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Address: Dybendal Allé 12, 1. Sal, nr. 18 / 2630-Taastrup,(Copenhagen) -DENMARK
Website: www.neacademys.com
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Published in this issue **Index**

Prof. Dr. Kadum al-Addly

Editor-in-chief of the Journal of Northern Europe Academy for Studies & Research

In the name of God, the most gracious, the most merciful

Praise be to God, Lord of the Worlds, and prayers and peace be upon His Noble Messenger, Muhammad bin Abdullah, and upon his good and pure family, companions and followers until the Day of Judgment.

Now it is the fifteenth issue to be issued on time, which the journal management is keen on due to its insistence to continue the scientific march towards achieving the specific goals of the academy and its scientific journal and continue to work to complete research, follow up its evaluation, and complete the required amendments, in order to ensure the integrity of the research and its validity for publication and printing in the optimal form. From here, we must extend our heartfelt thanks to the editorial members, the assessors and the advisory board, especially the brother, the assistant professor, Dr. Abbas Naji Al-Emami , for their efforts to continue preparing the magazine to be published on the specified periodic time , It should be noted that the magazine has obtained DOI Which helps researchers and research institutions to locate the research easily, which makes the journal's research as licensed and approved scientifically and legally for citation, The journal has achieved a new achievement represented by entering the journal in the international databases EBSCO in addition to publishing its research in the Arab databases.

The current issue includes ten research papers on educational, developmental, economic and social topics, despite the large number of research sent, the publication is limited to the products that include the specific conditions for publication. Thus, the current issue included ten research papers by researchers from various Arab universities.

In conclusion, the editor-in-chief pledges everyone to continue working to ensure the conditions and modernity in what is published in order to achieve the magazine's vision, mission and goals, and God bless.

Semantic relations in daliat almuqnie alkinadiu

Technical Analytical Study

Prepared by

Associate Professor Dr. Amer Mahmood Rabei
Arabic Literature and Criticism
Jerash University/Jordan
Dr.amer5rabie@yahoo.com
2021\2022

Abstract:

This study seeks to show the main and secondary semantic relationships in daliat almuqnie alkinadiu , which helped to bring the text together and link its poetic sequences. In this poem, I have three themes: antagonistic relationship, post-generic detail relationship, and condition-by-answer relationship (secondary semantic relationship). The study concluded that these relationships - in addition to their role in the harmony of the text and the cohesion of its parts - played an active role in achieving a high degree of communication between the speakers and the speakers, achieving the poet's goal to defend himself, and refuting the slander and the claims of his people for what they were labeled as, in addition to their role in building a rhythmic structure that attracts attention; Attracts listen ,hearing sensitive.
keywords: semantic relationships. contrast. Detail after Total. Condition and answer. almuqnie alkinadiu.

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Understanding English Poetry by EFL Arab Learners: The case study of Taibah University/Ula Branch

Prepared by

Prof. Omer Elsheikh Hago Elmahdi
https://scholar.google.com/citations?user=7k-FMj4AAAAJ&hl=ar
Ohago65@gmail.com

Dr. Walid Ali Zaiter
Assistant Prof. in Literature
Taibah University
Walid241960@yahoo.com

Abstract

The goal of this study is to determine how EFL students at the university level understand English poetry. The participants in this study are 46 students from Taibah University Alula Campos' Languages and Translation Department for the 2019-2020 academic year. To collect data about the study, the researchers used quizzes and written exams. This paper examines a number of challenges that students confront when taking quizzes or assessments on English poetry comprehension. The study shows that the students do not know how to define literature or classify its major genres using complete sentences. Neither do they distinguish the definition of poetry or a poem from the characteristics of a poem or the basic elements of a poem. Another common error students make when submitting their coursework is failing to employ proper formatting and literary language. Thus, this paper investigates these problems and analyzes the data acquired from their answers and assignments and finally, the researchers will give recommendations to correct students' problems and avoid them as soon as possible.

Key words:

Poetry; EFL; Arab learners; University Level; Literary Genres.

Introduction

As a general common fact that literature is a type of human expression that employs the finest written methods to express the whole range of human emotions, thoughts, and obsessions, ranging from prose to structured prose to harmonized poetry, to open the doors of human ability to express what cannot be expressed in any other way. Language and literature are inextricably linked. The genuine product of written language and written culture is preserved in the various forms of literature and their expressions, which vary in different areas and eras and are always subject to changes and developments over time.

On the other hand, a literary work is a written work that can be poetry, prose, a thought, or something else, in which the poet, writer, or playwright conveys a picture of an idea, an experience he had, or a specific emotion he felt, in the hopes of conveying it to the reader in a clear and understandable way, so that the reader can live the same experience or idea that the writer did. There are a number of different components that are normally present in a literary work and are used to analyze and judge it.

This paper is supposed to tackle the understanding of English Poetry by EFL Arab Learners: the case study of Taibah University/Ula Branch. It is worth mentioning that the participants of the study have come across a course in English Literature. This course familiarizes students with English Literature, its main concepts in literature, and its genres. The course proposes a short review of periods of English literature. Then it introduces the three main literary genres, which are poetry, fiction, and drama, and brings together students to the technical and analytical tools connected to these genres; students study nominated examples of each genre and acquire the skills of reading and analyzing them.

Research Problem

The research problem of this study is basically built upon learners' performance when completing an English Literature course. The main issue is EFL Learners understanding English poetry by investigating whether learners will be able to: increase familiarity with the meaning of literature, its different genres, terminology, and history; identify the literary fundamentals in a given text, such as plot, setting, description, dialogue, and characterization; and write brief critical analyses of key texts in error-free prose.

Methodology

This study is based on a test to measure students' problems in understanding literature required as a course terminology and application as also required by course objectives to be carried out in tests and class meetings. Thus students have always been asked specific questions about the definition of literature, its main genres, the definition of poetry and its basic elements, the history of English poetry covering the old English poetry, paraphrasing a poem and giving proper analysis, and comparing and contrasting between two or more poems. There are certain problems expected to emerge from the participants' papers, whether in tests or assignments. The number of participants is 46 students.

Literature Review

Syamsia & Hamid Ismail. (2021), believe that “Poetry is a genre of literature in which the words and expressions are the focal point and intervene together in an aesthetic, vigorous, and unique way to convey feelings and thoughts”. Also, they think that “Poetry is a literary work that gives a deep understanding of poets' feelings and other cultures rhythmically”. Mittal (2014) defines poetry as "a piece of writing in which words are arranged beautifully and rhythmically" (p. 21). "Poetry is embellished with rhythm, beautiful diction, and elevated grammatical features" (Ahmad, 2014, p. 123). Wordsworth defined poetry as "the spontaneous overflow of powerful feelings" (1989, p. 57). Poetry is a way of sharing experiences, telling a story, expressing feelings or ideas. Poetry appeals to the imagination through the form, rhythm, and word choice that can create vivid visual images for the audience. (Antika, 2016, p.27).

Allameh, (2011) who writes about “A New Approach to Teaching English Poetry to EFL Students” thinks that “Poetry like other literary genres exists to be enjoyed and appreciated. The difficult task facing any instructor is to develop this sense of appreciation and enjoyment in students who are not interested in poetry. For a long time, literature in general and poetry, in particular, was purged from the teaching programmes on the ground that it made no contribution to learning a foreign language for practical purposes”.

On the other hand, Tara McIlroy, (2019), in her study “EFL Learners Reading and Discussing Poems in English” comes to the conclusion that “the results suggest that speaking about poetry could be useful for the development of speaking skills such as elaborating, negotiating, and also practicing specific spoken language such as the use of discourse markers and conversation skills. The results also suggest that poetry discussions may help learners to express their feelings in English, which could develop their familiarity with conversational strategies when using their speaking skills in future situations”.

It is essential to consider how poems construct their meaning in a broader sense before focusing on descriptions specifically.As a common known fact that poetry has been a central facilitator of humankind’s spoken language. Beowulf, the oldest text in the English language, is written in the poetic form. Through this famous text, poetry has a solidified place in the English language, but the use of poetry in the classroom depends on the whims of the teacher (Sigvardsson, 2017; Weaven & Clark, 2013). Poetry is a genre that is underrepresented in the English classroom for a variety of reasons (Weaven & Clark, 2013). While it may not take center stage in the curriculum, there are significant benefits to using it as students who engage with poetry are more fluent readers and stronger analytical writers (Eva-

Wood, 2004; Stickling, Prasun, & Olsen, 2011; Weaven & Clark, 2013; Wilfong, 2008). As students age and move into upper-grade levels, the texts they interact with become lengthier and more syntactically complex, but a benefit of poetry is that it exposes students to a variety of language skills in a condensed format (Eva-Wood, 2004). Since poetry is a genre intended to be read aloud, this is often the first interaction that students have with it. As students actively read poetry in class, they find improvement in their phonetic awareness and fluency (Stickling, Prasun, & Olsen, 2011; Wilfong, 2008). The length and tempo characteristics of many poems allow for students to practice fluency in short bursts (Stefanie J. Fowler, 2019).

Analysis and Discussion

Before digging deep, and upon the completion of the test and having checked it by the researchers there have been observed that the participants do not know how to follow documentation conventions. In other words, they cannot perform simple research paper; they just lift things from web sources without documentation. Neither do they know the content of their assignments.

First, when asked to define literature, they have repeated what their instructor told them before – in class – giving word-for-word answers, phrases, illegible and blank ones. The question, on the test, reads: "So far we have discussed some basic definitions related to literature, poetry, poem, Beowulf poem for example. In this quiz, you are asked to define, first literature and its main genres, poetry, a poem and its basic elements, and the history of English poetry. Here are samples of their answers or data collection of their responses to the definition of literature:

"Anything written by poets, novelists," "critis, ***it is anything witten by poets****, "dramatists, or critic, anything written by poets, dramatist,*

*novelist or critic, " "i**t is written by poets, dramatists, novelists, or critics,** " "fictional form of writing inclods poetry, drama, novel," "is poetry drama, novel," "**it is anything written by poets**," "**it is anything written by poets**, dramatists, entoink, literature work, "anything written by novelists, poets, critics or dramatist," "have discussed some besic depiotions, forfxesple, Drama, poetry," "Is anything work done by literary men," "anything written by poets drama or novellest," "anything written by prose, dramaist," "anything written by poest," "study of language and poems," "anything written by literate," "what thin or write like poem and poetry," "it is what weort by writers contains literature work," "anything write by poest, or dramatist, novelist or short story," "prose and vrose," "frose and prose," "any Thing, wriTh with feelings and emotion," "<u>it is about Poetry</u>," "Any Thing wrote with feeling and motion," "poem arama poty", " study of the forme and frose", "anything writing by pross drama," "written be get and drmist a poeme, a play noelllotsshre, bu rather," "is literature is dramatic, aand crutrict," "Their water wart, literature ptry, novel, and the theng literature," "the production of literary work especially as an occupation," I"ts art and cab ne discripe something," "a written prose by drama," about a poety, anything literature like drama, poetry, novel, play," "is s, written anything poetry," "**literature is poetry and drama and characteristic**," "Anything literature work written by," "werse and prose," (four students have left the answer blank .*

The suggested answer to be produced by students for the question above mentioned is: literature is any literary work written by poets, dramatists, novelists, and critics.

Test analysis for the first item or question shows that only five out of forty-six students have answered the question nearly correctly using grammatical sentences. However, thirty-seven of the students produced phrases-like answers or illegible ones due to handwriting or weaknesses in sentence structures; only four of the participants in the quiz have left the first question unanswered.

Second, the second item on the test asks students to write down the major genres of literature. They have responded to the question as follows: *"Beowulf poetry", "poem, drama, potry," potery, drama, fiction, novels, short stories," "poetry, drama, fiction, novells, short story," "* ***epic Alltaritive, narrative, lyric****," "dramas, poetry, comedy," "novel, poetry, drama," "poetry, drama, novel," "is major genres literature," "the subject," "poetre," "Speech, Poetry, Drama, Fantacy, Hunor, Fable," "silins, and, Novel, sTory short," "Germany," "drm, novl, play. Drm, pome," " anything written by pett according convention,(then he deleted the answer by drawing a line across the answer), "prose and poetry," "woras reading disaip feeling," "poetry and drama fiction," "short story, nove, fection," "poetry, short story, nofel, fiction, crtsictme," "Dram, Story, novel, poetry, eltcs," "Poem, Drama, Potry," "Poetry, Poem, Drama, Epic, heroic," "Germoony," "****Poetry, drama, fiction and critisins****," Prose and verso, crtics, novel," drama, poetry, novel," "Drama, Prose," "Drama,poetry," "discussed some basic," "Short story, drama, novel, novella, poetry, critisitm," "petty, drema, fiction novels.nerellas," "petry, drama, fiction, nowwls, novellas, short stories and criticism," " poetry, drama, novel," "Berfy, drama fiction novelos short stories and criticism," "potry, drama, fiction and critisins,".* Nine students have left the answer to the question blank).

Test analysis for the second question shows that almost none of the students has answered the question in a complete answer; they produced phrases- like answers or providing illegible answers due to lack of sentence structure and spelling mistakes; nine of the students have not answered the question; one of them deleted the answer by drawing a line through the answer. They mix poetry genres with other genres; they describe fiction as a different genre and they add to it novels and short stories, which in fact they are subcategories of fiction; they mix characteristics of a poem like Beowulf with the major genres of literature. The model answer for students to provide is: **There are four major genres of literature: poetry, drama, fiction (novels and short stories), and criticism.**

Third question: when students were required to define poetry, and according to the data collected from their responses to the question, they have come with the following definitions

"any Thing written about poetry," "Any Thing wrote about poetry," "Art that a poetry," "English poetry Short," "any literary work written or orally trastfact from generation another," " ***Anything written by poets***, *" Any literary works written erally," "the same answer," "any literary work or orally transfer culture," "Illegible answer," "is written The riter feelings," "* ***Poetry is words written with rythem***, *" "Any thing written by poets,"* ***Any thing written by poets according conventions***, *" "<u>Anything written by poem,"</u> "describe the writer emotional or feels about something," "it nade to be sang," words recognizing diction feelings and what in your mind," "<u>It is written by literature men such as poem etc.</u>," "by anything of writing," "any thing writing by poyds," "It is about for drama or fiction any lyric," "something can you write," "what poets written," "* ***Anything written by Poets according***, *" "Any literature work from verss," "illegible answer," illegible answer," "* ***some vovablry in one system***, *" "is* ***about sat drama or fiction,"*** *"any literature work from verss," "* ***written anything***, *" "* ***Poetry is some word about like story," "anything written by poets according to the conventions of history English,"Stamazu, rhyme, meter, simiemettaphs***, *"*

*"**any lierary work written erally transferred from generation to another,**" "**words reading disciple feeling**," "**the text taiking about something by writer,**"* .(Eight students their answers are blank).

Test analysis for the third question shows that four categories of answers: acceptable definitions of poetry only six students have provided the right answer but it lacks sentence structure, funny sentences or irrelevant to the question, illegible answers due to serious spelling mistakes which give no sign of meaning, just letters put on paper and blank answers. The model answer reads: Poetry is a verse written by poets.

Students are asked to define a poem and write its main elements, data collection from their answers show the following:

"something can you write by your feeling," "Stanza rhyme meter alltbration," "title, lines, stanza, theme, meter, rhyme, rhythm, figurative of language," "epic or lyric," "poem elements is The poetre and sTory in The poetry," of literature," "Titles, lines rhymes, rythem, Persons, theme, sheza,"do English Beowulf," "epic and lyric," "taitle literaare," "titale, letter, rythme, stanzas," "short story, dram, novel," something can you wrote it by your feelings," "Rhythm, couplet,"Group of lines wrotten by the poetry," "erased answer," "title, lines, ryhem, rythem, persona, theme, stanza," "rithmy, cuples," "are rhyme, imagery, lyrics," "is short one when a poem is bask elements," "Beowulf poem," "stanza rhym, them, cracters,"illegible answer,"Any literary works written orally," "writtin in stunza," "staza, mgat, meter simile metaphor maegery,"draman novel poetry,"drama, short story- novel, Verse-porse," "The same answer," (seventeen students left their answers blank).

