DOI 10.15520/sslej.v7i08.3560 http://sslej.in/index.php/sslej Research Article

ISSN: 2456-2408 Social Science learning Education Journal

The virtual reality and its role in improving the quality of financial information: An analytical study

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Abstract: - *The research aims at the importance of relying on virtual reality in improving the quality of financial information for the purpose of rationalizing investment decisions. And for the purpose of achieving the objectives of the research, it was relied on analyzing the results of the questionnaire for the purpose of knowing the strength of the correlation and influence between the two variables. Several conclusions were reached, the most important of which is that the application of virtual reality technology leads to improving the quality of financial information for the banks of the research sample. Many recommendations were reached, the most important of which is relying on virtual reality to improve the quality of the financial information of the research sample banks.*

Keywords: - *virtual reality, quality, financial information.*

Introduction:

The world today is witnessing many developments as a result of the great progress in science and technology, which will reflect positively on the economic, political, legal and social fields, especially financial, by relying on modern technologies represented by virtual reality for the purpose of obtaining useful information, and the financial information that must have a set of characteristics Which is the basis for rationalizing investment decisions.

It is known that financial systems depend on traditional methods, which do not lead to the provision of useful financial information and will therefore negatively affect decisions. Therefore, there was a need to use modern technologies in line with developments in science and technology represented in the use of virtual reality technology for the purpose of obtaining financial information. High quality for the purpose of rationalizing decisions in commercial banks.

The research was divided into the following sections, as the first topic was devoted to the research methodology, the second topic focused on the theoretical rooting of virtual reality, while the third topic was devoted to financial information in light of virtual reality, and the fourth topic dealt with analyzing the results of the questionnaire, and finally The fifth topic was devoted to conclusions and recommendations.

Research methodology

This part presents a description of the methodology adopted in accomplishing the requirements of this research, which is represented in the research problem, its importance, its objectives, its hypotheses, its limits, its society, its sample, the sources of data and information collection, the methods of data analysis, the adopted approach and the procedural scheme for this research.

1-1: Research Problem:

The research problem lies in relying on financial information obtained through traditional or modern methods in some cases, which do not lead to the provision of useful financial information, and then this will reflect negatively on decisions. The research problem can be formulated through the following questions:

A- Is current financial information useful for decisions?

B - Is there a possibility to use virtual reality to improve financial information?

1-2: Research Objectives:

The research seeks to achieve the following objectives:

A- Introducing the concept of virtual reality.

B - Clarify the importance of financial information in light of virtual reality.

1-3: Research Hypothesis: The research seeks to test the main hypothesis that:

Virtual reality contributes to improving the quality of financial information.

1-4: The importance of research: The importance of research at the present time highlights the importance of relying on new concepts in financial systems, represented by relying on virtual reality technology, through which useful financial information is provided and then rationalizing decisions, which has become an inevitable requirement for financial sciences to keep pace with environmental developments. For the financial system to be able to provide high quality financial information to its users, as well as take advantage of the virtual reality application so that the investor can choose the best alternative.

1-5: The procedural scheme of the research: The idea of the research can be clarified through the following procedural scheme:

