statement, balance sheet, cash expense statement, equity statement) . The table shows the calculated t values for the dimensions at a significance level of sig less than (0.000) and based on

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the decision rule related to t, which stipulates rejecting the null hypothesis if the significance value of t is less than (0.05).
null hypotheses were accepted for the dimensions of investment in renewable energy represented by (solar energy, wind energy, hydropower , geothermal energy, bioenergy) , meaning that there is a statistically significant effect on creative accounting practices in Rashid Bank . The table also shows the values of the standard coefficients Beta , where it is clear that the highest impact dimensions on creative accounting practices in Rashid Bank were the income statement dimension, where the value of Beta reached (0.363).

Table (6)
Summary of study hypotheses results

The result	Hypotheses
Accept the null hypothesis	**Main hypothesis H1 : There is a statistically significant effect at the significance level (α≤ 0.05)** of investment in renewable energy in its combined dimensions (solar energy, wind energy, hydropower , geothermal energy, bioenergy) in reducing creative accounting practices in its combined dimensions (income statement, balance sheet, cash expense statement, equity statement) **.**
Accept the null hypothesis	**H 1-1: There is a statistically significant effect at the significance level (α≤ 0.05)** of investment in renewable energy on the income statement .
Accept the null hypothesis	**H 1-2: There is a statistically significant effect at the significance level (α≤ 0.05)** of investment in renewable energy on the financial position statement .
Accept the null hypothesis	**H 1-3: There is a statistically significant effect at the significance level (α≤ 0.05)** of investment in renewable energy on the cash expenditures statement .
Accept the null hypothesis	**H 1-4: There is a statistically significant effect at the significance level (α≤ 0.05)** of investment in renewable energy on the equity statement .

RESULTS AND RECOMMENDATIONS

This research includes a summary of the most important conclusions and recommendations reached by this research .

First : Results

The key findings of the study are summarized as follows:

1. The study found that the number of male participants exceeded that of female participants. The researcher attributes the higher number of males compared to the number of females in the study community to the bank's interest in attracting male employees, as the majority of the work required to be carried out is field and technical work that requires physical effort .
2. The study concluded that the highest percentage of the study community members' distribution according to the practical experience variable was for the category of 25- less than 35 years, and the lowest percentage of the practical experience variable was for the category of less than 10 years. This may be due to the bank's interest in maintaining employees from the young category who have gained experience for a long period of time, and thus maximizing the achievement rates of this category .
3. The study results revealed that the level of investment in renewable energy in Rashid Bank was high . This result was consistent with the results of the study (Al-Zahrani, 2023) , which concluded that it was at a high level .
4. The study results revealed that the level of creative accounting practices was average, and this result was consistent with the results of the study (Al-Anzi, 2024) and the study (Saleh, 2024) , which concluded that the level of creative accounting practices was average .
5. The results of the study showed that there is an impact of investment in renewable energy on creative accounting practices, as this study agreed with the study (Jabari, 2024) , which showed that there is an impact of investment in renewable energy in achieving sustainable development. Also, the study (Al-Zahrani, 2023) showed that there is an impact of sustainable development indicators on renewable energy consumption .

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Second : Recommendations

Based on the study's findings, the researcher proposed the following recommendations:

1. The need for banks to pursue the issue of investment in renewable energy and adopt a new framework to attract foreign direct investment in the solar energy sector and encourage private sector investment by reducing the costs of financial transactions related to the development of solar energy projects and facilitating investment procedures therein .
2. The necessity of training human resources to address the shortage related to various technologies and applications of generating electricity from renewable energy , especially solar energy .
3. Working to support and activate the scientific research movement in the field of energy alternatives and developing them by establishing a more accurate and reliable information bank on solar radiation, dust quantities, wind intensity, monitoring temperatures, and developing more predictive methods for photovoltaic systems in the event of weather fluctuations .
4. The necessity of encouraging interest in financing funds for these projects to develop Iraqi solar energy exports .

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