Fourth, as regards, True or False questions, most of the good students did very well on this part of the test, as a factual test which depends on the knowledge of the poem studied during the course. However, some of them scored the right answer by chance; the category of these students falls as the weak ones; they do not answer the question based on understanding it; it is only good students who understood the question and answered it right. Thus, weak students scored fewer marks on true and false questions whereas good ones have scored most of the questions.

Fifth, when participants were asked to paraphrase part of a poem very few answered the question. Some left the answer space blank while others produced irrelevant answers.

Sixth, when a question asked for analysis of a small portion of a poem, based on the elements of poetry, again very small portion of them answered the question.

Seventh, when participants were questioned to give a short paragraph of a few lines, to describe the development of English poetry, a few number of students answered this question.

Eighth, when they were asked to give characteristics of, for example, Beowulf poem, half of them confused characteristics with the main struggles Beowulf underwent during the poem. Some unable to answer, and left it blank.

Ninth, written part of the exam shows that a few sentences give complete answers. However, the majority of them tend to give answers in notes rather than complete sentences. When unable to produce an answer they leave it blank.

Finally, at the end of the test most of weak students ask for more time to answer the test. They tend to focus on difficult questions and by doing so they run out of time to answer all the questions. Students are reluctant to study literature because it is a major element in their study; it is only a course requirement.

Research Outcomes

In their study, Syamsia & Hamid Ismail. (2021),(Teaching English Poetry in EFL Classroom through Classroom Presentation), indicate that “The analysis showed that classroom presentation can enhance the students’ achievement in learning poetry”. Looking at the analysis and discussion researchers have come across certain outcomes that reflect the poor performance of understanding English poetry. The weakness of the participants can be clearly seen in the following types of faults:

1. producing phrases-like answers or illegible ones due to handwriting, weaknesses in sentence structures, and spelling mistakes;
2. mixing poetry genres with other genres; mixing characteristics of a poem like Beowulf with the major genres of literature;
3. describing fiction as a different genre and they add to it novels and short stories, which in fact they are subcategories of fiction;
4. in defining poetry, participants ‘definitions lack sentence structure, funny sentences or irrelevant to the question, illegible answers due to serious spelling mistakes which give no sign of meaning, just letters put on paper;
5. responding to True or False questions, mostly is not based on the knowledge of the poem studied during the course;
6. doing paraphrasing represents a real problem that indicates participants poor vocabulary and understanding of the key text regardless of its type;
7. though the hard effort introduced by learning outcomes of the course the participants tend to be weak at analyzing a small portion of a poem, based on the elements of poetry;

8. participants are unable to write a short paragraph of a few lines, to describe the development of English poetry; however, the majority of them tend to give answers in notes rather than complete sentences; and
9. finally, most of the participants lack testing time management. They tend to focus on difficult questions and by doing so they run out of time to answer all the questions.

Results and recommendations

At the end of this study, the researchers would like to reflect on the main results and recommendations. In order to get a good understanding of English poetry by EFL Learners we need to consider the following points:

Implementation of simple poetic analysis and appreciation.

Knowledge of how to read a poem critically.

Recognition of the main poetic techniques in terms of imageries, themes, languages and forms.

Distinguish different poetic schools and forms

Extract and appreciate poetic imageries

Practicing simple poetic analysis.

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The Role of Translation in awakening the consciousness in Colonialism and Post-Colonialism Concept

Prepared by

Dr. Hanan Mahgoub Hamed Mohammad
Tabuk University – Department of English Language & Translation
hm.mohammad@ut.edu.sa

Abstract

The goal of this paper is to show how important translation was during the colonial and post-colonial periods. It also emphasizes the difficulties of translation, which stand in the way of the state's ambition to become a colonial power. The research examines translation notions that have been employed as an instrument of imperial domination and colonial relief rather than as a tool of emancipation and discourse in the post-colonial era, as well as a means of disseminating scientific and industrial knowledge. The post-colonial developments in translation are documented in this study, including how certain translations aimed to consolidate colonial beliefs while simultaneously playing a critical part in the abolition of colonialism, as well as the ideological principles on which the translation was founded.The descriptive approach is the most appropriate for this study and addresses its problems , providing detailed, comprehensive and in-depth information Data was gathered from a variety of sources, including books, papers, and online libraries

The comparative analytical approach: which is required by the applied part of text analysis and criticism Data was gathered from a variety of sources, including books, Thus , regardless of the work requirements, the translator must be automatic and transparent. Going above and above the norm is a responsible, systematic, and professional act of translating colonial and postcolonial concepts.

Keywords:

Colonialism, Postcolonialism, Translation

Introduction

All cultural experiences come from the junction and intertwining of language, place, and the self, we can state with some simplicity. Various types of seeding disturbances and disrupting these junctions generate the post-colonial experience. 'Summoning' explores the interconnections of language and subjectivity, but it's also vital to consider place in a colonial and post-colonial context . This is because colonialism includes the movement from one place to another, and forms of “dislocation” that can be material or cultural, such as persecuting a certain culture by a culture that is claimed to be more prestigious, so it no longer feels “at its home”. As Ashcroft, Griffiths, and Tiffin note, “place, displacement, and an overriding interest in the myths of identity and authenticity are a common feature of all post-colonial literatures written in English” (1989: 9), and this may be characteristic of all post-colonial situations.

The changes in post-colonial cultures are usually accompanied by cultural syncretism and linguistic Creole. Both of them always mean that there is no return, which frustrates very much those nationalists or locals who, upon independence, recreate a pre-colonial “culture” or a pre-colonial “people” from which all traces of colonial intervention have been wiped out. In a post-colonial context, we must factor in enormous power imbalances between the two cultures, which makes translation increasingly difficult, if not impossible, resulting in the "inability of culture to translate." How can an English-American text be re-expressed in Mexican Spanish to convey to a person from a poor third-world country something resembling the meaning of a person from the world's richest country? Is it possible for translation to overcome this disparity in power? What Baba sees, and what a growing number of others are seeing.

The cultural impossibility of translation, as many postcolonial scholars agree, is at the same time. Mexicans (and even some North Americans) on both sides of the border speak both languages, pushing the limits of its limits and its utmost capacity for a practical solution at the same time. They never stop translating their experiences from this language to that, for a variety of reasons. Audience types (tourists in the south, various social authorities in the north)

A due to the anguish of translating the stagnation and fragility of the Arabic language in that early era can be seen in Zaitouni's history - in his book "The Translation Movement in the Renaissance - 1994 AD" - One of the challenges was that it lacked polite meanings and fresh names. And its basic reason, which prompted pioneers like Ahmed Faris Al-Shidiac to lament the "treasure of wishes in the groupings of gifts" in the case of translation, still reverberates, he claims. And whomever missed Arabization had no idea what intransigence was, and no one except the warrior reached the flames of conflict. I see a thousand meanings of what he has in homonyms / we have and a thousand of what is appropriate / and a thousand of words without a synonym / and a separation of the place of connection and connection is a duty / and a method of brevity if the case requires / methods of contour if the case requires My grandfather is leaving to make the demands known / If only my folks knew that I am / on the anguish of Arabization.

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Aye, Bermice Kwakyewa, (2007) examines socio–economic development differences despite the fact that the official and dominant language of education and communication is the language of colonization, African countries recognize the importance of promoting their indigenous languages.

Deepa P. Chordiya (2006) argues that European colonization would not have been possible without translators, and that translations have reignited interest in postcolonial studies. While the traditional approach to translation contributed to the consolidation of British hegemony over India, it can now be reformulated as a strategy for Indian-English authors to engage with the politics of English and translation in various Indian contexts.

Jin, Wen. (2006) investigates Chinese American transnational narratives since the 1970s, focusing on the ways in which they bring culture politics into dialogue in various national spaces, including but not limited to the United States and Mainland China. It examines the form and circulation of a group of English- and Chinese-language prose narratives by ethnic Chinese authors in the United States, including Su Wei, Zha Jianying, Alex Kuo, Yan Geling, and Alvin Lu, to shed light on the workings of transnational culture**.**

Between 1920 and 1959, Emily A. Maguire investigates the contribution of Cuban writer Lydia Cabrera's work to the development of ethnography in the Caribbean and the formation of a national identity narrative in Cuba. The study argues that Cabrera's texts illuminate the complex relationship between fictional and ethnographic discourses, and trace the growth of ethnography as a mediating discourse in twentieth-century Latin American narrative, by showing how Cabrera and her literary and ethnographic contemporaries' experiment with textual form and structure.

Purpose of the Study

The purpose of this research is to investigate the role of translation in colonialism and post-colonialism. The modern world's history can be separated into two categories: colonialism and post-colonialism. In both colonialism and post-colonialism, translation has played a crucial role. The goal of this research is to better understand the function of translation in colonialism and post-colonialism.

Objectives of the Study

This study is intended to meet the following objectives :-

1. To raise awareness of the significance of translation as a cultural comprehension in colonial , post-colonial area.
2. To bring foreignization and domestic translation ideas to the foreground in colonial , post-colonial area .
3. To recognize the role of translation in the dissemination of scientific and industrial knowledge.
4. To show how translation might be seen as a colonial power.
5. To show the process of converting a text based on culture into a negative tool that creates a sense of alienation from cultural settings.

Research Questions

Following are the research questions for the study that are aligned with the study's objective in order to attain the study's goal.

The essential question is: In colonialism, what role does translation play as a tool of awakening consciousness?

However, the study would only address this question after it had answered the following subsidiary questions:

1- What's the significance of translation in cultural comprehension?

2- What role does translation play in colonialism?

3- How can translation be used to disseminate scientific and industrial information during the colonial period?

4- Is translation a weapon of imperial dominance, and has it taken on a more colonial-assistant role than one of emancipation and dialogue?

5- How Westernization played as negative tool is the process of translating a text based on culture, by creating a sense of alienation to cultural contexts.

Significance of the Study

History has a lot to teach us, and our research has attempted to learn from history while also exploring the present. This research looks at the function of translation in colonialism and postcolonialism in the past and today. As a result, this study provides a wealth of information for translators, theorists, and students interested in the function of translation in colonialism and postcolonialism.

Methodology

The nature of the topic follows:

1- The descriptive approach: which will be most appropriate for this study and to address its problems , providing detailed, comprehensive and in-depth information Data was gathered from a variety of sources, including books, papers, and online libraries.

2- The comparative analytical approach: which is required by the applied part of text analysis and criticism Data was gathered from a variety of sources, including books, papers, and online libraries.

Definition of Colonialism

Colonialism, according to Césaire (1972), is not only a behavior but also a worldview. When regarded as a rehearsal, it entails the dominance of one society over another by pioneers. Worldview colonialism is defined as a really global, cultural, geopolitical, and economic phenomenon that is deeply based in the global growth of western and European capitalism, which has survived the demise of many colonial empires. The term "colony" was used in the perception of "settlements" prior to the emergence of the term "global capitalism." from the 15th century onwards (Guha, 1997).

The word colony is derivative from the Latin word Colonia, which means "to settle" or "to defray." Colonialism is viewed as a lofty ideal of statecraft and a highly effective technique of capitalist enlargement that makes use of the properties and aid of other communities, if not entire areas, in a broader sense. West Europe is a creation of the 15th and subsequent centuries (Guha, 1997).

According to Spivak(1988), Two main changes in the form of colonial rule over the rest of the world by Western Europe occurred in the early nineteenth century, resulting in similar differences in the relative fortunes of these regions. On the other hand, during the first half of the century, a wave of successful Latin American independence movements led to significant reductions in Spain and Portugal's colonial possessions, most of which were led by creole elites. Colonial infiltration of South and Southeast Asia, particularly under the French, British, and Dutch, as well as Africa via numerous West European colonial supremacies, increased dramatically, transporting new zones underneath direct colonial rule and forcing many imperialists to ascent to shape out substantial regions of the supply-rich landmasses.

Consequently, by 1913, Asia's and Africa's combined portion of global profits had plunged to a near-disastrous degree of a smaller amount of 28%, though Western Europe, at the pinnacle of its colonial control, instructed an unmatched one 0.33 of overall global cost. Although colonialism has clearly evolved into a complex machine, it may be more beneficial to consider it as the consequence of three interconnected realms of dominance: civil-financial, social-organized, and symbolic-emblematic. In the sections that follow, each of these three fields is explained briefly.

Definition of Post Colonialism

In the modern age, postcolonialism relates to race, culture, ethnicity, civilization, and human identity, especially after several conquered countries obtained independence. It is concerned with twenty-first-century imperialism, beginning with colonialism. Colonialism is derived from the Latin phrase imperium, which means sovereignty, rule, command, and authority, among other things. The words "colonized" and "colonizer" have different connotations. The preponderance of the countries are governed by European nations..

The British Empire, in particular, encompasses a quarter of all countries on the planet's surface." Queen Victoria is a topic that more than one in four people are interested in." Most of the writing produced by India, Nigeria, and Sri Lanka is referred to be postcolonial literature; Australia was placed in this category following independence. Edward said that a well-known book labeled "Postcolonial Studies" was originally conceived as a critique of Eastern culture in the manner of western representation. Australia and Canada are primarily treated as Settlers among the countries that make up the "British Commonwealth of countries." Achebe, Ondaatje, Rushdie, Fanon, J. M. Coetzee, Derek Walcott, Isabelle Illende, Jamaica Kincaid, Eavan Boland, and others are among the most well-known post-colonial writers. The majority of literature deals with the interplay between colonized and colonizers (Gilbert & Moore, 2000).

Era of Colonialism in Middle East

In his literature, Valbjorn (2011) stated that the development of European imperialism creates history in the region, which has a significant impact on the Middle East and the Ottoman Empire. This sparked a dispute both in the west and in the east. According to Hourani (1963), if a dispute arose over the failure of the Ottoman "Sick Man of Europe" to own "Oriental despotism" or Islam's opposition to innovation in Europe, the result in MENA was a comparable argument over the West's impact and how to respond to it.

By pounding towns, villages, and tribes with artillery and aerial barrages, imperial powers conquered native armies and brought revolutions to the Arab World, according to Adelson (1995). Political leaders encouraged exclusive assumption of combined patrimony–land, oil–turning tribal and commercial notables into exquisite landowners or opulent rentiers, and tribesmen and farmers into agricultural proletariats–to give local leaders a stake in the wonderful system. On a regular basis, subgroups were appointed and armed, separating the mainstream and forcing them to rely on colonial authorities.

Khalidi (2004) claimed that while there was minimal huge-scale non-original agreement in the locations where it did occur, such as Algeria and

Palestine, the aboriginal populations were fully evicted in the former case. When Western control appeared to be faltering, when Britain and France faced defeat by Germany, festering resistance, never firmly contained, erupted in the shape of huge independence movements and revolts (Fromkin ,1989).

Brown (1984) argued that the Middle East remained the most infiltrated Third World state, and another researcher noted that Buzan (1991) is one of the classical evolutions that was unable to regain its greatness after the destruction of large Ottoman markets after defeat by the European Empire, but was able to form the base of post-independence economic retrieval, as was the case in India and China, where the pre-capitalist empire lasted. Corresponding to a researcher, there are no big superpowers in the Middle East because, as Saddam's Iraq found, no local actor is authorized to expand over severe constructed barriers within the call of the Pan-Arab domain or Islamic rebellion. The post-imperial mission of Europe in the region has been defined by a historical reality. In MENA, the tendency in Europe following September 11 toward extra subject with rigorous safety has not gone unseen. The violence precipitated security collaboration with dictatorial states, although the potential danger of nuclear missile and nuclear weapons expansion in the North Africa (MENA) and Middle East resulted in political capital being spent to persuade southern allies to stick to arms regulator agreements and collaborate with the US on a Mediterranean missile defense system (Youngs, 2003; Lustik, 1997).