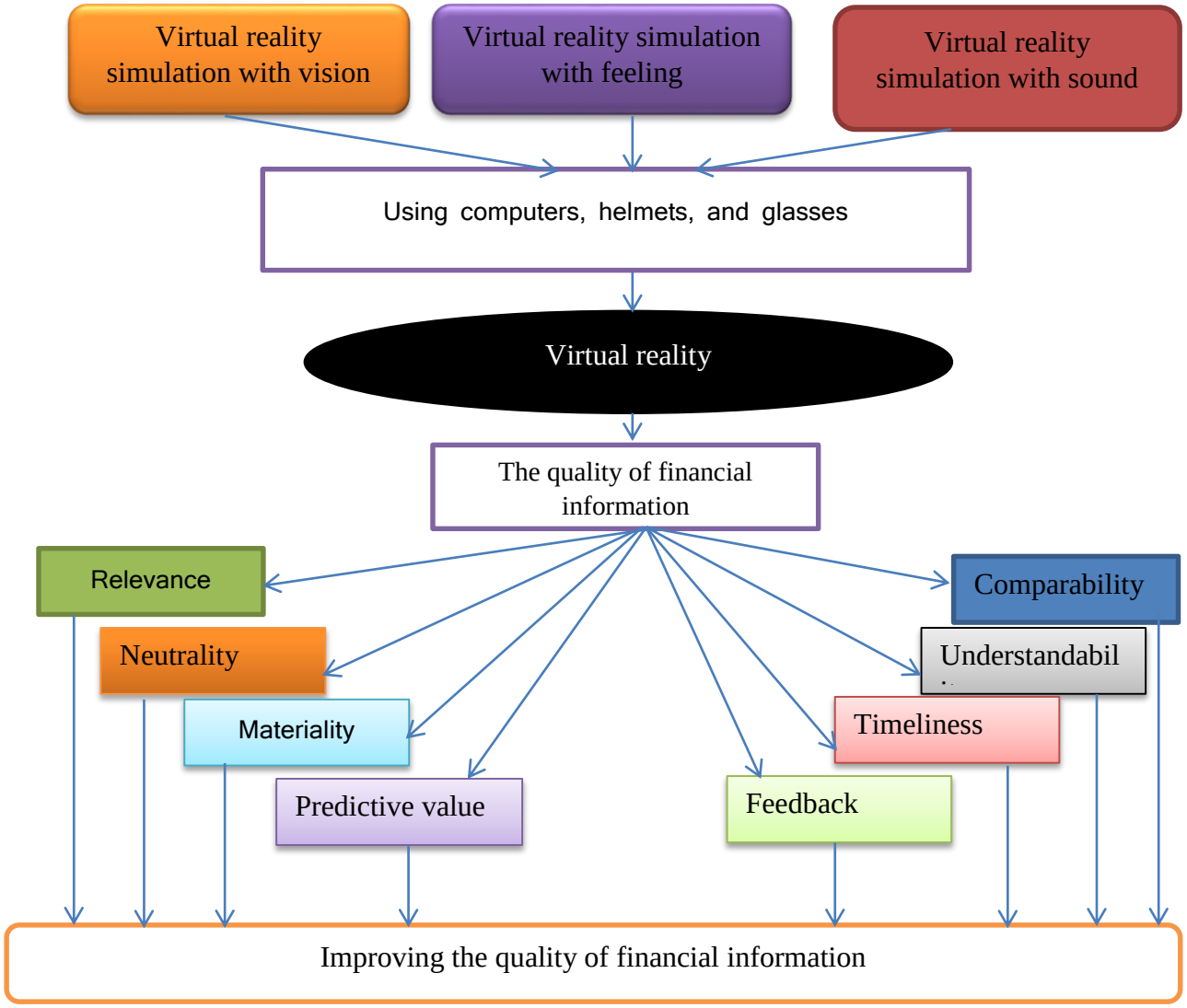

Figure (1) the procedural scheme of the research

Source: Prepared by the researcher

Theoretical rooting of virtual reality

2-1: Definition of Information and Communication Technology:

Information technology is defined as a set of computers, supporting equipment, software, services, and associated resources that support work stages and make digital information generated and

stored easy to use and share (Mcnabb, 2006:283). It is all the technology used in the operation, transmission and storage of information electronically, while communications are defined as the transfer of messages, information and reports between stations and parties to communications networks (Summers, 1989; 733). Downloaded data, audio, and video among users for use in decision-making (Mcnabb, 2006: 283). The researcher believes that information and communication technology is the technology that links computer networks together through the Internet, which allows the exchange of information between all users in the world at the appropriate time to make rational decisions.

2-2: Defining Virtual Reality

The term virtual or imagined reality (VR) applies to computer simulations of environments that can be physically simulated in some places in the real world, in imaginary worlds (Al-Esawy, 2017:40). Virtual reality is also defined as a computer technology that includes simulating a real or three-dimensional environment that transfers human consciousness to that environment to feel that he lives in it, and may sometimes allow him to interact with it, and in the same context, virtual reality is defined as a world made by a computer in a three-dimensional manner, So that you can move in it and live many adventures through it with the help of some accompanying technical devices, such as a dedicated helmet, glasses, headphones, and special gloves that enable you to catch things in your imaginary world (Sharmistha, 2013:306).

It was also clarified as a technology that integrates reality with imagination, which represented a new breakthrough in the world of technology and became the focus of attention of international companies specialized in technology and users alike, especially with the emergence of Oculus Rift and Google Cardboard virtual reality glasses (Corey, 2009: 5).

Others believe that it is an embodiment (imaginary and advanced technological means) of the real reality, but it is not real, as it gives endless possibilities of light, extension, sound, sensation, vision, and disturbance of feelings as if we are in the natural physical reality (Al-Asmari, 2017: 1), and virtual reality technology (VR) provides The possibility of creating a three-dimensional virtual world that allows people to exist and interact with it using virtual reality glasses and devices, simulating experiences from the real world, such as training in performing certain job tasks or imaginary worlds such as what happens in games.

Based on the above, virtual reality can be defined as "the use of computer technology to create the effect of an interactive three-dimensional world, in which objects have a sense of spatial presence."

2-3: Benefits of Virtual Reality (Al-Asmari, 2017: 1; Schultheis & Rizzo, 2001, 299):

Saving the time and effort needed for manufacturing.

Reducing the money that may be wasted in the manufacture of devices. Maintaining the safety of the trainees, and the preservation of people's lives. Exposing the trainees to all weather conditions and electronic malfunctions, which may not all be available in nature, and training them on how to deal with them? Virtual reality is characterized by three basic ideas, which are as follows (Sandra et al, 2012: 3):

- Immersion: The user has a real feeling of being inside the virtual world of the computer, and the devices that make this feeling: are represented by digital helmets and the digital cave.
- Interaction: the user interacts with virtual objects, and the devices that create this feeling are digital gloves.
- Engagement: Explore a virtual environment, it is as if the user has participated in the virtual world and can directly intervene as a result of the application, and the user can navigate the virtual environment in a passive or active way.

2-4: The future of technology

The technology has become popular with consumers, with tech companies introducing more glasses, Facebook support for VR video, and a YouTube channel dedicated to such movies, all helped by the rise of consumer 360-degree cameras, and the proliferation of cheap VR glasses.

Virtual reality has demonstrated the benefit of transferring information and knowledge through the concept of learning from interacting with an immersive 3D environment, and virtual reality and related technologies allow the creation of virtual

environments with key characteristics representing real world situations, visualization and interaction with virtual objects closer to reality than abstraction and represented by mathematical representations and 2D for complex scenarios. In this respect virtual reality can potentially serve two goals: (a) reflect realism through close correspondence with real experience, and (b) extend the power of computer-based technology to better reflect "abstract" experience such as interactions concerned with the interpretation and manipulation of symbols that it has no clear embodiment (Maad et al, 2020: 170).

It is noted from the above that virtual reality technology will be more advanced and will be in new forms commensurate with the developments taking place to be able to meet certain needs. Virtual reality technology can be used in all sciences, especially financial and banking sciences, for the purpose of obtaining high-quality financial information that is able to rationalize decisions.

Financial information in light of virtual reality

3-1: Definition of Information:

Information is defined as a set of meaningful data that is assembled to become useful and useful (Gelinas et al, 2004: 16), and information is simply defined as data that has been invested and become meaningful (information = data + meaning) (Bergeron, 2003: 10). Information is also defined as the data that has been processed and presented in a form useful for decision-making, and the information has value for the decision-maker because it reduces the uncertainty of the decision-maker and increases his knowledge (Romney & Steinbart, 2009:9).

3-2: The importance of the quality of financial information in the financial markets

Information is one of the most important effective pillars for the success and development of financial markets, as it represents the main engine for directing savings towards investment opportunities and achieving efficient allocation of resources and then achieving development and financial stability for the financial markets.

3-3: What is the financial information?

Defines financial information: it is information that relates to the financial status of various organizations and economies related to events that affect the security and safety of investment (Nazim and Hamadna, 2009: 217).

Others define financial information in its monetary form, i.e. expressed in monetary units such as cost price, and non-monetary information such as the volume of the company's means of production.... Thus, financial information includes all quantitative and statistical data and information to which accounting principles apply, or as all information resulting from the establishment of the company. Or the institution with its various functions, whether they are descriptive or quantitative (Belajoz, 2009: 171).

It is noted from the above that information in general is data that has been processed appropriately to give a complete meaning for a user, which enables him to use it to take various decisions, whether at the present or future, and if that information is related to the conditions of the financial sector, we call it financial information, which It must also include all data and quantitative information that help in making decisions.

3-4: Sources for obtaining financial and economic information (Schroeder & Catey, 2009: 571) Hindi, 1999: 219-227) (Key, and my knowledge: 2010, 184):

A. Newspapers, specialized magazines and investment advisor publications
B. Reports published by brokerage houses
C. Databases
D. Government publications.
E. Economic unit reports

3-5: Financial reports as the most important source of financial information in the financial markets (Hamad, 2006: 53) (Schroeder, 2009: 275): They are represented by the financial information contained in the financial reports issued by economic units, especially the banks listed in the market.

Also, financial information, regardless of its source, which may stem from the manual system, or from the computerized system, must have several qualitative characteristics, in order to be useful to the decision-maker.

3-6: The quality of the information contained in the financial reports:

Information must be characterized by some characteristics that are called the characteristics of accounting information, and these characteristics are appropriate timing, ability to predict, feedback, honesty in expression, impartiality, verification of information and comparison (Richard, G, 2001). Good information is that which is most useful in rationalizing decisions. It means those characteristics that must be characterized by useful accounting information. (Shirazi, 1990).

The quality of accounting information is defined as a set of qualitative characteristics that must be characterized by accounting information to be of interest to the beneficiary parties. The availability of these characteristics in financial reports is of great benefit to the various parties benefiting from this information, and the most important of these characteristics identified by the American Financial Accounting Standards Board FASB are as follows (kieso et al, 2007).

1-Relevance.

2- Reliability.

As we find that the feature of the usefulness of accounting information in making decisions comes at the top of the characteristics, and this characteristic represents the general rule that depends on the suitability characteristic and the reliability characteristic. In order for the information to be relevant, a set of sub-characteristics is required (Gelinas & Sutton, 2002:33-36):

- Access to information to its users in a timely manner
- Information has predictive power.
- The information has the ability to give feedback.

In order for information to be relied upon and trusted, a set of sub-characteristics is also required, as follows: (Bodnar, Jeorge H, William S 1995)

1- Preparing the information so that it honestly expresses the phenomena it is supposed to express (the truthfulness of the representation of phenomena and events).

- ✓ The information should be verifiable and its integrity can be verified.
- ✓ The information should be impartial, unbiased, and present the facts uncompromised.

The information should be comparable and what this requires of stability in the application of accounting methods and methods, which is a characteristic that is intertwined with the properties of relevance and reliability.

There are two main limitations to the use of the above features (Ibrahim & Ali, 2018:18):

- ✓ Test the level of importance.
- ✓ Cost/benefit test.

Concepts of convenience and reliability:

First: Suitability: It means that there is a logical link between the information and the decision in question, that is, the ability of the information to make a change in the direction of the decision (spisiland, 2010:55):

Second: The reliability characteristic: The reliability characteristic is related to the integrity and reliability of information.

In order for information to be reliable and reliable, three sub-characteristics are also required (Kieso et al, 2018: 32-34): (a) honesty in representation (b) verifiability of information (c) neutrality of information.

a) Honesty in representation: It means that there is a high degree of congruence between the information and the phenomena to be reported.
b) The possibility of verifying information, which in the accounting concept means the availability of the objective condition in any scientific measurement, and this characteristic means that the results reached by a particular person using certain methods of measurement and disclosure can be reached by another using the same methods.
c) Neutrality of information: It means presenting truthful facts without omitting or selecting information for the benefit of a particular group or decision.