Role of translation in colonialism

Language and culture are unquestionably valuable elements for one's identity, whether as a person or as a group. There is a clear link between an individual's linguistic identity and their ethnic origin as an affiliate of a group, and linguistic identity has a distinct place in many experiments. Lee (2003) defined translation as the conveyance of content in the form of writing from one language to another, in which one group shares recognized and appreciable conventions, conduct standards, and practices with another.

Role of translation in colonialism era

Translation, according to Toury (1978), is defined as an action that includes at least two languages and two communities or ethnicities. When we use the term translation in the current day, we must use the term colonialism. Nowadays, colonialism is the most often used and contested term. The interaction of different cultures has a direct impact on translation in postcolonial studies, and it is considered one of the key subjects in postcolonial studies. If we set aside the theoretical idea of translation, certain critics have a point of view on what is known as feminist postcolonialism, and they have highlighted the issue faced by translated authors or female translators who must contend with two types of colonialism and patriarchy. Some postcolonial critics have had a significant impact on various translation tactics; various scholars have had an impact that post colonies are an asymmetric issue to consider; and multiple strategies have been discovered since colonial to postcolonial resistance. There are various anthropologies that constitute postcolonial studies; there are several disparities in the era of postcolonial activities since it is an exchange of different cultures, which has a large impact on various languages and their promotion.

Arkins (1991) analyzes the significance of renaming or redefining a process in language. Dealing with it is the most challenging component of the colonial process. To clone a language, you must clone a country; for example, while imperial colonizing the Irish language, we must take into account the entire nation. They are not adopting the language's nationalism or citizenship as a result of the rebranding.

"Putting off Gaelic and installing English as the most basic typical verbal exchange, which now not only reenacts master/slave dating but also brings the hierarchical connection to thoughts every time the newly established place call is articulated," writes Meissner (1992). "The translational mapping ratifies, at least in the views of the English, a justifiable position of authority and supremacy in all relationships where language is the standard of business." "More than a million human beings in Ireland spoke Irish in 1824," Arkins (1991) continues. "Now the spectrum of local speakers in Ireland is around forty thousand," and "the year the Ordnance Survey began and substantially less than ten years before the time of Translations." According to the Ibid, "the majority of the Irish people are now accustomed with speaking English as their mother tongue, or even those individuals whose native tongue is Irish are adept in speaking and understanding English, totally fluently and on a regular basis" (208).

Even though it is assumed and assumed that most of the characters interact in Gaelic because they are fluent in English speaking, the play is written, translated, and endorsed in English. Although he was practically compelled to do so since "Gaelic" had closely perished as a language, this turn is "a brilliant means of getting the 'postcolonial' target consultation concerned of its particular loss of Gaelic, and reflecting on the vestige of occupation" (Friel, 1981 ; Loomba, 2005).

The importance of translation in gaining a better understanding of culture

Translation began as a means of ensuring that there is no transmission gap between states and that cultural exchange and transformation can take place. The concept grew into an investigation and a process of mutual understanding among those nations. According to Eugene Nida, Translation, according to an American translation theorist, comprises reproducing the source language's closest precise equivalent in the recipient language, first in terms of meaning expressions and subsequently in terms of type. When we talk about keeping the region's meaning and style, it should be simple for such readers to interact with the text and understand the references in their own language. Cultural differences have a big impact on translation, and the correctness of every converted document is directly proportionate to the translator's cultural knowledge. In practice, a good translator should be knowledgeable with both the source and target language speakers' cultures, habits, and social circumstances. He should know the numerous dialects of speak me, as well as the social standards of both languages. This knowledge can help to broaden the concept of translations on a large scale (Hatim &Mason,1990).

The first definition is provided by a postcolonial writer, who states that translation is defined as the substitution of textual literature in one language with equivalent textual material in another language. The most important issue in this concept is equivalent material in textual form. It is, however, extremely ambiguous in terms of the various forms of equivalency. There is no consideration for culture Catford(1965).

Translating is defined as the reproduction of a specific language as a receptor that exists closest to the natural equivalent of the supply language message, first in terms of which means and secondly in terms of grace and style, according to a group of researchers. The process of cultural de-coding, re-coding, and en-coding is used to translate the mind stated in a single language by one social group into the correct representation of another group. It must not be ignored that the cultural part of the text as civilizations become more in touch with one another. Translators are faced with an unfamiliar tradition that demands that its message be delivered in a unique manner.

To begin with, the idea or reference of the vocabulary gadgets is unique to a certain way of life. Second, the concept or reference is popular, but it is articulated in a way that is unique to the supply language subculture. In practice, though, a translator must remember the reason for the interpretation when translating culturally constrained phrases or idioms. It's also important to evaluate the translation procedures given" (Nida& Taber, 1969).

McGuire (1980) investigated the role of cultural attitudes in the notion of translation, and it is unfortunate that this work is no longer being pursued to the same extent. The later ones continue to ignore this be counted. Think about the next explanation: "Translation entails the conversion of the source language (SL) text into target language (TL) text in order that the surface meanings of the two languages are roughly similar and the shape of the Source Language is preserved as carefully as possible, but not to the point where the Target Language structure is critically distorted."

There are dispositions in subculture-studying issues, according to this definition.

On the one hand, students strive to figure out what is being examined and how it is being studied while using a certain technique; and what would be the best discipline for monitoring a preferred technology or way of life. As a result, tradition isn't always a contemporary object of examination that necessitates medical examination. specializes in the connection between subculture and translation because, Culture activates in great part through translational activity, because the most effective way for a way of life to move through innovation and recognizing its particular is to include new texts into tradition (PeeterTorop ,2009).

Hanada Al-Masriin (2009) put a focus on cultural translation and its equivalence, specifically focusing the problem of cultural into equivalences or failures happening in the translation of Arabic literary texts. He looks into the interpretation techniques that resulted in cultural failures, emphasizing the translator's critical role as a cultural insider. He examines allegorical language in texts, such as metaphors, proverbs, and idiomatic expressions, using Arabic as a source text and English as a target language (the goal textual content). To produce a culturally more devoted translation, he ends his article by implying that a translator must expect to play the role of a cultural insider for both texts. Mohammad Salehi (2012) has attempted to explain the concept of translation tradition from various perspectives in translation research, as well as to analyze researchers' perspectives on the interface between culture and language, as well as between tradition and translation. Tradition and translation, he says, are two of the greatest and persuasive variables in human conversation. Subculture, it is widely assumed, has a variety of effects on translational discourse. Geertz(1975) reported that culture can be defined as the complete way of existence, which includes the mores of a given society; their religion, values, behavior, traditions, , instructional structures, family and social systems, political and governmental hierarchies, and use of superior technologies and it is also recommended by Lado(1968). Another researcher used a semantic definition, stating that "a hard and fast rule of semiotic structures, a collection of structures of that means, all of which interrelate" is a way of life. As a result, subculture encompasses all aspects of a network's shared lifestyles, and those 'approaches; are particularly respected by the people who participate with them. Diverse cultures have different ideas about what is ethical and what is not. Morals have a habit of being absolute and unchangeable. And this, in turn, has an immediate cultural impact. Polygamy, for example, is considered immoral in Western culture, but it is not considered immoral in Islamic culture. As a result, Arab culture can be assumed to be distinct from the Anglo-American subculture. Several people recognize it as being very distinct. As a profoundly non-secular society where God's word is absolute, there isn't any of the open-mindedness seen in the Western tradition, where values appear to be extra relative (Hallida,1989).

Translation as a colonial power

As is referred to in advance, translation is a especially a political exercising and pre-supposes contexts of power. Tharu and Lalita(1993) put a rightly observation, “Formulations that installation the problem of translation as one of judging how trustworthy a translation has been to the unique or how well it reads inside the goal language, divert attention from the fact that translation takes place where , continuously unequal worlds collide, and that there are constantly relationships of electricity worried when one world is represented for some other in translation.” This turned into amply testified in the manner colonial powers Orientalized the humans and tradition of their colonies through sorts of textual practices. One of the maximum outstanding and effective technologies that imperial Britain used to aid and justify her agenda of post colonization changed into translation.

The importance of translation in the postcolonial era

Brian and Irish(1980) explained postcolonialism as it is mainly considered as “a thing which comes after the colonial.” There are several exclusive behaviors wherein we can yield this. For international locations that have been colonized, it method handling the result and the wreckage of colonial rule, official, financial, fabric, cultural and psychic. For countries that have been previously or indeed continue to be colonial power all Western European nations apart from Norway even though even there the Lutherans Norwegian had been concerned in styles and grace of colonialism, in addition to China Russia, and Japan, collectively have a connection with other nations that arguably preserve colonialism in advance to a specific modality, above all of the United States(US), It allows for the deconstruction and examination of their personal cultures and ancient sagas with respect to their personal ethics, preconceptions, and ancient monuments developed during the colonial period, as well as the regulation of personal cultures to accommodate the refugees who have brought the empire home, so to speak, and come stay in the earlier imperial authority. As a result, the monolinguals who were persistently promoted throughout the kingdom configurations that occurred during the period of European nationalism have now had to make way for new sorts of multilingual communities.

Robison(2007) have an impact on postcolonial standpoints in translation research are nonetheless too bordering to draw a lot of critic interest, mainly its influence to the look at of translation. Sherry Simon advised, "In the context of translation studies, the time period 'post colonialism' remains beneficial in suggesting critical thoughts. The first is the worldwide measurement of research in translation studies; the second is the essential interest to the outline through which we recognize electricity members of the family and members of the family of alterity. The foundation and goal cultures are conceived as appreciably distinctive however identical cultural systems that although partake greater or much less the same electricity to form and manipulate the translator's paintings to fit cultural wishes" (Simon , 2007).

Translation Studies from a Postcolonial Perspective

In the nineteenth century, the United States of America and kingdom academies pioneered postcolonial approaches. The source and target cultures are designed to be significantly dissimilar, but comparable cultural structures have greater or to a lesser extent equal power to make and regulator the translator's paintings in order to meet a 'goal-cultural need.'" Because many translation scholars are interested in both theories and approaches to translation in a post-colonial context, post-colonial translation studies come in a variety of shapes and sizes. Some are based on an Indian perspective on translation philosophy and experience. For instance, Gayatri Spivak's essay 'Can the Subaltern Speak?' (1988) and book 'Outside the Teaching Machine' (1993), as well as Tejaswini Niranjana's book 'Siting Translation: History, Post-Structuralism, and the Colonial Context' (l992). Others study Irish literature translation as a subject. Translating Ireland (1996) by Michael Cronin and Translation in a 'Post-Colonial Context: Early Irish Literature in English Translation' by Maria Tymoczko are two examples (1999). Similarly, several projects involving the discovery and celebration of cultural and linguistic history, such as Samia Mehrez's "Translation".

Translation theories in the post-colonial era

According to Steiner (1975), translation is the talk of the town nowadays, with the translator being a powerful reader and a free agent as a writer. This is a vastly different interpretation of translation from what George Steiner defined as the 'penetration' of the source text. During this time period, postcolonial theorists are increasingly devoting their attention to the translation, appropriating and reassessing the term itself. The close relationship between colonization and translation has come under investigation; we can now see how translation became a one-way process for hundreds of years, with works being translated into European languages for European usage, as opposed to the mutual system of change they assumed that postcolonialism is a surely a type of violence. European norms have ruled literary construction, and people customs have guaranteed that handiest sure forms of text the ones in order to no longer show alien to the receiving subculture, end up translated (Dingwaney& Maier 1995).

The regular varieties of these superb epics in practically every one of the cutting-edge Indian languages are the most appropriate instances of literature as an acquisitive effort to keep it new. Each of the variations that were created between the tenth and sixteenth centuries is honestly and notably based entirely on the Sanskrit authentic it recurs or repeats, but with enough unquestionable uniqueness for it to be recognized by all as a self-sustaining loose-standing innovative painting of the first order. For example, for rewriting the Ramayana, he is still regarded as the greatest Hindi poet of all time. His poetic genius has grown to the point that he is well-known in Hindi., outstanding as it could sound, of both Shakespeare and the Authorized Version of the Bible prepare in English (Tulsi Das, 1532).

Bhabha (1994) is certainly, if one is to pass by means of a commonly homophonous construction, obtainable mainly in there's now a conceptual near-synonymity between the ‘transnational’ and the ‘translational’, and the translated hybridity of the ‘unharmed’ migrant now inhabits a Third Space’– which probably becomes reachable simplest after one has left the Third World. But unfluctuating if one is placed on the colonial pounded, one is no less ‘in a state of translation’, as it is argued by Niranjana (1992) in her complicated conflation of colonial past with the poststructuralist concept for her, translation is a predominant allegory for the incapable energy affiliation which describes the condition of the colonized. The colonial challenge fixed to his native website in addition to the unsuited migrant publish-colonial is consequently similarly translated, men and women. In modern-day hypothetical dialogue, then, tackling the idea of publish-colonial translation is a bit quick of a superfluity. In our age of expatriation, and displacement, the word translation seems to have come full circle and returned from its metaphorical literary meaning to its etymological interlingual bodily that means of locational disruptors; translation itself appears to have been translated back to its roots (Lefevere, 1994). The old commercial enterprise of translation as visitors between languages still goes on and still colonized international, indicating extra genuinely than ever before the unequal control dating among the numerous local ‘vernaculars’ (Brockington,1989).

Critiques of the postcolonial era

Niranajana Tejaswini is considered as one of the most prominent thinkers of postcolonial translation at the University of Hyderabad in Andhra Pradesh, India. Niranjana (168) bases her criticism on two broad categories, though she blurs them for the sake of convenience. On the first level, she provides specific details and points out flaws in his translation of a single short poem that appears towards the conclusion of Siva's Words. She is critical. To back up her claims, she conducted a series of tests. He reproduces a Kannada textual content in English transliteration, feedback drastically has an impact on its character fundamental elements and offers her own translation of an outstanding choice to previous studies. At the next level of criticism, the researcher rejects to interact. As result, she features to a ‘politics of translation’ that is straight away orientalist, colonialist, Christian, missionary, Utilitarian, modernist, nationalist, and nativist, clearly aiming as individual phrases of disapproval but as whole sorts of abuse over nearly 40 years, he transcribed, translated and commented on more than three, character poems and narratives as well as scores of large works composed at the start in 1/2 a dozen as a substitute extraordinary language. Because the vast majority of what he read and rendered had never been handled on this scale or in this manner before, neither he nor his readers can recognize earlier then, nor can they recognize earlier now or in the future. Many portions share a limited number of traits with many other components, allowing the heap to be divided into numerous smaller constellations using numerous conceptual criteria, and some of the constellations to be preliminarily divided into larger gatherings, but no trying to define series of unexpected features appears in each of the pile's pieces.

It is originally left as a legal sovereign, except in its English translation, which turns out to be Magical to British law reassuringly, and this is how translation invades The channel that calls for other law as old, local, and traditional. Simultaneously, and in English, and logically... Legal and literary works are converted into images of hegemonic Colonialism in translation, rendering English useless

Conclusion

Postcolonial approaches have paid little attention to language difficulties, focusing instead on cultural translation, power, and hybridity, which are figuratively regarded as a shift between cultures. Translation studies are becoming increasingly popular in this modern era as the tendency rises. The term "postcolonial theory" refers to a corpus of thought that focuses on the political, aesthetic, technological, historical, and social consequences of European colonial control throughout the world from the 18th to the 20th centuries.