1. The basic qualitative characteristics as stated in the conceptual framework of financial reporting can be clarified through the following (Al-Jarat, 2012: 196) (SASB, 2013: 12) (Donleavy, 2016: 26) (Hyrslova et al, 2015: 609):
2. Appropriateness: is the basic characteristic that makes accounting information useful for decision-making, and the information is

appropriate, it must have the ability to make a difference or difference in the decision (kieso et al, 2018: 32-33):

A. Predictive value: defined as the property that helps users evaluate past and present events and predict future events (Glautier et al, 2011:344).
B. Feedback: It is the feature that helps users confirm or correct previous expectations (Porwal, 1997:118.).
C. Relative importance: the information is relatively important, and if it is deleted, distorted, or added, it will affect the economic decisions taken by the unit (Abu Nassar and Hemeidat, 2016: 8.).
D. 2- Honest representation: It means that the accounting numbers and descriptions appearing in the financial reports honestly represent the events that occurred (Ibrahim & Ali, 2018:25).
E. Completeness: It means that sufficient information must be provided to decision makers.
F. Neutrality: This characteristic is represented by establishing a policy related to providing appropriate and reliable information to all users rather than influencing the decisions of a particular group of users or the economic unit itself (Wolk et al, 2004: 203).
G. Error Free: The information must be accurate and free from any errors.
H. The qualitative characteristics of the reinforcement can be clarified through the following:
I. Comparability: It means that information about a particular economic unit achieves greater benefit in the case of comparison with similar information about other economic units and with information similar to the same economic unit for previous periods (Hammad, 2008: 223).
J. Verifiability: It means that the results reached by a particular person can be reached by another person, provided that the same methods and methods of measurement are used (Porwal, 1997: 118.).
K. Timeliness: It means that the accounting information must be available for decision-making before it loses its ability to influence the decision (kieso et al, 2013: 33).
L. Understandability: It means a set of characteristics related to the user and the characteristics inherent in information, which serve as a link between decision makers and accounting information (Schroeder et al., 2010: 85). It is noted from the above that the information should be characterized by several characteristics in order to be of high quality and useful to stakeholders to rationalize their decisions.

3-7: Information quality under information and communication technology

Information and communications technology, especially virtual reality, has an important role in achieving these characteristics, through the strong penetration of technology and its penetration into accounting and financial sciences. Multiple information in terms of quality and quantity in light of all available alternatives in a very short time and with a high degree of accuracy, meaning that it contributes to the achievement and availability of the properties of relevance and confidence in information (Zoelf, 2007: 230.).

Both Al-Adly and others believe that electronic systems allow the operation of financial statements in a flexible manner and capable of producing multiple information in terms of quality and quantity in light of all required alternatives, as quickly as possible and with the highest degree of accuracy (Al-Adly et al., 1986: 406). The use of informatics is one of the features of modern economic units, as technological progress in the production, marketing and financial stages requires obtaining immediate and accurate data that enables the management of institutions to take decisions (Moghadam et al., 2006: 19).

The role of information and communication technology in the appropriateness of financial information, we find that the computer helps to provide information that is characterized by a better predictive and feedback ability and of relative importance. Therefore, it has become necessary to scientifically calculate the probability of events by using information analysis methods under conditions of uncertainty, and for cost / benefit considerations, it is not possible to apply these methods in practice by manual method (Zoelf, 2007: 230).

Through virtual reality technology, the data of the banks listed in the Iraqi Stock Exchange can be

analyzed in the research sample to determine and choose which banks are more profitable with less risk to differentiate between alternatives based on the importance of financial information for making the investment decision. As for the impact of information and communication technology, especially virtual reality technology, on the property of convenience and its sub-properties, it can be clarified through the following:

Therefore, the accountant relies on information technology (computer) using quantitative methods to contribute to raising the efficiency of information as well as using the theory of statistical probability to make the necessary estimates in that (Moscove & Simkin, 1987:18).

In addition, virtual reality predicts information after programming it to obtain the appropriate information and thus helps to make an investment decision.

- The ability to regressive evaluation: With regard to this feature, we find that the computer helps to provide information that is characterized by better feedback, and therefore it was necessary to use the computer to access information that reduces the degree of uncertainty and help in evaluating the validity of previous expectations and evaluating the results of decisions on which the feedback is based. The opposite, and such information is found in the interim quarterly reports and sectoral reports (Zoelf, 2007: 230).

Virtual reality technology is also able to confirm or correct the information that has been predicted after programming it to obtain the appropriate information.

The researcher believes that information and communication technology has a significant impact in achieving the property of relevance through the delivery of information in a timely manner, increasing the possibility of predictions and confirming previous expectations, which allows improving the quality of this information.

- Relative importance: Information and communications technology, especially virtual reality technology, is able to clarify information that is of relative importance to be provided to stakeholders.
- Honest representation: The information must faithfully represent the transactions and other events that pretend to be logical (Glautier et al, 2011:344). We also find that achieving credibility in expressing phenomena and economic reality in light of the constantly changing and evolving environment requires a statement of the probabilistic distributions of the values contained in the financial reports and the disclosure of the error coefficient that accompanies the accounting numbers (Al-Shirazi, 1990: 202). With the advancements in virtual reality technology, it has become possible to do so.

Completeness: the information is integrated if it does not omit any significant effects of measurable events or activities (Al-Jazrawi and Al-Janabi, 2007: 13), and the opportunities provided by information and communication technology in communicating all kinds of rapid, complete and accurate information to decision makers in their workplaces, and broadcasting or publishing it them electronically, thus saving them time and effort, and ensuring comprehensiveness and accuracy in the information they need (Alayan, 2010: 106.).

This feature can be achieved through virtual reality technology that provides sufficient information for decision makers

Error-free: It means that the information has no errors in order to be accurate (Donleavy, 2016: 26).

Neutrality: Information and communication technology, especially computers, had a prominent impact on information neutrality, as it was free from bias

It requires that the information be as complete as possible and be available to all users without distinguishing one category over another. This will only be achieved by using a computer for cost/benefit considerations (Zoelf, 2007: 231). It is noted that the use of the Internet achieves the characteristic of neutrality in communicating the data and information contained in the financial reports by ensuring its delivery to all parties in the same form and content and at the same time (Al-Saqqa and others, 2012: 10-11).

The virtual reality technology achieves the characteristic of neutrality by providing information

to all users without distinguishing one category over another, and the information is provided as it is without modification, addition or deletion.

It is worth mentioning a basic and important fact that the contribution of the computer, the Internet and other technologies, especially virtual reality, in achieving the properties of convenience and reliability depends on the ability of users to take advantage of this technology and employ it in accounting work.

The computer enjoys complete accuracy in data processing operations, honesty and impartiality in work, as the computer only works within the scope of the orders and instructions it knows and does not violate the executive processing operations (Aziz, 1998: 106).

- Comparability: It is the quality of information that enables users to identify the similarities and differences between two sets of phenomena or economic events or two pieces of information. (Porwal, 1997: 118).

Through virtual reality, the financial information of all economic units can be compared or compared to the same unit for previous years to provide useful information for stakeholders.

- Understandability: This feature focuses on comprehension, as it was covered within the framework of the Financial Accounting Standards Board as a property of users of financial statements that is better than the information itself or itself, for the organization and comprehensiveness of information (Jonas & Blanchet, 2000:363). That is, the information should be free of ambiguity, meaning that the information should be clear and understandable to its users. The information should not include any words, symbols, terms, mathematical expressions and unknown equations so that the user of this information cannot understand them (Al-Mamouri and Al-Soufi, 2009: 4). Through virtual reality, understandable financial information can be provided to its users.
- Timeliness: It means the information that is available for decision-making before it loses its ability to influence the decision (Gelinas et al, 2004:17).

The temporary disclosure of appropriate information helps to prevent surprises that could completely change the perception of the economic unit. It is also to give investors more confidence in the financial information available to them (Hendriksen, 1977: 546).

Ashbaugh encouraged the use of the Internet to increase the appropriate timeliness and enhance the quality of accounting information that has been disclosed, and the issuance of information in a timely manner is crucial and necessary in the current business environment. In the same context, FASB in 2006 indicated that the appropriate timing, in light of the use of the Internet, is that information is disclosed before losing the possibility of influencing decisions and that it is published in a manner that allows users to quickly acquire it (Hanafi et al, 2009: 64), and virtual reality technology is used to obtain Information in a timely manner to be provided to investors for the purpose of rationalizing their decisions.

- Verifiability: It means the availability of the objective condition in scientific measurement, that is, the results reached by a particular person can be reached by another person, provided that the same methods of measurement and disclosure are used (Ibrahim & Ali, 2018: 27). There is a possibility for information and communication technology to achieve this feature by using programs.

In addition, virtual reality technology can be used to verify the measurement of information for the purpose of relying on it in making decisions.

The researcher believes that virtual reality technology is able to provide financial information of high quality and achieve most of its basic characteristics of convenience by predicting information and confirming and correcting previous predictions and providing information of relative importance as well as the second basic characteristic of honest representation by providing complete and error-free information It is also provided with information that has the promotional characteristics of appropriate timeliness, comprehension, verifiability and comparability through its programming and use in the financial information issued by the financial markets for the purpose of

rationalizing investment decisions and then choosing the best alternative for investment among the companies listed in the Iraqi Stock Exchange.

Analysis of the results of the questionnaire

This topic focuses on presenting the results of the questionnaire that was distributed by the researcher for the purpose of obtaining accurate answers that support the idea of the research, through the distribution of (110) questionnaires for professors in the departments of finance, banking, accounting, administration and economics, investors, bank managers, employees in the Iraq Stock Exchange and auditors. Receipt of 102 questionnaires that have been answered, of which 92 are valid for analysis Ten (10) questionnaires are not valid for analysis and can be clarified through the following table(1):

Table (1) Personal Information

Academic Achievement	Doctorate and its equivalent		Master's and equivalent		High Diploma		Bachelor's		Diploma	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
	46	50%	23	25%	10	11%	8	9%	5	5%
Scientific specialization	Finance and Banking		Accounting		Business Administration		Economy		Other	
	40	43%	20	22%	15	16%	13	14%	4	5%
Job Title	Professor		Bank Manager		Auditor		Investor		Stock Market Employees	
	53	58%	5	5%	8	9%	15	16%	11	12%
Years of experience	5-1years		10-6years		15-11years		20-16years		20years or more	
	7	8%	12	13%	30	32%	35	38%	8	9%

The answers of the respondents to the research questionnaire were analyzed using the descriptive statistics tools represented by the arithmetic mean (to give a general idea of the respondents' answers and their orientations), the standard deviation (to estimate the absolute dispersion of the answers of the sample members from the arithmetic mean), the coefficient of variation (to estimate the relative dispersion) and the relative importance, with the aim of drawing A picture or a general framework for the respondents' preference and their general orientations with regard to the research variables, according to the five-way scale of options (exactly agree, agree, neutral or somewhat agree, disagree, completely disagree), which is an ordinal scale, and the numbers that express weights are represented by (agree Exactly = 5, agree = 4, neutral or somewhat agree = 3, disagree = 2, completely disagree = 1), in order to reach results through which it can be proven that (virtual reality of financial information contributes to improving investment decisions in commercial banks private listed on the Iraq Stock Exchange). The arithmetic mean of the scale is determined by determining the length of the period first, which is equal to the product of dividing 4 by 5, as 4 represents the number of spaces (1 to 2 first distance, from 2 to 3 a second distance, from 3 to 4 a third distance, and from 4 to 5 a fourth distance), When dividing 4 by 5, the class length is (0.8), and the distribution can be clarified as in the following table 2).).