The study focuses on a range of postcolonial translation methodologies in order to identify postcolonialism. It follows two parallel lines of the translation puzzle. One examines unequal power relations across cultures, while the other identifies post-colonial

translation approaches by examining intercultural interactions in situations with unequal power relations.

In fact, the Postcolonial translation is primarily concerned with the definition and relationship of country and nationalism. It is one of the most widely read types of literature and a source of admiration. Almost all postcolonial novels and other works have been linked to various colonies, including Africa, Australasia, the Caribbean, Ireland, Latin America, and South Africa. Many important themes, such as cultural, geographical, political, post-structural, and psychological, are all linked to postcolonialism. The British, Spanish, French, and Portuguese colonial empires are the most powerful. It is also important literature that aids in comprehending both the "colonizer" and the "colonized" in many areas such as education, culture, politics, geography, and customs.

Despite the enterprise's dilemma, the promise of one day knowing how translation works in various situations, how translation changes cultures both within and beyond their boundaries, provides a tremendous drive to continue." The possibility of understanding how translation operates in those contexts, how translation influences cultures both within and beyond their boundaries, D. F. Allen motivation (D. F. Allen, 2014)

Suggestions

1- In dealing with cosmic order from a position of independence and reaping the benefits of information revolutions while avoiding their negative aspects of translation.

2- The translator must liberate his or her creativity without fear of self-censorship.

Gaining independence from censorship allows for freedom of opinion and freedom of cultural struggle. This does not imply that norms and laws should be weakened or replaced.

3 -The translators must be responsible, accountable, open., conscious of the boundaries that have been imposed on nations' translation of the colonial concept

4- The problem of the separation of theory and practice must be addressed by the translators themselves. Work in this subject should not be geared toward establishing a good relationship between them. Instead, because theory and practice are separated, each team gains from the other's experiences. The application separates the translation search from the tasks Application and practice by making it a search in the abstracts.

5- Finally, the translator must be automatic and transparent, regardless of the task requirements. Going above the typical limitations is both responsible, systematic, and professional.

Because of the differences in languages, there are numerous difficulties in translating and transferring messages from one language to another. This paper documents the post-colonial transformations in translation, including how some translations attempted to consolidate colonial ideas while also playing a crucial role in the abolition of colonialism and the ideological criteria upon which the translation was based. This collection of postcolonial studies explores the relationship between cultures and the various forms of cultural and political translation.

A translator who excels at translating from Arabic into English must be acquainted with the person for whom he is translating. Isn't this an impediment to translating an Arabic novel? It reinforces the most significant impediment to controlling personal relationships and mood, which in turn reinforces a greater and greater impediment, such as connections and frustrations, and so on.

Some arrogant French translators strip the Arabic text of some details or present and delay it as if writing must follow a specific model, which is the European model, and this is what the translation of the Japanese novel into European languages, for example, complains about. And in this case, the European translator serves as a model for the traitorous translator, as this title is not limited to Arab translators.

The term in translation frequently complains about a lack of coordination and cooperation among linguistic academies, academies, and concerned institutions to overcome individual effort.

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في 32.

Analyzing the Problems of English Central Modal Verbs Experienced by

Foreign Language Learners of English at Tertiary Level

Prepared by

A.Prof. Dr. Abbas Elsiddig Mohammed Ahmed.
Department of English
Shaqra University, Saudi Arabia
abbasalssidig@su.edu.sa

ABSTRACT

The purpose of this study is to investigate the problems of central modal verbs experienced by Sudanese 4th years learners of English at tertiary level.. Special emphasis is placed on Central Modal Auxiliary Verb. The underling assumption is that the instructors of English do not give due attention to the teaching of Modal Auxiliary Verbs. Moreover, the teaching materials used at tertiary level do not cover the area of auxiliary verbs sufficiently. So, the present study attempts to identify the frequently occurring errors in the performance of the students and offer remedial solutions to them. This is accomplished through several steps: (1) selecting 100 final students in the Department of English, Faculty of Arts, at Alneelain University as subjects (2) Two instruments for data collection were used: (a) students' test, (b) students' composition. The data were computed and analyzed with Statistical Package for Social Sciences (SPSS).The results of the investigation have revealed the following:

1. The majority of EFL students face grave problems when using English modal auxiliary verbs, particularly the central modals. They do not know how to use them to express possibility, intention, or necessity and they seldom use modal verbs in their compositions.

Keywords: Central Modal Verbs, Auxiliary Verbs , Frequently Occuring Errors, Foreing Language Learners of English, Analyzing the Problems

1. Introduction

Nowadays, there are debates about the teaching of grammar in schools and universities. The earliest research questioning the value of English grammar teaching advocated that it was simply a waste of time in the sense that most learners could not apply any of the categories even after many years of teaching (Macaulay, 1947; Cawley, 1957; Hudson, 1987). This actually is a fundamental objection if it is true. There are studies, which show no benefit from teaching grammar in contrast with others that do. Educational fashions change and after a period of over twenty-five years since the formal teaching of grammar was abandoned in FL teaching situations, there have been persistent calls in the field of FL learning for the reintroduction of grammar teaching as part of 'a return to basics'. However, grammar is generally regarded as central to linguistics, and it should, therefore, be included in a linguistic curriculum on its own right. Interest in grammar has extremely increased. There have particularly been far more emphasis on the ‘Verb’ than on any other class of words, because it is so central to the structure of the sentence (Palmer, 1987). Another source of interest is the great complexity of the internal semantic and syntactic structure of the ‘Verb Phrase’ itself. Explicit study of the English language grammar can help students develop their ability to adjust their language appropriately to different contexts.

As is mentioned before, many educationists have denied that a study of grammar can improve the ability of the students to communicate through English correctly and effectively, but as it is the case with all subjects, it depends on what is taught and how it is taught. For instance, an area in grammar which is generally problematic to the EFL students (e.g. Sudanese learners) and is not given enough attention by the teachers is that of modal auxiliary verbs. Therefore, it would seem reasonable to suppose that the performance of foreign language learners can improve through learning the resources for grammatical structures such as modal auxiliary verbs.

1.2 Statement of the Problem

Sudanese students of English at tertiary level make a large number of grammatical errors when using English modal auxiliary verbs. These errors reflect that the area of modal auxiliary verbs represents a challenge to the students and prevents them from expressing themselves freely, accurately and appropriately. As a result, they either misuse modal auxiliary verbs or avoid using them, this results in complete breakdown in communication and/or inadequate conveyance of intended messages. On the other hand, the teaching materials used at tertiary level do not cover the area of modal auxiliary verbs sufficiently. So, the present study attempts to identify such errors that occur frequently in the performance of the students and suggest certain solutions to remedy these errors or at least lessen their severity.

1.3 Significance of the Study

The significance of this study stems from the fact that as far as I know it is the first attempt to investigate Sudanese university students' errors when using English modal auxiliaries from the syntactic and semantic point of view. It is different from previous studies in grammar, in that its focus is on central modal auxiliary verbs. It also attempts to find the sources of such errors and their types.

1.3 Objectives of the Study

This study is intended to:

1- reflect the grammatical and syntactic significance of central modal auxiliary verbs.
2- show the semantic aspects of these verbs because they are the most neglected grammatical elements and have a unique system.
3- pay attention to the shades of meaning of these verbs as the functions and meanings overlap and may be said to cohere rather than be distinguishable.
4- highlight the weaknesses in the performance of the students, the drawbacks in the teaching materials, and negative attitudes towards some central modal auxiliary verbs from the side of the instructors.
5- Promote students' abilities to use central modal auxiliary verbs as essential elements of various shades of meaning.

1.4 Research Questions

The study will try to provide answers to the following questions:

1. Do Sudanese learners of English use central modals correctly?
2. To what extent do Sudanese learners of English know the semantic aspects of central modal verbs?

1.5 **Hypotheses**

This study intends to test the following hypotheses:

1. Sudanese learners of English misuse central modal verbs.
2. Sudanese learners of English don't know the semantic aspects of central modal verbs.

1.6 **The Methodology of the Research**

This study is descriptive in nature and it adopts an analytic approach to the treatment of the research data and the presentation of the results. Two instruments will be used for data collection. These are:

1. A multiple -choice test to be answered by the students to find out the problems they face in relation to the central modal auxiliary verbs.
2. A composition written by the students in their 4th year final examination in order to find out how the students behave in their free writing as related to central modals

The data collected through these instruments will be treated statistically using SPSS programme. The results will be presented in tables, graphs which will be interpreted and discussed in the light of the research questions and hypotheses.

The results of the analysis and discussion of the data collected through the two instruments will be related to each other to see how far they correlate and support each other.

1.7 Limits of the Study

This paper investigates the use of the central modals auxiliaries in expository writing. This excludes genres such as Legalese, Scientific English and Creative Writing. Moreover, the style under which the central modal auxiliary verbs are examined is a formal one. This excludes other styles such as official, informal, colloquial and slang. In addition, some newly emerging varieties are not included in the study, e.g. the language of chartrooms, e-mails and SMS texting.

1.8 The subject

The population of this study consists of 100 subjects, aged between 19 – 31, at the Department of English, Faculty of Arts, Al-Neelain University. They are all majoring in English, speak Arabic as first language (henceforth L1). This is important since some of their errors may relate to the transfer of their mother tongue. The mode category is the age group (22 – 24).

2. Theoretical Framework

Modal verbs represent a special sub-group of auxiliary verbs. Whereas primary auxiliaries are very essential for the build of sentence structure, modal verbs have the additional advantage of expressing the mood of the sentence. They convey a lot of shades of meanings that are otherwise impossible to put across. Hence are the terminologies ‘mood’, ‘modality’ and ‘modals’. Modal verbs belong to a closed class of verbs which consists of three sub-classes: (i) central modals such as can, could, may, might, shall, should, will, would and must (ii) marginal modals such as dare, need, ought to, used to and have (got) to and (iii) phrasal modals such as be going to, be about to, be allowed to, be supposed to, be able to and be to (McCarthy, 2007: 220). Modal verbs generally encode meanings connected with degrees of certainty and degrees of necessity (ibid).

2.1The Semantic System of Modals

The serious problem of modals is their meanings because each modal can have more than one meaning and different modals may have very similar or even identical meanings. Modals have specific semantic denotation such as epistemic, deontic and dynamic. Epistemic and deontic modality are widely accepted and acknowledged as the two most semantically fundamental kinds of modality (Palmer, 1990; Bybee, et al. 1994). The kinds of meaning conveyed by modals have been divided into different categories as illustrated by Hall (2001)

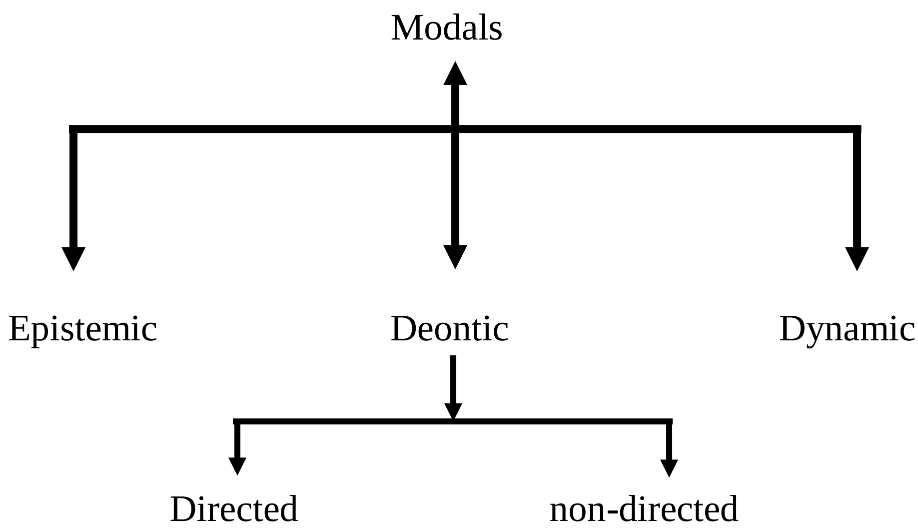


Fig (2.1): Traditional categories of modals (Based on Hall, 2001).

In the following section, the three types of the semantic denotation of modals will be discussed in more details.

2.1.1 Epistemic Modals

Epistemic modals refer to a judgment of the speaker about a proposition, indicating the possibility and necessity of the proposition's being or becoming true (Quirk, et al. 1985:223). The proposition is thought to be uncertain or probable relative to the knowledge of the speaker. Epistemic modality does not express a factual assertion because factual assertion makes a stronger claim than any epistemically modalized statement (Lyons, 1977:805), e.g. He is there. The epistemic denotation of *may* and *might* are used for expressing the speaker's doubt in the truth of proposition (Coates, 1983:133), e.g. You *may*/might be right. According to Palmer (1990:51), the status of *can* and *could* in epistemic modality is rather problematic because they don't express epistemic modality except in non-assertion. They can be used in questions to express confusion doubt, or surprise (ibid), e.g. *Can/Could they be serious*? Epistemic *must* can be used to express that a proposition is necessarily true or at least has a high likelihood of being true (Quirk, et al. 1985:225), e.g. *I must have left my lecture notes in the car*. (= It is necessarily the case that I have left my lecture notes in the car). *Should* and *ought* to have also epistemic necessity value but they differ from epistemic *must* in that they do not express the speaker's confidence in the truth of what he is saying (ibid). Quirk, et al (ibid) use the term tentative inference to characterize the noncommitted necessity. That is to say that the speaker is not sure about the truth of his verbal assumption, but tentatively concludes that it is true on the basis of his knowledge, *e.g. The headmaster should/ought to be in his office*. *Will* is also an epistemic modal rather than future tense marker (ibid: 226). Epistemic *will* refers to what is reasonable to expect. It can be roughly paraphrased by 'a reasonable inference is that…', *e.g. Tom will be home by now.*

2.1.2 Deontic Modals

Deontic modality is essentially performative. The meanings associated with deontic modality are very different from those of epistemic modality. While the former is concerned with action by others and by the speaker himself, the latter is concerned with belief, knowledge and truth in relation to proposition (Palmer, 1990:69). Deontic meaning deals with permission or obligation. *May*, when used for giving permission, may be interpreted as expressing deontic possibility, and *must*, when used for laying an obligation, may be interpreted as expressing deontic necessity (ibid). In saying *you may/must come tomorrow*, the speaker imposes the possibility or necessity of coming tomorrow upon his hearer (ibid: 98). *Have (got) to* has also deontic meaning. The difference between deontic *must* and deontic *have (got) to* is that while *must* might sometimes be subjective, *have (got) to* would always be objective, but both would be deontic in that some kind of deontic necessity was involved (Lyons, 1977:833). Daniel (2001: 14) explains that both deontic and epistemic modals are functions that take propositions arguments. For example, the denotation of *Sara might be playing ping pong* is (might) Sara is playing ping pong, and the denotation of *Tom must finish his work is* (must) Tom finish his work. In both cases, the denotation of the non-modal part of the sentence is calculated first, and then the modal applies to the resulting proposition. For epistemic modals, this treatment works well,

e.g. Sara might be playing ping pong can be paraphrased, as '*It is possible that Sara is playing ping pong*'. However, applying the same procedure to deontic modals misses a crucial generalization. Consider the deontic readings of the two sentences below:

a. Jane shouldn't distract Sarah.

b. Sarah shouldn't be distracted by Jane

If deontic should in each case as Daniel (ibid) explains, takes as its semantic argument the propositional content of the remainder of the sentence, then these two sentences are expected to be synonymous. They are not. Although each expresses the same desideratum, (a) places the obligation on 'Jane' while (b) assigns the obligation to 'Sarah', yet the meaning of each of these sentences can not be characterized as (should) 'Jane distract Sarah.' A similar alternation may be observed in the following examples taken from Daniel (ibid: 15).