Table (2) Five-point Likert scale

Weighted mean (range)	level
From 1to 1.80	I don't totally agree
From 1.81to 2.60	I do not agree
From 2.61- to 3.40	Neutral
From 3.41to 4.20	Agreed
From 4.21to 5	I totally agree

The questionnaire consisted of (30) questions, and the arithmetic mean, standard deviation and coefficient of variation (mean) for the total of the two axes were as shown in Table (3).

Table (3) the mean, standard deviation, and mean coefficient of variation

Arithmetic mean	standard deviation	coefficient of variation	result
4.65	0.81	0.18	I totally agree

Table (iii) shows the arithmetic mean, standard deviation, and mean coefficient of variation of the questionnaire questions distributed to the sample members. From the above table, it is clear that the arithmetic mean (average) for the paragraphs of this variable amounted to (4.65), which is higher than the hypothetical mean of (3)□, from The origin of (5), and with a high consistency in the answers through the standard deviation coefficient (0.81) and the coefficient of variation 0.18.

This confirms that (the virtual reality of financial information contributes to improving investment decisions - an applied study of a sample of private commercial banks. The below present the frequencies, ratios, mean, standard deviations, coefficients of variation, and the relative importance of the answers of the sample, whose opinions were taken to reach the results, as clarified by the following axes:

Virtual reality

It is evident from of the answers that 85% of respondents fully agreed that information and communication technology is the technology that links computer networks together via the Internet, which allows the exchange of information between all users in the world at the appropriate time to make rational decisions. And with an arithmetic mean (4.73) and a deviation Standard (0.67) and coefficient of variation 0.14).). While 89% of the respondents fully agreed that ICT contributes to achieving economic development through the digital revolution that leads to the emergence of completely new forms of social and economic interaction and the establishment of new societies., with an arithmetic mean (4.85) and a standard deviation (0.43) and coefficient of difference 0.08).). It is also clear that 85% of the respondents fully agreed and 20% of them agreed that information and communication technology contributes to increasing the ability of individuals to communicate and share information and knowledge that increases the opportunity for the world to become a more peaceful and prosperous place for all its inhabitants. And with an arithmetic mean (4.82) and a standard deviation (0.43) and a coefficient of variation 0.09).).

While85% of respondents fully agreed that the culture of information and communication technology in its various forms, its wide diversity and its successive generations has the ability to develop lifestyles, learning, and work. With an arithmetic mean (4.78), a standard deviation (0.55) and a coefficient of difference 0.11).).

And 87% of the respondents fully agreed that the astonishing and rapid development of information and communication technology had a great impact on information, its processing, storage, retrieval and methods of distribution, which are the driving forces behind the modern technological revolution, which imposed its control over various institutions until the traditional information vessels faced many challenges. ., with mean (4.84), standard deviation (0.41) and coefficient of variation 0.08).).

Also, 90% of the respondents fully agreed that virtual reality (VR) is represented by a computer simulation of environments that can be simulated physically in some places in the real world, in imaginary worlds, with an arithmetic mean (4.89), a standard deviation (0.34) and a coefficient of difference 0.07).). While 86% of respondents fully agreed that virtual reality is a computer technique that includes simulating a real or three-dimensional environment that transfers human consciousness to that environment to feel that he lives in it, and may sometimes allow him to interact with it. With mean (4.77), standard deviation (0.61) and coefficient of difference 0.13).).

Also, 82% of respondents fully agreed that virtual reality is a world made by a computer in a three-dimensional way, so that you can move in it and live many adventures through it with the help of some accompanying technical devices, such as a dedicated

helmet, glasses, headphones and special gloves that enable you to hold things in your imaginary world. , with mean (4.69), standard deviation (0.73) and coefficient of difference 0.16).). While 78% of respondents fully agreed that virtual reality is the embodiment (imaginative and advanced technological means) of the real reality, but it is not real, as it gives us endless possibilities of light, extension, sound, sensation, vision and emotional disturbance as if we are in the natural physical reality, with mean (4.69), standard deviation (0.62) and coefficient of difference 0.13).).

Also, 74% of the respondents fully agreed that virtual reality depends on computer technologies, to create interactive 3D effects, giving the viewer a spatial sense of things, that is, it is a simulation of the present, making the user of virtual reality glasses feel as if he is inside that photographed reality., And in the middle of Arithmetic (4.51), standard deviation (0.93) and coefficient of variation 0.21).). While 84% of the respondents fully agreed that the applications of virtual reality technology were not limited to the field of electronic games only, but provided different effective applications in many industrial, commercial and educational fields. With an arithmetic mean (4.7), a standard deviation (0.73) and a coefficient of difference 0.16)).