(c) Non-linguists cannot understand Chomsky's latest Paper.

(d) Chomsky's latest paper cannot be understood by non-linguists.

The two propositions denoted by the non-modal parts of (c) and (d) are truth conditionally equivalent; however, (c) describes a property of non-linguists, while (d) describes a property of Chomsky's latest paper.The distinction between the deontic and the epistemic uses of English modals is very clear in the case of must, as illustrated by the following examples from Lyon (1977: 835), who distinguishes between four stages for the example:

'You must be very careful.'

1. *You are required to be very careful (deontic, weakly subjective).*
2. *I require you to be very careful (deontic/ strongly subjective),*
3. *It is obvious from evidence that you are very careful (epistemic, weakly subjective).*
4. I conclude that you are very careful (epistemic, strongly subjective)

Furthermore, it is quite clear from the analysis of the four stages that the deontic meaning is the primary and the epistemic is the derived one, as is supported by etymological evidence. For example, Traugott (1989) writes:

> "It is for example well known that in the history of English the auxiliaries in questions were once main verbs, and that the deontic meanings of the modals are older than the epistemic one."

There is rather less to be said about deontic modality than epistemic modality in a grammatical study because some types of deontic modality are often expressed in lexical verbs such as hope and wish as seen in the following examples:

(*a) I hope Tom will come.*

(b) I wish Tom would come.

2.1.3 Dynamic Modals

Deontic and dynamic modality refer to events that are not actualized, events that have not taken place but merely potential, and may, therefore, be described as 'event modality' (ibid:70). The dividing line between deontic and dynamic modality is far less easy to establish. The basic difference between them is that with deontic modality the conditioning factors are external to the relevant individual, whereas with dynamic modality they are internal. Thus, deontic modality refers to obligation or permission, emanating from an external source, whereas dynamic modality relates to ability or willingness which comes from the individual concerned (ibid).The distinction can be seen in the following sentences taken from Palmer (ibid:73), e.g.

1-John must come in now (obligation).

2-John may/can come in now (permission).

3- John can speak French (ability).

4-John will do it for you (willingness).

Dynamic ability may sometimes be interpreted in terms of the general circumstances that make action possible or impossible rather than the actual ability of the subject (Lyon, 1977:850).

3. Previous Studies on Central Modal Auxiliary Verbs

EFL students need to use central modal verbs a lot in their academic life because they enjoy a special status in the grammatical system of English language. Moreover, they play a vital role in conveying messages between senders and receivers in the cycle of communication. In spite of their importance, they represent a challenge to these students. This is because the subtlety and complexity of their meanings and functions are more often than not disguised under a simple structural organization. In fact, non –native speakers including university students majoring in English do not find it easy to deal with them.

Many studies have been carried out on British, American, Australian and Indian linguistic differences in the use of the English modal auxiliary verbs. Huddleston (2002) investigated the uses of central modal auxiliary verbs in academic scientific writing, using for the purpose a corpus of scientific textbooks and articles in journals. He distinguished a variety of central modal verbs' meanings which are specific to the genre of scientific and technical writing. The table below provides a summary of the meanings of these modals.

Table (3.1): Central Modals and their Meanings (adapted from Huddleston 1994)

Modal Verbs	Modal Meaning
May	Epistemic; qualified generalization; exhaustive disjunction; legitimacy; ability; general possibility; concession
Might	Past of may (real sense); epistemic; legitimacy; ability; qualified generalization
Can	Epistemic (in negative); qualified generalization; exhaustive disjunction. Legitimacy; ability; general ability
Could	Past of can (real sense); epistemic; exhaustive disjunction; legitimacy; ability
Will	Futurity; induction; deduction
Would	Past of will (real sense); tentativeness or prediction (unreal senses)
Should	Obligation; logical expectation; tentativeness
Must	Obligation; logical necessity

He concludes that *may* is often used to express uncertainty or possibility, *might* is an 'unreal' counterpart to *may* regarding certainty/possibility, and *must* expresses something necessarily true. Although his analysis indicates the features of these modal verbs in scientific writing, it does not explain the semantic functions of these verbs in the discourse of scientific writing.

Likewise, Butler (1990) used a corpus of scientific articles and textbooks in the areas of Physics, Botany and Animal Physiology. In comparison with Huddleston Corpus, Butler found out that *may* and *might* were more frequently used in his corpus, whereas *can*, *could*, *should* and *would* were more frequent in Huddleston's Corpus. Huddleston (1971) argues that this phenomenon is natural since 'the uses of modals vary across the discipline' .

Coates and Leech (1980) investigated the modal verbs in British and American English. The findings of their study revealed that a compensatory relationship exists between British and American usage with respect to the following pairs of modals: *should*/ *ought to*, *must*/ *have to, shall/ will, can/ may*. The results show that American use of deontic *should* is balanced by the equivalent British use of deontic *ought to* and American use of epistemic *have to* corresponds to British use of epistemic *must*. Also the American use of epistemic *will* is counterbalanced by the British use of epistemic *shall* and the American use of deontic *may* is balanced by the British use of deontic *can*. The general conclusion of Coates and Leech is that in American English *shall* and *ought to* are rare and their main senses being expressed by *will* and *should* respectively.

Another study was made by Krogvig and Johnson (1981), where they compared the use of *shall, will, should* and *would* in American and British English. This investigation shows that the main difference between American and British English lies in the use of *shall* and *should*. However, the results of this study indicate that *shall* occurs more frequently with the first person subject in British English, and most of its occurrences in American English are in the third person.

Collins (1988) examined *must*, *should*, *ought*, *need*, *have to* and *have got to* in Australian, British and American English. The results indicate that the five modals have lower frequencies in Australian English than in the other two varieties. In this study, only *must* and *should* were discussed at great length. In Australian English, epistemic *must* is five times more frequent than deontic *must*. In the American data, the figures for deontic *must* dominate the epistemic ones. British English figures on the other hand, are fairly balanced in terms of the two meanings. With respect to *should*, the figures for deontic meanings in Australian and American English are fairly the same, exceeding those for British English. However, epistemic meanings occur more frequently in Australian and British English than in American English. The most outstanding finding here is that of *should* where no corpus example occurs in the Australian database. This modal occurs in no small number in both varieties of the British and American corpora.

Katikar (1984) investigated the modal verbs in Indian English. His findings indicate that modal usage in Indian English conforms to modal usage in British English. Regarding the differences, contracted forms like *'ll* and *'d* for *will* and *would* are used frequently in Indian English for conveying determination. *Shall* is also reported in his study to be of a higher frequency in his corpus. The results also show that the modality of futurity and hypothesis have a low frequency in Indian English whereas the modality of certainty has a higher frequency. What stands out clear from these frequencies is that there are few marked differences between modals in Indian English and British English.

Viel (2005) studied modal auxiliary verbs in English for Science and Technology (EST) and compared their use with that in General Purpose English (GPE). By analyzing their occurrences and meanings, Vie intended to reveal the similarities, but, more interestingly, to point out differences - if any, and establish and interpret their functions in (EST). The first thing that can be noticed in his study is the significant different number of occurrences of modals in both corpora (3056 vs. 2507 or 15.2% modals per 1,000 words in the EST corpus vs., 12. 5% in GPE). It is striking to notice that EST has two predominating modals (*can* and *will*), which account for 72% of all occurrences, while the others score modest percentages between 4% and 8%. On the other hand, in GPE the distribution is different. *Can* is clearly in the lead, followed by a group of three modals *will*, *would* and *may*. *Should* and *must* have low percentages. It may also be interesting to observe that *will* and *would* show large divergences: 967 occurrences of *will* in EST and 429 in GPE, for *would*: 25%and 45% respectively, i.e. almost double in each case.

Another study was carried out in the University of Rio de Janeiro, by Viana (2006) who investigated the usage of Central Modals in compositions written by Brazilian advanced EFL learners. Only students who were about to graduate were asked to contribute. To this purpose, compositions written in English were collected in three private language schools located in six distinct areas in the city of Rio de Janeiro. After data collection, all compositions were typed so as to probe them by means of a computer program. The research corpus contained 155 compositions.The reference corpus was the Longman Spoken and Written English. This corpus describes the actual use of grammatical features in different varieties of English: mainly conversation, fiction, newspaper language, and academic prose (Biber et al., 1999: 4). Viana compared the results of his study to those obtained by Biber et al. (ibid) in their mapping of the academic prose register since both represent the written medium. Eight out of the nine modals which were analyzed were grouped into two categories: those which refer to non-past time and those which refer to past time (Biber et al., 1999 : 484-485). The first group consisted of *may, can, will* and *shall*; and the second group included *might, could, would* and *should* respectively. The difference in usage between modals which refer to non-past time and the ones which refer to past time is noteworthy. The researcher summarized this contrast by pointing out that *may*, *can* and *will* were at least three times more common than their counterparts, namely, *might*, *could* and *would*. The only exception was the pair *shall* and *should*, the latter being much more common than the former. There were no instances of *shall* in the research corpus. These results are similar to the ones found by Biber et al. (1999: 486) who state that "considering the pairs of central modals, the tentative/past time member is less frequent than its partner in all cases except "*shall/should*".

The difference between the results of Viana's study and the corpus of Longman Spoken and Written English is that in the learner corpus there were no instances of *shall* whereas in the reference corpus this modal is present albeit rarely. The findings also show that the Brazilian learners of English investigated in this study tend to underuse modals which mark both permission, possibility or ability as well as necessity or obligation. On the other hand, they show a tendency to overuse modals signaling either volition or prediction, especially with the use of *will*. According to Biber et al. (1999: 489), *will* and *would* are least frequent in academic prose. The register which contains the highest frequencies of such modals is conversation. Therefore, the overuse of such modals in the research corpus may suggest that the research participants wrote in a way which was similar to the way speakers of English as a first language talk.

Another study is Mindt's (1996) 'English Corpus of Linguistics and the Foreign Language Teaching Syllabus'. One of the sections of his paper covered the area of modals. He argued that *would*, *can* and *will* are the most common modals in his research and *will* is an extremely frequent modal in conversation in English. He proposes that EFL textbooks should introduce such modals in the first year of study instead of doing it in the second year. In other words, the presentation of *will* should not be postponed in favour of the infrequent modals *must* and *may*.

Another study is Ringbom's (1998) ‘Compilation of Vocabulary Frequencies’, which also covered some modals in the writing of learners of English from seven different nationalities (Dutch, Finnish-Swedish, Finnish, French, German, Spanish and Swedish). The results of Ringbom's study reveal that all the subjects overuse *can* and underuse *would* and *will*. Only one exception remains with the French group, which overuses *will*. In relation to *should* the French, Finnish and Germans tend to use it more than Americans and British whereas the Spanish, Finnish-Swedish, Swedish and Dutch generally underuse it. As far as the modal *could* is concerned, there are three distinct reasults, namely: (a) Finnish learners use it as much as Americans and British; (b) Spanish students overuse it; and (c) all the five groups underuse it.

Kamal (2000) investigated the uses of modal auxiliaries in Journalistic English. The data upon which his study is based consisted of twenty-four texts taken from The Times, one of the oldest British news papers.The texts included editorials, news items and news reports, consisting approximately of 14385 words. The modals scrutinized in his data were: *can, could, may, might, shall, should, will, would* and *must*. The results show that the modals *would* and *will* are the most frequent in the data (*would* 20.02%, *will* 25.70%). The third frequent modal is *should* (11.61%). The modal *shall* is the least frequent in the data. The most frequent of the negative forms are *cannot* and *would not*.

Nkemleke (2005) examined the degree of certainty in Cameroon English by comparing frequency occurrences of *must* and *should* in the Cameroon English database with findings of similar corpus-based investigation in British English as reported in Coates (1993) and John (1993).The Cameroon English data used for this study is taken from the one-million-word corpus of Cameroon English printed texts located at the Department of English of the University of Yaonde. The corpus is made up of text categories comprising a wide range of Cameroon English: fiction, popular scholarly and literary texts. The findings reveal notable semantic and stylistic variations in Cameroon English compared with British English. For example, deontic meanings of *must* and *should* are very frequent and for the most part they are used in very 'restrictive' ways. Furthermore, certain elements of context that normally mark spoken informal English occur freely in Cameroon English; making the distinction between formal and informal usage blurred.

Elenizi (2004) investigated Arab students' mastery of modals and conditionals in context. The study conducted was a result of an experiment on a sample of two sets of Arab learners at college level. The first set consisted of 25 Arab EFL majors and 25 Arab students majoring in French at college level. The two sets of subjects were asked to write what they would consider the most appropriate utterances for a set of specific real-life situations assigned to them by the researcher. The results reveal that the two groups of subjects did not have any serious difficulty using appropriate modals in real-life situations pertaining to the hypothetical but realistic future probability. Only 4 out of the 25 English majors used the simple future modal *will* instead of the appropriate one, which is *would* in this context. The next finding has to do with using modals for expressing an unreal hypothetical situation, such as expressing regret over something that could not have happened or a remote and imaginary opportunity. Both groups failed to come up with the appropriate modal in this context. They used either the simple present or the simple past of the modal expressing a real or a semi-real probability. Regarding the envisioned consequences of a highly likely event, both groups failed to use the appropriate modal. Most of them used the simple future modal will, a clear inference from Arabic, which has the form ‘سـ’, i.e. ‘sa + verb in the present’. Both the English and the French majors had no difficulty using the appropriate expression with the appropriate modal in the first situation. Reporting something that was said by someone else (i.e., in the indirect speech) posed no difficulty for the two sets of subjects. The second situation, which is essentially about a hypothetical event/ activity whose likeyhood is quite possible, posed serious difficulties for the English majors more than for the French majors. In the third situation, which was about regrets concerning hypothetical and highly unlikely to have happened, both groups found it difficult to come up with the appropriate response. This situation is based on the use of the 'If -clause type 3', which refers to a lost opportunity or a wish that had never been or would never be realized. The fourth situation pertains to a comment implying a high degree of uncertainty or to a statement that is meant to cast doubt on your 'knowledge' modality. This situation was found to be difficult for the English majors. The French majors did not have serious problems expressing themselves correctly in this situation. The fifth situation, which is somehow similar to the third situation, posed obvious difficulties to both groups of subjects. Both groups failed to come up with the appropriate modals in both hypothetical situations.

Finally, despite the relative little complexity of modals and conditionals in English and despite the fact that English is introduced to learners well before French, French learners seem to have a relatively better mastery of modals and conditionals. The researcher attributes this phenomenon to the textbooks in use and to classroom practices. He asserts that modals and conditionals should be taught in a pragmatically-oriented approach.

One further study was carried out in the University Putra Malaysia by Akbari (2008) under the title "Students' Use of Modals in Narrative Compositions: Forms and Functions". The aim of his study was to investigate the distribution and functions of modals used in the students' written narrative compositions. He used data from a corpus which consists of written and spoken data from students of three different levels: Primary 5, Form 1 and Form 4 in the Malaysian school system. For the purpose of this study, data from Form 1 and Form 4 students were used. The research design comprised a qualitative technique through discourse analysis supplemented with some descriptive statistics. A total of 210 narrative compositions were selected and analyzed. The major findings of the study are as follows:

1. the most common modals used by the students were the modals of ability that include *can*, *could* and their negated forms.
2. the preferred modals for the two levels are *can*, *will* and *could* which were used to express ability and certainty.
3. Students were able to use modals that are not stipulated in the syllabus (*would* and *shall*), thus indicating learning of the modal auxiliary does not only happen in the classrooms.
4. Modals of probability and modals of necessity/certainty and obligation were minimally used.
5. Modals of probability/possibility showed lower frequencies of use in the writing.