Also, 85% of respondents fully agreed that the most important areas and applications of virtual reality technology are in education, training, marketing, electronic commerce, finance, etc., with an arithmetic mean (4.71), a standard deviation (0.73) and a coefficient of difference 0.16).). While 86% of respondents fully agreed that the benefits of virtual reality are in saving the time and effort needed for manufacturing, reducing money that may be wasted in manufacturing devices, maintaining the safety of trainees, and preserving people's lives. With an arithmetic mean (4.77) and a standard deviation (0.59)) and a coefficient of variation 0.12)).

Also, 89% of respondents fully agreed that models of virtual reality uses in the second life are virtual mosques, virtual educational games, virtual theater, virtual laboratory, virtual museum, virtual educational environments, virtual garden, virtual space, aviation, virtual factories, virtual vocational training institutes, virtual courts and virtual criminals. And maps of the distribution of people to the world in the second life. With an arithmetic mean (4.78), a standard deviation (0.66) and a coefficient of difference0.14).).

While 80% of respondents fully agreed that virtual reality leads to saving time and effort, as you can conduct the experiment while you are in your place without effort, cost, time consumption, dialogue or raw materials., and with an arithmetic mean (4.54) and a standard deviation (1.06). And a coefficient of difference 0.23).).

Information quality in virtual reality

It is clear from the answers that (85%) of the respondents fully agreed that the information is represented by a set of data that is meaningful and is assembled to become a task that can be used. , with mean (4.73), standard deviation (0.7), and coefficient of difference 0.15).) While (87%) of the respondents fully agreed that information is a product of data processing, analysis or synthesis through the application of arithmetic operations, balances, equations, and statistical, mathematical and logical methods to extract what it contains, with an arithmetic mean (4.81), a standard deviation (0.51) and a coefficient of variation. 0.11).). While (90%) of the respondents fully agreed that financial information is defined as information related to the financial situation of different organizations and economies, in addition to information about events that affect the security and safety of investment, with an arithmetic mean (4.86), a standard deviation (0.46) and a coefficient of difference 0.09).).

While (88%) of the respondents fully agreed that the financial information should include a set of qualitative characteristics that measure its quality, with an arithmetic mean (4.84), a standard deviation (0.44) and a coefficient of variation 0.09)). While (87%) of the respondents fully agreed that qualitative characteristics are what give financial information its value and importance to the extent that it is characterized. , with mean (4.82), standard deviation (0.48), and coefficient of difference 0.1).). While (89%) of the respondents fully agreed that the annual reports (including the financial statements) that are published by companies that provide important information and a good starting point to get acquainted with the conditions of the company, which are mandatory in accordance with the

regulations and rules, should be included. issued by the Capital Market Authority., with an arithmetic mean (4.82), a standard deviation (0.55) and a coefficient of difference 0.11).).

While (87%) of the respondents fully agreed that the quality of financial information is that the information should be characterized by the basic characteristics of appropriateness and honest representation, and the reinforcement characteristics of comparability, understandability, timeliness and comprehensible. , with mean (4.82), standard deviation (0.48), and coefficient of difference 0.1).). While (91%) of the respondents fully agreed that the rapid changes in the current environment as a result of developments in science and technology and the increasing need for information led to a change in the nature of the information required from financial reports. A change in the information provided by the financial reports. With mean (4.89), standard deviation (0.38), and coefficient of difference 0.08).).

While (89%) of the respondents fully agreed that financial information, in order to be appropriate (information quality) for decision-making, must include sub-characteristics of relative importance, predictive value and feedback. With mean (4.82), standard deviation (0.55) and coefficient of difference 0.1).). While the percentage of (90%) of the respondents completely agreed and (10%) agreed that the Iraqi Stock Exchange should publish a set of financial information believed to be useful for decision-making. With an arithmetic mean (4.81), a standard deviation (0.65) and a coefficient of variation 0.13).).

While (94%) of the respondents fully agreed that information and communication technology plays an important role in achieving the qualitative characteristics of financial information, that is, it contributes to achieving and providing the characteristics of relevance and confidence in information, with an arithmetic mean (4.9), a standard deviation (0.39) and a coefficient of variation. 0.08). .). While (89%) of the respondents fully agreed that information and communication technology has a prominent impact in achieving the characteristic of timeliness through the delivery of information in a timely manner that allows improving the quality of this information. With an arithmetic mean (4.82) and a standard deviation (0.57)) and a coefficient of variation 0.1).).

While (89%) of the respondents fully agreed that the financial information prepared under information and communication technology, especially virtual reality technology, is published in a timely manner and reduces time, effort and cost. With an arithmetic mean (4.82), a standard deviation (0.55) and a coefficient of variation 0.1)). While (82%) of the respondents fully agreed that virtual reality technology is able to provide financial information that helps in achieving the predictive value of financial information that can be used in the decision-making process. With an arithmetic mean (4.6), a standard deviation (0.94) and a coefficient of difference 0.2).).

While (76%) of the respondents fully agreed that virtual reality technology is able to assist the financial markets in providing financial information of high quality through programming and employing it for the purpose of rationalizing investment decisions and then choosing the best alternative for investment among the companies listed in the Iraqi market For Securities., with mean (4.5), standard deviation (0.97) and coefficient of difference 0.21).). This indicates that the answers of the research sample are highly consistent, that virtual reality has an impact on financial information.

Statistical methods and hypothesis testing

These methods aim to clarify the strength of the relationship between the two variables and to test the main and subsidiary hypotheses by using the appropriate statistical methods.

Correlation coefficient: This coefficient aims to show the strength of the relationship between the first two variables represented in the virtual reality and the second variable represented in the quality of financial information, which can be clarified in the table (4) below.

Table (4(The correlation coefficient for the first and second variables

The axis		The first axis	The second axis
First axis	Pearson correlation coefficient	**1**	**0.98**
	Significant	-	0.000
Second axis	Pearson correlation coefficient	**0.98**	**1**
	Significant	**0.000**	-

It is noted from the above table that the correlation coefficient was 0.98, which is greater than zero and very close to (1), and then there is a strong positive direct correlation between virtual reality and the quality of financial information, at a significant degree equal to 0.000 which is less than 0.05, which indicates The correlation between the two variables is strong and positive. The rest of the statistical methods can be clarified through the table (5) below.

Table (5(The effect of virtual reality on the quality of financial information

The independent variable	The dependent variable	The value of B	value of R2	value of calculated F	value Significance	value of correlation coefficient r	value Significance	value of T calculated	Hypothesis accepted (rejected(
Virtual reality	Quality of financial information	**0.93**	**0.96**	**2172.633**	Significant relationship	**0.98**	Strong positive correlation	**46.612**	Acceptance of the first hypothesis

It is noted from Table (5) above that whenever the virtual reality is relied on in the economic units (banks), the research sample will positively affect the quality of financial information by 0.93.

It was shown in Table (5) above that the coefficient of determination is 0.96. This means that the independent variable represented in virtual reality explains about 96% of the change in the dependent variable represented in the quality of financial information and the rest is due to other influential variables. It is noticed from the table (5) above that the value of (F) calculated by 2172.633 at the degree of freedom (K-1 = 1 and n-k = 90) and the level of significance (0.05), while the tabular value of (F) reached (46.612), which means that the value of The calculated (F) is greater than the tabular (F) value, meaning that the assumed linear relationship to estimate the parameters of the study model is significant and it is inferred that the application of virtual reality technology in the economic units (banks) the study sample has an important significant effect on the quality of financial information.

It is evident from the table (5) above that the calculated T value is 46.612 under the level of significance (0.05) and the degree of freedom (1), which is smaller than the tabular t of (2.32), and this means that the first hypothesis is accepted, as it indicates a significant effect of virtual reality on the quality of financial information. After showing the results of the above statistical methods, the hypothesis is accepted, which states that virtual reality is Contributes to improving the quality of financial information.

Conclusions

Based on the information contained in the previous investigations, several conclusions were reached, the most important of which are the following:

1. ICT contributes to achieving economic development through the digital revolution that leads to the emergence of completely new forms of social and economic interaction and the creation of new societies.
2. The virtual reality is the embodiment (imaginative and advanced technological means) of the real reality, but it is not real, as it

gives infinite possibilities of light, extension, sound, sensation, vision and emotional disturbance as in the natural physical reality.

3. Virtual reality relies on computer technologies to create interactive 3D effects that give the viewer a spatial sense of things, that is, it is a simulation of the present, making the user of virtual reality glasses feel as if they are inside that photographed reality.
4. The quality of financial information is that the information must be characterized by the basic characteristics of relevance and honest representation, and the reinforcing characteristics of comparability, comprehension, timeliness and understanding that give this information its value and importance to the extent that it is characterized.
5. The Iraqi Stock Exchange publishes a set of financial information that is believed to be useful for decisions.
6. The financial information prepared under information and communication technology, especially virtual reality technology, is published in a timely manner and reduces time, effort and cost.
7. Virtual reality technology is able to assist the financial markets in providing financial information of high quality through programming and employing it for the purpose of rationalizing investment decisions and then choosing the best alternative for investment among the companies listed in the Iraqi Stock Exchange.
8. The tremendous development in information and communication technology and the emergence of modern technologies, especially virtual reality technology, led to the provision of financial information useful for investment decisions.
9. The employment of information and communication technology in financial systems, especially virtual reality, is able to provide timely information to rationalize investment decisions.
10. The Iraqi Stock Exchange's adoption of virtual reality technology leads to improving market efficiency and rationalizing investors' decisions by providing useful financial information.

Investors' decisions by providing useful financial information.

Recommendations

In light of the conclusions reached in the previous research, the researcher recommends the following:

1. Reliance on information and communication technology through the digital revolution for the purpose of achieving economic development and the emergence of completely new forms of social and economic interaction and the creation of new societies.
2. Employing virtual reality technology for the purpose of imaginative embodiment of the real reality and giving infinite possibilities of light, extension, sound, sensation, vision and emotional disturbance.
3. The study sample banks should provide financial information that is characterized by the quality of the information represented by relevance and honest representation and the promotional characteristics represented in comparability, comprehension, appropriate timing and comprehensible to be of value and importance to the extent that they are characterized.
4. When making investment decisions, investors should rely on the financial information in the Iraqi Stock Exchange.
5. Using information and communication technology, especially virtual reality technology, for the purpose of providing financial information in a timely manner with minimal effort and cost.
6. Employing virtual reality technology capable in the financial markets to provide financial information of high quality through programming and employing it for the purpose of rationalizing investment decisions and then choosing the best alternative for investment from among the companies listed in the Iraqi Stock Exchange.
7. Take advantage of the tremendous development in information and communication technology and virtual reality technology for the purpose of providing useful financial information for investment decisions.
8. Employing information and communication technology in financial systems, especially

virtual reality, to provide timely information to rationalize investment decisions.

9. The Iraqi Stock Exchange's adoption of virtual reality technology to improve market efficiency and rationalize investors' decisions by providing useful financial information.

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