This section presented a number of studies concerning modal verbs. The studies covered EFLstudents from different linguistic background they also dealt with different areas in modal verbs.

4. Instruments

4.1 Composition

The data collected by the instrument were taken from written answers to a composition test held in the academic year 2010- 2011 in the Department of English, Faculty of Arts, Alneelain University in which the students were asked to write a composition of not less than 250 words within two hours. The composition was entitled ‘ *Banning Smoking Cigarettes in Public Places Protects Health of the People*’ The reason for selecting this kind of instrument is based on the assumption that the students will be motivated to perform their best in free writing as compared with the direct grammatical questions.

4.2.The Students' Test

The researcher also designed a multiple-choice test for the students who were asked to choose the option, which they thought, was the correct answer.

5. Data Analysis and Discussion

5.1 Discussion of Students' Test

The results are discussed in the light of the following aspects:

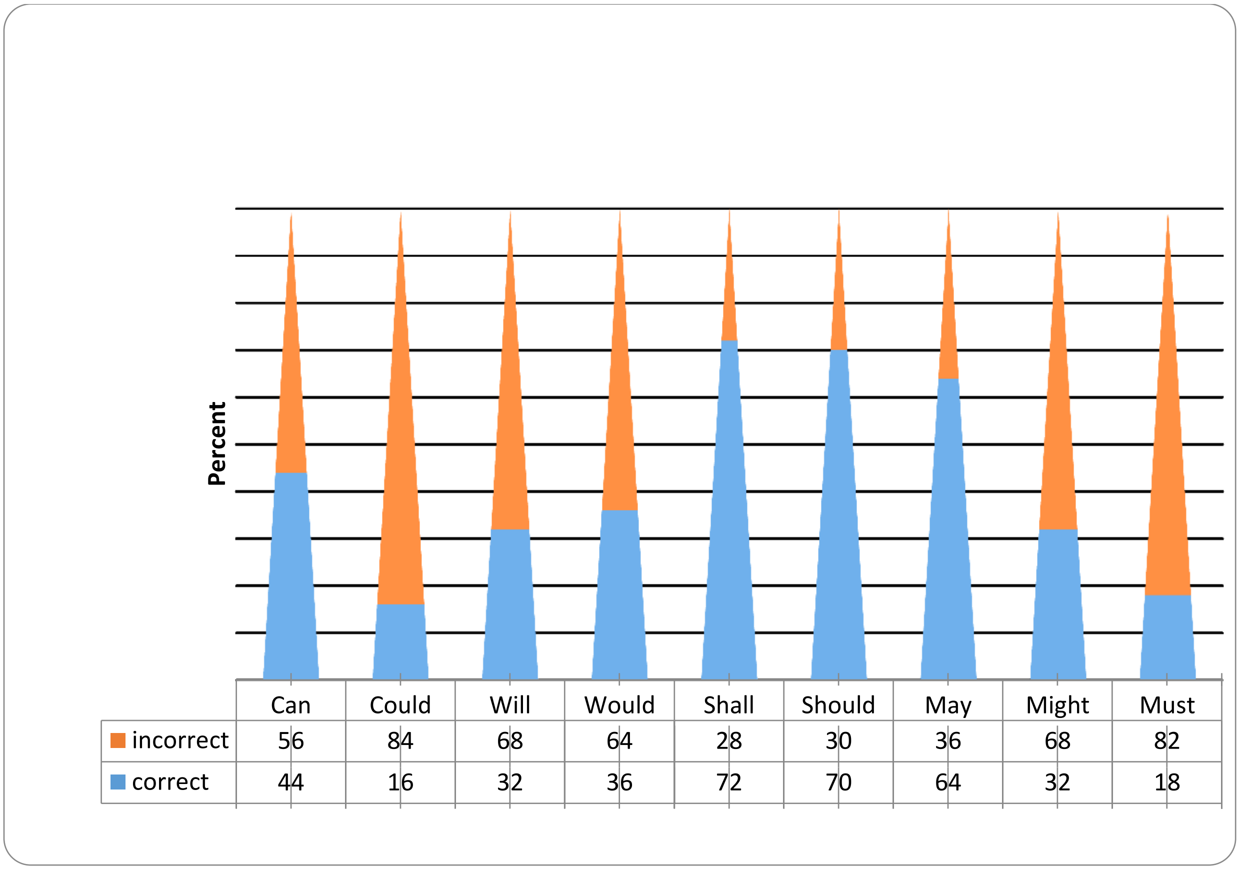
1. Frequencies of errors
2. Percentage of each type of errors

Each group of errors is separately tabulated, analyzed, and discussed to show the errors' distribution in the study.

Table (5.1): Students' Test: Correct and Incorrect Answers in Central Modals

Central Modals	Number of the Subjects	Correct Answers	Incorrect Answers
Can	100	44	56
Could		16	84
Will		32	68
Would		36	64
Shall		72	28
Should		70	30
May		64	36
Might		32	68
Must		18	82
Total		384	516

This table shows the frequency of the correct and incorrect answers in the students' test in relation to the central modals. The total number of the correct answers is 384 and the total number of the incorrect answers is 516.



Graph (5.1): Students' Test: Percentages of Correct and Incorrect Answers in Central Modals.

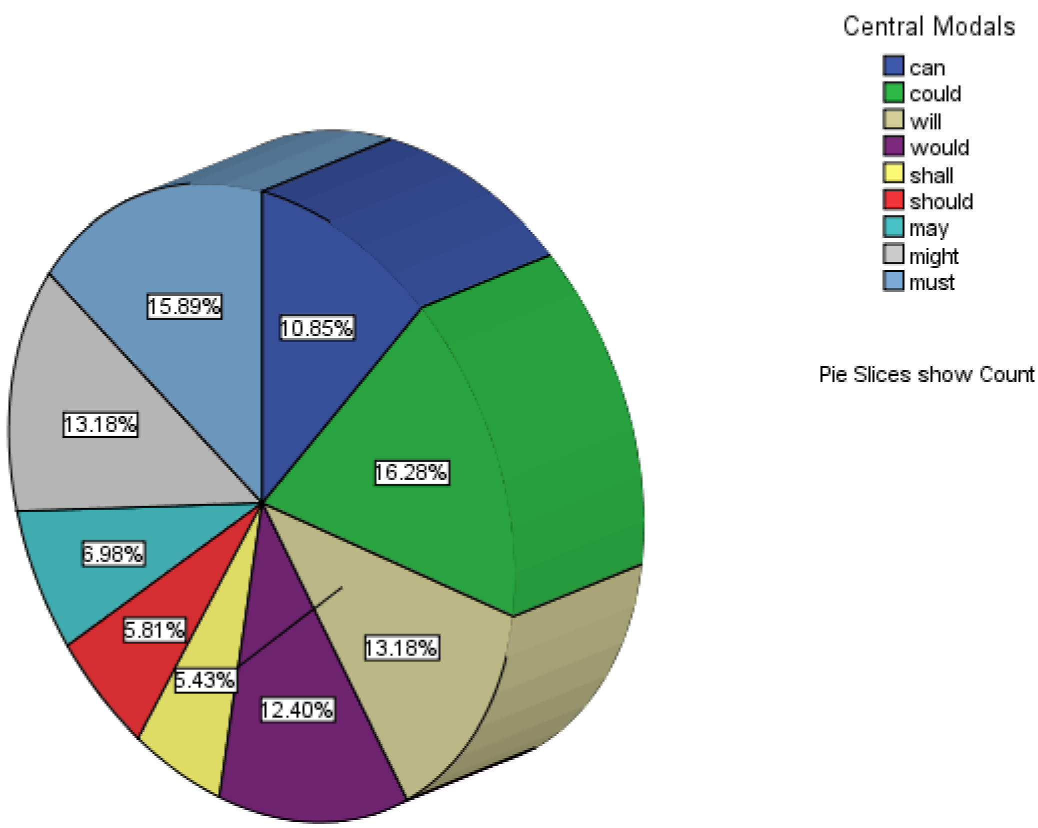
This graph shows the percentages of the correct answers and the incorrect answers for each of the central modals tested.

Table (5.2): Students' Test: Frequencies and Percentages of Central Modals' Errors in Relation to the Overall Percent

Central Modals		Frequency	Percent	Valid Percent	Cumulative Percent
	Can	56	10.9	10.9	10.9
	could	84	16.3	16.3	27.1
	will	68	13.2	13.2	40.3
	would	64	12.4	12.4	52.7

	shall	28	5.4	5.4	58.1
	should	30	5.8	5.8	64.0
	may	36	7.0	7.0	70.9
	might	68	13.2	13.2	84.1
	must	82	15.9	15.9	100.0
	Total	516	100.0	100.0	

This table shows the frequencies and percentages of each of the errors of central modals compared to the overall percent.



Graph (5.2): Students' Test: Percent of Errors in Central Modals

This graph shows the percentages of each error of central modals in the students' test.

All of the tables and graphs above indicate that there is a great tendency among the students not to use the central modals in the correct way. As is evident in table (2) the overall number of incorrect answers (516) is by far greater than the number of the correct answers (384). The same table also shows that the majority of the modals were incorrectly used by the students(6 out of 9).However, the frequency of central modals which were mostly used in a correct way by the students were comparatively low taking into account that the testees were fourth year students majoring in English, ranging between 64% and 72% .

5.2 Discussion of Students' Composition:

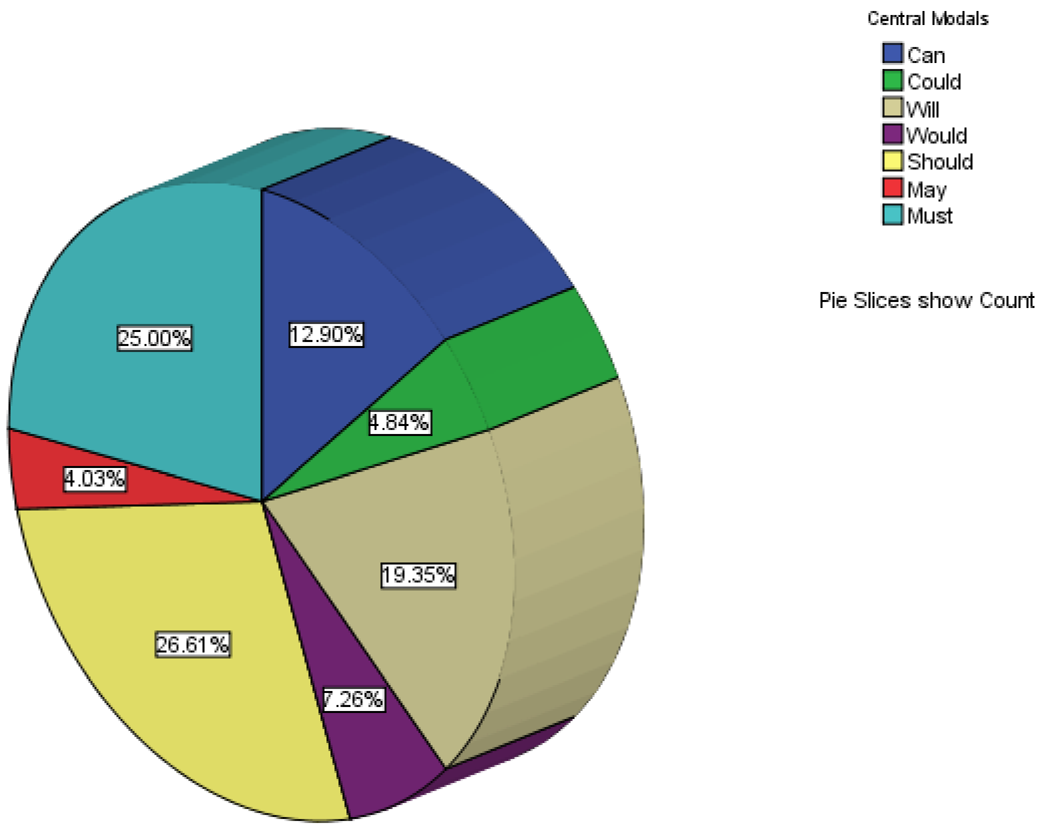
This section presents the analysis and discussion of data collected from the students' composition in which the subjects wrote a free 250-word essay. The composition was part of the final BA examination.

The data collected from the written work of the students is treated and discussed with reference to the frequency tables and pie charts below. Since the statistical outcome of the analysis is in percentage form, the treatment is made more rigorous by applying the One Sample k-S Test to ensure the normal distribution of data. The result of the test is presented in the tables and histograms with the curve of normal distribution. The results of central modals of auxiliaries confirm that the data is normally distributed.

Table (5.3): Students' Composition: Correct and Incorrect Usage of Central Modals

Central Modals	Occurrence	Correct	Incorrect
Can	74	58	16
Could	14	8	6
Will	74	50	24
Would	19	10	9
Shall	1	1	O
Should	86	53	33
May	18	13	5
Must	63	32	31
Total	339	215	124

This table shows the correct and incorrect occurrences of central modals in the students' composition.



Graph (5.3): Students' Composition: Percentage of Errors in the Area of Central Modals

This graph shows the relationship of the errors made by the students in the usage of eight central modals *can, could, shall, should, will, would, may* and *must* expressed as percentages from the overall number of errors committed by the students in the area of central modals .

General Observations

The results in the above table and graphs show the performance of the students in the area of central modals. The results can be summarized as follows:

Can:
The percentage of the correct usages was 78.38% and the percentage of the incorrect usages was 21.62% .Even though can is one of the most frequently used central modals ,the percentage of errors committed by the students is relatively high ;taking into account the calbre of the students who wrote the composition. This indicates that the students do have a problem in using this central modal.

Could :
The percentage of the correct usages was 57. 15% whereas that of the incorrect usages was 42.85%. The figures show that the rate of the error frequency with regard to could is quite high; almost half of the occurrences in the whole data is incorrect, which an indication of this area being problematic for the students.

Will:
The percentage of the correct usages was 67.57% while the percentage of the incorrect usages amount to 32.43%. Bearing in mind that will is a very common central modal with a very high frequency, a ratio of nearly 1: 2 (incorrect to correct usages) can be considered as a serious sign of the inability of the students to appropriately use this significant central modal.

Would
The percentage of the correct usages was 52.63%. In contrast, the percentage of the incorrect usages was 47.37%. It is noteworthy that there is striking resemblance between the performance of the students in using would and could. The figures show that the performance of the students in connection with would is poor; nearly half of the occurrences of would is faulty, a thing which designates a problem that faces the students.

Shall
This central modal occurred only once in the whole data and that occurrence was correct. Although this might apparently seem to be a very peculiar phenomenon, it is actually justifiable for two reasons:(a) as an indicator for futurity, shall has long disappeared, and (b) shall is now used for a small number of language functions, e.g. suggestion, offers and strong obligation. For this specific situation (i.e. the students' composition test) the chances are that the legal register is not applicable here as well as the few language function mentioned above are not most likely to occur. So, it is not easy to decide on the students' ability to correctly use shall in free writing.

Should
The correct percentage of usage here was 61. 63% as apposed to 38, 37% for incorrect usage. It is clear that the percentage of errors exceeds more than

half of the correct usages of should .Taking into account the fact that the nature of the theme of the composition test (which was about smoking) calls for the usage of language functions such given advice, the percentage of errors can be considered a very high one. This can be taken as a sign of the students' weakness of using this central modal.

Must

The percentage of the correct usages of must was 50.79% whereas the percentage of the incorrect instances was 49.21%. By and large, the percentages of the correct and incorrect usages of must are equal. Like can the central modal must enjoys a very high frequency. The 49. 21% of the incorrect usage in the performance of students who are taking their final exam in their specialty is a very high one. This is an index of weakness in the performance of the students as regard to the central modal must.

May

The percentage of the correct usages of may was 72.22% while the percentage of the incorrect usages was 27.78%. Although the nature of the topic requires the students to use may for the expression of factual and theoretical possibility, the percentage of the incorrect usages can be considered very high in such situation. This is an indication of the students' weakness in this area.

Might

Might is one of the most delicate central modals that is used to express subtle nuances of meaning and functions such as doubt combined with possibility. This can explain the failure of the students to use this specific central modal throughout the entire data.

6. Summary, Conclusions, Recommendations and Suggestions

6.1 Conclusions

It has been proved that the majority of the students who study English as a foreign language face grave problems when using English auxiliary verbs, particularly the central modals. It has also been proved that teachers are of the attitude that central modals verbs are the most complicated areas for the students.

6.2 Recommendations

Based on the objectives of this study and the answers to the research questions, the researcher makes the following recommendations, particularly addressed to the syllabus designers, teachers of English and EFL learners.

1. Textbooks' designers should provide for all the types of auxiliary verbs with concentration on the problematic areas that face the students as well as providing enough practice on them.
2. Teachers should give more concern to central modals as they do to other grammatical items in their teaching.
3. Teachers should concentrate on the nuances of meanings these modals convey because their functions and meanings overlap.
4. Provision of exercises which enhance the students' critical thinking and enable them to acquire the appropriate use of central Modals verbs from the various components of their specialty.

The methods and techniques of instruction at tertiary level should move away from the traditional lecture mode to a more communicative and interactive one. By the same token, the system of assessment and evaluations of the students' performance should match the communicative and interactive mode used in instruction. If this is true in all types of teaching, it is even more so in the area of auxiliary verbs.

6.3 Suggestions for Further Research

More focused research is needed to probe its varied aspects to come up with practical suggestions that can be applied in EFL classroom.

1. A comparative study between English and Arabic in the Sudanese context is needed in the area of auxiliary verbs in order to get to the origins of the problems and find solutions for them.
2. A more comprehensive study in English auxiliary verbs is needed in both basic and secondary levels so as to get to the roots of the problem and eradicate it before it worsens in higher education.
3. A similar study is needed to investigate the courses and materials used in teaching English language as a university requirement in all of the universities in Sudan. This acquires special attention in the case of the

Faculties of Arts and Education whose students will major in English language with special emphasis on auxiliary verbs.

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Biomimicry between Technological innovation and sustainable development

Prepared by

Maha Ben Amor

Doctor at the Higher Institute of Arts and Crafts Sfax
mailto:mahabenamor91@gmail.com

Abstract

No one can deny that modern life is invaded by technology which is in continuous evolution. This technological evolution has a detrimental effect on the ecological system, which consequently harms our physical and moral health. Faced with this ecological problem, it is necessary to resort to nature, which has always been a source of inspiration for mankind, both in solving his problems and in satisfying his needs. This return is done through biomimicry considered as an approach guided by the need to meet a technological or organizational need. It pushes the Man to be inspired by the living, the biological, known by its diversity and its wealth, to lead to the stakes of the sustainable development (social, environmental and economic) by bringing him advantageous solutions in terms of technology, comfort, economy and aesthetics. In fact, in recent years, and because of the ecological crisis, many works and researches of innovation on biomimicry have been carried out on a global scale. These works show a remarkable rapprochement in the approach of some physicists and chemists with the modes of functioning of the living.

All these researches are explained by the fact that biomimicry is currently considered as the advantageous solution that ensures sustainability. The biomimetic approach starts from the imitation of the living because the nature offers enough materials and functions. But to be able to copy a system, we must already understand how it works. This shows that in biomimicry, we note an approach of three steps: Imitation of the form, imitation of the process and imitation of the strategy of ecosystems and their interrelations.

We aim then to analyze the complex properties of materials and biological processes of the living and to divert them to industrial purposes. It is important to say that in nature, there is no waste, everything is to be recycled. Every living species is a library that inspires Man to produce an object.

Moreover, the analysis of living materials shows that these materials have particular qualities.

Keywords : Biomimicry, bio-inspiration, innovation, eco-innovation, swarm intelligence, artificial intelligence, collective intelligence, complex systems, algorithms, robotics

Introduction

Following the technological development which does not cease evolving day after day, the current world knew an economic and ecological crisis caused by the overexploitation of the natural resources, which pushes certain Western societies to seek solutions to the ecological problems. Specialists in the field, many researchers, architects, industrialists, and futurists think of integrating technical productions in the life cycles, which gives birth to the biomimicry approach.

It is a process of innovation that took its scientific aspect in the 1990s with the American biologist Janine Benyus. This pioneer in this field was able to show the essential role of biomimicry in sustainable development. Thanks to this approach, it was possible to make industrial development and economic growth cohabit with natural ecosystems.

The word biomimicry, etymologically, is of Greek origin. It is formed by the words: Bios which means life, and mimesis which means to imitate. The combination of these two terms gives: imitate life, that is to say nature.

Biomimicry is a scientific approach that consists in creating technological products, useful for everyday life, by imitating nature or by being inspired by biological systems. The Economic, Social and Environmental Council (CESE) determines that biomimicry is "Imitating nature to innovate in a sustainable way, an idea that makes sense at a time when France is committed to a transition both energy and ecological, A pioneer in this field, the American naturalist Janine M. Benyus, believes that biomimicry "is not based on what we can take from nature, but on what we can learn from it by taking it as a model.

This means that nature is a source of inspiration for humans, who often look to nature for solutions to the problems they face in their daily lives.

The notion of biomimicry has found an echo in the scientific work of various specialties: agronomy, material science, energy, robotics, medicine, or even cosmetics....

For all these virtues, we can ask ourselves the question: can we establish an interdependence between biomimicry and sustainable development?

Can biomimicry, which is inspired by nature, lead to the creation of artificial intelligence?

Let's start by showing how the inspiration of nature manifests itself in biomimicry.

Biomimicry: the inspiration of nature

Biomimicry is an approach that proposes to draw inspiration from the genius of living beings as a source of sustainable innovation. It consists in observing and reproducing the essential properties of one or more biological systems to develop innovative and sustainable forms, materials and processes. If the imitation of nature by Man is present since the beginning of our civilizations, biomimicry has a requirement of sustainability that is quite recent. And to imitate nature, man is invited by biomimicry to draw from three sources of inspiration. The first approach focuses on the forms present in nature, the second on the processes used by living organisms to best respond to a need dictated by their environment, and the third on ecosystems, with regard to their performance in terms of sustainability, productivity and adaptability.

Since ancient times, Man has been inspired by nature to satisfy all his needs. In all sectors, nature has been a primary source in a significant number of creations. This has given rise to biomimetic products that are differentiated by the raw material, the method of manufacture, the techniques used, the ornaments that show the synergy between nature on the one hand, and innovation, aesthetics and technology on the other. Thus, we were able to put forward the notion of sustainable development while trying to respect the stakes of this approach.

Innovation is above all a state of mind. It is a living process that leads management to seek, at all levels, the most innovative way to offer the best. According to the OECD and its Oslo Manual, innovation is "the implementation of a new or significantly improved product (good or service) or process, a new marketing method or a new organizational method in business practices, work organization or external relations. In this framework of ideas, this process must be continuous, structured and organized at all stages: from the idea to the marketing of the product.

As we have already mentioned, drawing inspiration from nature to satisfy needs or find solutions is not a new practice. It is a practice as old as humanity. But biomimicry is not about faithfully or blindly imitating nature. It is currently defined as new engineering inspired by the natural and the living. It is also considered as the art of sustainable innovation that starts from the observation of the living world, and leads to innovation in the field of technology, aesthetics, architecture, design .... This return to nature is explained by the fact that it is very rich in forms and materials that offer a favorable framework for innovation.

In this sense, it is important to quote the American scientist and naturalist Janine Benyus who considers bio-mimicry as an approach to produce innovative goods and services, while being inspired by nature. She describes biomimicry as a way "to help innovators design sustainable products and processes that create conditions that support all life forms."

It is clear, then, that biomimicry represents a gushing source of progress and innovation. It can only be meaningful if it is the bearer of a sustainable creation that represents a sustainable solution useful to humanity.

We can consider this approach as a correlation between the real world presented by nature, the laws that govern it and the imagination of Man. Indeed, thanks to bio-mimicry, we can draw from the genius of the living world a source of sustainable innovation as it has been done in the solar collector which imitates the leaf of the plant. The approach starts from the observation of the essential properties of one or several biological systems, and finally leads to the development of forms, materials and processes that are both innovative and sustainable.

Innovation through biomimicry affects almost all areas of humanity. In all the fields where Man has put his hand, we find innovations inspired by nature. In what follows, we will mention some fields marked by biomimetic innovations.

It is undeniable that biomimicry is considered as an art of observation. And like any art, it is based on aesthetics. Indeed, since the dawn of humanity, Man has always tried to reproduce the aesthetic aspect of living organisms.

In ancient times, he was inspired by the structure of a skeleton to build his primitive huts. But nowadays, he has built monuments inspired by the curves and patterns present in organic forms.

He has always had a strong relationship with nature, which was a source of reference and inspiration for him. At times, he even competed with it to demonstrate his ability to create ingenious forms by means other than those of nature. This is where bio-mimicry comes in, which becomes a favorable field where human intelligence is reinforced by the intelligence of nature. This is how the ingenuity and creative value of man is manifested.

Technology is ubiquitous in the man-made world, whether it is his personal or professional environment. "Technology is the application of knowledge for the purposes of human life, or to change and manipulate man's environment.

Technology also brings knowledge and skills related to the design and realization of product. As far as our sector is concerned, it is specific to each design of a lighting product where the use of tools and materials from the application of technology such as techniques, methods, procedures and skills are used to increase productivity, creativity and innovation. From this idea, we can conclude that the purpose of devoting technology in lighting using the combination of practical experience, procedures and the use of tools is to make man more capable of controlling and mastering the product according to his need.

Technology dominates our lives day after day, and it is becoming more and more modern. It is in this technology that human intelligence is manifested, which, in order to perfect its inventions, is reinforced by the intelligence of nature. The combination between the two types of intelligence has given birth to bio-mimicry, thanks to which, many technological inventions have been created, especially through biomimicry. But the most famous is perhaps the Japanese TGV created in the XXth century. In this technological creation, the engineers were inspired by the feathers of the average owl and the beak of the kingfisher to increase its speed and reduce its noise and power consumption.

We can conclude, then, that thanks to bio-mimicry, man has been able to master new manufacturing tools. Thus, he knew to answer technically to numerous needs. In this way, he realized technological progress which was impressive thanks to the industrial revolution.

Biomimicry: a Symbiosis between techno-sphere and biosphere

The "biosphere" designates the whole of the elements of the living world, including the human kind, which exist on the Earth. It also includes the inorganic and organic supports and everything that conditions its existence. The "technosphere" is the set of all technical actions carried out by humanity. Both are based on a principle of unity because they form a system.

At the present time there is a strong tendency towards a reconciliation between the technosphere and the biosphere. Indeed, although the human being is a fairly powerful brain capable of producing enormous creations, he remains a biological being linked to an ecosystem that is also biological. So any damage to this ecosystem is also a damage to the human being. Consequently, to protect the human species, we must protect the ecosystem.

The essayist Emmanuel Delannoy, who has worked extensively on the themes of biodiversity and the economy, sums up the mission of this reconciliation by saying "Reconciling the techno-sphere with our biosphere means going to look for knowledge in the living".

This can only be achieved by using biomimicry, which consists of drawing inspiration from nature, which is considered not only as a material, but also as an enormous source of information, since it is an immense reservoir containing hundreds of millions of species and models that can be a source of inspiration if we manage to understand the living system beforehand through our thoughts.

An American scientist named Otto Schmitt considers the inspiration of the living which is the principle of biomimicry as a real scientific process and not as a pleasure activity. This inspiration concerns the different aspects of nature: the forms, the materials, the properties, the processes and even the functions of the living in order to innovate.

This reconciliation between the techno-sphere and the biosphere requires the convergence of our economies with our activities within the living system on which we are dependent. It must concern skills, knowledge and interactions, towards the oceans, the climate and biodiversity, which represent the three major points of protection that we must integrate in each of our actions.

Biomimicry is therefore the effective method to reconcile the techno-sphere with the biosphere. This approach remains the excellent channel and fertile source of innovation and sustainable development, it is the toolbox, generating eco-innovation that can lead to a probable industrial revolution.

The many assets of biomimicry allow to combine and enhance both skills and companies by a very rich biodiversity and international work also rich in economic terms and which affect the various fields of electronics and / or mechanics, robotics, biomechanics, bio-inspired sensors without forgetting a rather interesting field namely the fields of medicine.

It is enough to cite the examples of medicinal plants which are innumerable in nature and which have enriched the pharmaceutical library. We also cite the example of bees which are extraordinary insects capable of treating and curing us of the most serious diseases, even cancer, by their honey or royal jelly. Beyond that, American researchers have succeeded in stopping the multiplication of cancerous cells by injecting bee venom into cancerous cells. This group of researchers have discovered that bee venom contains a protein capable of stopping the evolution of diseased cells by attaching itself to their membranes: melittin.

Other research in the medicinal field has also shown that animal venoms have enormous medicinal properties against pain, they have almost the same functions as morphine, to suppress pain.

In addition to the medicinal field, other fields have been enriched by biomimicry, thanks to which nature appears to be an inexhaustible source of inspiration for engineers who find in it a reservoir of biological solutions for technological problems, which is why biomimicry is considered to be a tool for sustainable innovation.

-Bio-assistance or biotechnology: using living organisms or molecules of biological origin for agroecology and the chemical industry.

Indeed, in biomimicry, it is plants and animals that are mainly observed in order to discover their functioning and imitate them. It is in this sense that nature is considered the best laboratory that exists and the most perfectionist factory. An example of this is the bio-plastic of the bee. American researchers at the Franklin W. Olin School of Engineering have discovered that bees protect their eggs from the cold with a kind of cellophane that they make naturally. Being as strong and more impermeable than industrial plastic, this natural plastic could be used in the future to create non-polluting packaging, thus promoting sustainable development.

This is just one example among millions of others with which nature abounds as a generous source of genius and inspiration to implement almost perfect processes regarding energy management and production, materials manufacturing, recycling or ergonomics.

In the search for new materials, researchers have been using biomimicry for many decades. They start by identifying a biological material with interesting characteristics such as spider silk, then they study its microstructure to understand how these characteristics are created and then they try to reproduce them by creating artificial materials similar to natural materials. One example is the group of researchers who used the adhesive properties of gecko legs to produce "GeckSkin," the tape with extraordinary adhesive power.

It is undeniable that the field of textile has been well enriched by natural materials such as spider's thread and worm's silk. By imitating both of them, we obtain synthetic materials that are very resistant and that are used to produce a wide range of textiles combining both beauty and good quality, which explains why the most expensive clothes are made from textiles made from natural cotton bolt silk.

Another important example is the role of the lotus leaf, known for its ability not to retain water in the realization of super hydrophobic, self-cleaning and waterproof materials used to manufacture self-cleaning or waterproof fabrics.

It is therefore clear that through biomimicry we have managed to show that nature is a valuable gold mine in terms of ecological resilience and ecosystem optimization.

Indeed, by taking inspiration from nature we learn to satisfy our needs by obtaining more and polluting less. By this approach, Man must interact with nature like any other living being, that is to say in the respect of the ecosystems and their balance. This can only be done through the use of biomimicry, which can provide methods and tools representing resolutions of problems through bio-inspiration, which is done through natural selection, thus offering sustainable and innovative technological solutions in many areas.

Nature abounds in resources that no technology can match, these resources are associated with optimization strategies which leads to the fact that living organisms are able to gain technological solutions that are both biomimetic solutions, interesting, not only for their ingenuity, but also for their ability of ecological resilience.

It is therefore undeniable that biomimicry is the sustainable development tool par excellence in the sense that it is structured on the fundamental concepts of ecological resilience, systemic approach, eco-design, sustainable innovation. It is an approach that takes nature as a model and source of inspiration in order to respond to the challenges of sustainable development (social, environmental and economic). To achieve this objective, and especially to ensure the sustainability of the approach, it is necessary to complete the biomimetic design with a life cycle analysis, while taking into consideration economic factors and ethical, social and moral criteria.

Considering the importance of the biomimetic approach and its primordial role in sustainable development, the number of researchers and industrialists related to bio-inspiration is growing day after day and almost in all countries of the world despite the complexity of the transfer of knowledge from biology to technology. This leads to the simplification of the biomimetic approach in order to improve it while preserving the three levels of inspiration of the living being :

- The processes and materials,

- The forms and structures
- The organization and functioning of systems.

To close this part, it is important to affirm that the circular economy, towards which humanity tends at the present time, is based on the principles of biomimicry which is currently in full expansion. It is summarized by the fact of being inspired by the living to think, innovate and act differently.

Biomimicry: a creation of artificial intelligence

Artificial intelligence (AI) is defined as "the set of theories and techniques used to create machines capable of simulating human intelligence". It is a set of concepts and technologies and not an autonomous discipline.

According to the TLF (Trésor de la Langue Française), artificial intelligence is defined as follows: "the ability to apprehend and organize the data of the situation, to relate the processes to be used to the goal to be reached, to choose the means or to discover the original solutions that allow adaptation to the requirements of the action".

According to Franck Bulinge and Serge Agostinelli (2005) the notion of artificial intelligence is: "an individual and collective ability to understand and solve the problems of data acquisition and transformation of information into operational knowledge, that is to say, oriented towards decision and action" (quoted by Bulinge, 2014).

This means that artificial intelligence, which manifests itself in a large number of fields of application, is very close to informational intelligence in the sense that it contains the set of concepts of relating and adapting, particularly relevant, designated for problem solving and successful action and for making a decision, it tries to imitate the functioning of the human brain in its logic.

The notion of artificial intelligence, which was born in the 1950s thanks to the mathematician Alan Turing who proposed, in his book "Computing Machinery and Intelligence", to bring to machines another form of intelligence, is well and truly applied in the world of computer science, where all the big companies (Google, Microsoft, Apple, Facebook...) are trying to set up artificial neural networks allowing them to process heavy calculations within databases.

After all this definition, one wonders then what relation can be established between biomimicry and artificial intelligence? Is biomimicry able to lead to the creation of an artificial intelligence?

To be able to answer this question, we are faced with another question: can we think that the human brain can be equalled?

It is obvious that biomimicry, which starts from the inspiration of the living to reach excellence in the various fields of industry and urbanism, can also have the same feat in the field of information and artificial intelligence.

For example, the chips that were created by taking inspiration from nature and especially by imitating the neurons of the human brain whose synapses were also a model in the creation of a microprocessor capable of "rewiring" its connections when it encounters new information.

One such chip is the silicon chip called TrueNorth, which was created in August 2014. This one is made up of 256 million synapses and one million artificial neurons. It can perform complex tasks without consuming much energy. This chip was invented, thanks to biomimicry as it is designed by imitating the human brain. It represents a big step in the evolution of artificial intelligence thanks to these impressive results the human imagination.

We also mention the "Deeplearning" or deep learning which is a learning system formed by a set of automatic methods based on "digital artificial neural networks" inspired by the human brain. This system, which is used in the recognition of voices, sounds, characters, languages, is designed thanks to biomimicry.

The idea of biomimicry is to draw inspiration from the functioning of the human brain to design increasingly intelligent machines. This principle is implemented in the field of computer science through algorithms that play a role in the realization of certain tasks such as voice and image recognition.

On the other hand, researchers in artificial intelligence and robotics are working with biologists to use the concepts of biomimicry to develop algorithms to solve complex optimization problems based on the analysis of the properties of swarms of social insects or schools of fish.

Thanks to swarm intelligence, which concerns a wide range of application domains such as robotics, transportation, environment, space, health, defense, telecommunications, etc., scientific progress has undergone a considerable evolution as technical inventions, made by imitating nature, reach a very high degree of sophistication and technicality.

- Bio-inspiration: drawing inspiration from the living for architecture and materials, etc.
- Eco-mimicry: studying the functioning of ecosystems, engineering and urban planning
- Bionics (drawing inspiration from living organisms to improve biological functions through equivalents).

Conclusion

By way of conclusion, it is worth noting that the biomimetic approach consists of taking inspiration from nature and imitating it in the search for new materials, as well as in the forms and structures and in the organization and functioning of systems.

Thanks to this approach, we have managed to establish a close link and even a symbiosis between the techno-sphere and the biosphere, which allows us to deduce that biomimicry is a factor of sustainable development.

This approach, which has invaded all areas of human activity, has also concerned the field of computer science through the creation of artificial intelligence, by which human thought has succeeded in creating algorithms to solve problem situations.

The virtues of biomimicry are innumerable, the most important of which is that it is an approach of innovation and essential mutation allowing to pass from a polluting economy to a "green economy" based on simple, clean, safe and sober technologies.

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An Economic Analysis Study for the Rehabilitating and Operating of Medical Bottles Factory in Anbar Governorate

Prepared by


Prof. Dr. Khamees Khalif Mousa Al Fahdawi

Almaarif University College

khames.khalaf@uoa.edu.iq

Dr. Ryadh Jawad Kadhem

Almaarif University College

Ryadh.kadhem@uoa.edu.iq

Dr. Mahmoud Abdel Mohsen Ali
Director of the Financial Department
General Company for Glass and Refractories

Abstract
The study aims to measure and analyze the economic and social traces to the idea of rehabilitating and operating the medical bottles factory in Anbar Governorate. From this point, the significance of the study is derived to investigate the socio-economic returns based on the process of rehabilitating and operating the medical bottles factory in Anbar Governorate.

The results show the socio-economic feasibility criteria used: financial profit, return of one dinar, unit costs of production, profit margin, rate of return on invested capital, payback period, break-even point, net present value, internal rate of return, added value, employment rate, the rate of employment, utilization and savings of foreign exchange) positive, encouraging and supportive results for the process of initiating the rehabilitation and operation of the mentioned factory.

Keywords: economic feasibility, glass industry, Anbar Governorate.

The introduction

The manufacturing industries in general, and the glass industry in particular, are one of the basic pillars of economic development, due to their interconnection between the

Forward-Backward Linkage with all sectors of the national economy towards correcting its structural imbalances in a way that ensures a forced increase in economic growth rates in particular and diversification of its sources as well as achieving economic savings, especially external economics that contribute to reducing production costs for the production unit.

Within this context, the importance of rehabilitating and operating the medical bottles factory in Anbar Governorate, as it is the mainstay of the pharmaceutical industry and a number of important food industries in the country.

The Significance of the Study:

The significance of the study is derived from trying to answer the following question: What are the socio-economic returns based on the process of rehabilitating and operating the medical bottles factory in Anbar Governorate Finding out if these returns encourage the idea of rehabilitating and operating the medical bottles factory in Anbar Governorate to become a fact. The paucity of the researches and studies related to the socio- economic analysis for the rehabilitating and operating of the mentioned factory is another reason for the importance of this study (**Republic of Iraq , 2019)**.

The study Problem:

The process of rehabilitating and operating the medical bottles factory in Anbar Governorate collides with a number of technical and financial obstacles. These obstacles can be represented in the following points:

1-Completing the factory's deficiencies.

2- Starting with the raw materials preparation department and the glass furnace (melting basin).

3-Replacing the damaged machines and production equipment as a result of military operations.

4- Removing bottlenecks in the water.

5- Electricity, gas networks. and fuel.

6- Not to mention the problem of securing the necessary financial allocations to cover rehabilitation and operating expenses.

Research Hypothesis:

The study is based on the hypothesis of its essence: that the rehabilitation and operation of the medical bottles factory in Anbar Governorate would achieve important economic and social returns, whether at the level of the mentioned factory or at the level of the General Company for the manufacture of glass and thermostats, as well as returns at the level of the national economy and society alike.

The Aim of the study:

The study aims to measure and analyze the economic and social feasibility criteria for rehabilitating and operating the medical bottles factory in Anbar Governorate.

Study Duration:

The study covers the period 2021-2030 (Period of the project) because it represents the real age of the factory in question based on rates of depreciation of its fixed assets.

Study Methodology

The analytical method was relied on in measuring the financial, economic and social returns for the rehabilitation and operation of the medical bottles factory in Anbar Governorate, as the study was divided into four axes: The first axis focused on giving a general idea of the factory and diagnosing the main pillars upon which the rehabilitation and operation process of the mentioned factory is based. The second axis dealt with the measurement and analysis of the economic feasibility criteria for the factory, and the third axis dealt with the measurement and analysis of the criteria of social feasibility at the level of the strong economy. In its last axis, the study presented a number of conclusions and recommendations.

1- General idea about the medical bottles factory:

The medical bottles factory was established as one of the factories of the General Company for the manufacture of glass and thermostats in Anbar Governorate in 1990, but it stopped the production more than once as a result of the damage caused to it as a result of the military operations that the country is witnessing, such as damage to the ceilings of production halls, raw materials preparation lines and the vibrating furnace (basin Smelting), loss of some accessories of production machines, tampering and theft of service equipment and energy sources (**Ministry of Industry , 2019:7**).

Accordingly, it became necessary to think about the process of rehabilitating and operating the aforementioned factory due to the availability of solid pillars that support that process. The first of these pillars is the high percentage of completion from the factory, which amounted to 85% until 2013. (**Ministry of Industry , 2019:3**) and the second of these pillars, represented by the availability of local raw materials, approximately 85% of the raw materials used in the factory's production is formed(**Ministry of Industry , 2019:6**).

The third of these pillars is embodied in the availability of manpower that possesses accumulated technical expertise in the operation, maintenance, construction of furnaces, and the fourth of these pillars, which is reflected in the factory obtaining a monthly share of oil products, according to the official pricing.

The fifth pillar is represented in the local market that absorbs the entire production of the factory because it is the only one specialized in the production of medical bottles, bottles of soft drinks, juices and cans. **The last** is the great competitiveness that the factory enjoys **concerning** imported foreign products, where the average selling price per ton is about (400) dollars, while the price of the importer is about (600) dollars (**Ministry of Industry, 2019:7**)

2- Analysis of the economic feasibility of the medical bottles factory:

The economic feasibility analysis of the medical bottles factory in Anbar Governorate aims to measure the various financial and economic returns of the idea of rehabilitating and operating the mentioned factory within the period 2021-2030, and diagnosing the possibilities of success or failure for that idea, through the use of several criteria, perhaps the most important of which are the following (**Karawi, 2008**), (**Maarouf, 2004**), (**Al-Samarrai, 1982**) :

(2-1) Financial Profit

The financial profit represents the net income after deducting the total costs from the total revenues as in the following:

Net Profit=Revenues-Costs

It appears from Table No. (1) that the total expected revenue of the medical bottles factory amounted to (84000000) thousand dinars, while the total costs amounted to (72807160) thousand dinars during the period 2021-2030, and accordingly the factory will reap a financial profit of (11192840) thousand dinars **during the mentioned period**.

Table No. (1)

Financial profit for the medical bottles factory in Anbar Governorate for the period 2021-2030

(Thousand Dinars)

Factory	Total revenues	Total costs	Profit
medical bottles	84000000	72807160	11192840

Source: From the work of researchers based on the data of Table No. (1) in the Statistical Appendix

(2-2) Rate of return of one Dinar

The criterion of the rate of return of one dinar is one of the important economic criteria that is used as an indicator for the financial evaluation of the performance of energy production units. It is possible to obtain the rate of return of the dinar according to the following mathematical formula:

$$Rate\ of\ renurn\ Dainar = The\ total\ Revenues/The\ total\ costs$$

According to the above criterion, the investment project is economically feasible when the value of the rate of return of the dinar is greater than one.

In light of this, Table No. (2) reveals that the rate of return per dinar for the medical bottles factory amounted to about (1.15) dinars, which confirms the economic feasibility of rehabilitating and operating the factory under study.

Table No. (2)

The rate of return per dinar for a medical bottle factory in Anbar Governorate

For the period 2021-2030

(Thousand Dinars)

Factory	Total revenues	Total Costs	The rate of return per dinar
medical bottles	84000000	72807160	1.15

Source: From the work of researchers based on the data of Table No. (1) in the Statistical Appendix.

<u>(2-3) Costs of the Production unit</u>

The standard of unit costs of production estimates the cost of the unit produced for the investment project, according to the following mathematical formula:

$$Costs\ of\ Prpduction\ unit = total\ costs\ /\ Value\ of\ Production$$

Table No. (3) indicates that the unit costs of producing medical bottles amounted to (0.90) dinars during the period 2021-2030. Based on that, achieving production at a rate of (100) dinars requires costs of (90) dinars, and this is a positive indicator for the idea of rehabilitating and operating the mentioned factory.

Table No. (3)

The unit costs of producing medical bottles factory in Anbar Governorate

For the period 2021-2030

(Thousand Dinars)

Factory	Total Costs	Value of Production	unit costs of producing
medical bottles	72807160	80400000	0.90

Source: From the work of researchers based on the data of Table No. (2) in the Statistical Appendix.

<u>(2-4) Gross profit margin standard</u>

The gross profit margin criterion shows the effectiveness and efficiency of the investment project in achieving future sales. The gross profit margin criterion is calculated according to the following formula:

$$Gross\ profit\ margin = total\ profit\ /\ Sales$$

Table No. (4) shows that the average gross profit margin for the medical bottles factory reached (0.139) during the period under study.

Table No. (4)

The gross profit margin for medical bottles factory in Anbar province **for** the period

2021-2030

(Thousand Dinars)

Factory	**Profit**	**Sales**	Gross profit margin
medical bottles	**11129840**	**80400000**	**0,139**

Source: From the work of researchers based on the data of Table No. (1) And Table No. (3).

<u>(2-5) Capital Turnover Standard</u>

The economic importance of the capital turnover criterion lies in measuring the contribution of capital in achieving sales for the economic project, as the high rate of capital turnover indicates the better exploitation of the capital element in the production process. This rate is found according to the following formula:

$$Capital\ Turnover = Sales\ value\ /\ capital\ invested$$

Based on the foregoing, Table No. (5) shows us that the turnover rate of the invested capital in the medical bottles factory amounted to about (6.38)

Table No. (5)

The capital turnover rate in the medical bottles factory in Anbar Governorate **for** the period 2021-2030

(Thousand Dinars)

Factory	Sales	Invested Capital	Capital Turnover
Medical Bottles	**80400000**	**12594500**	**6.38**

Source: From the researchers' work based on the data of Table No. (3) in the Statistical Appendix.

(2-6) Rate of return on invested capital

The criterion of the rate of return on invested capital helps to measure the efficiency of capital use in achieving profits for the economic project, thus controlling the volume of investment and planning to increase or reduce it in the future. The rate of return on invested capital is calculated by adopting the following formula:

$$Rate\ of\ return\ on\ invested\ capital = profit\ margill * rate\ of\ capital\ turnover$$

By using the data of Table No. (6), we find that the rate of return on investment for the medical bottles factory has reached (0.888)

Table No. (6)

The rate of return on investment for a medical bottle factory in Anbar Governorate

Factory	Total Profit	he rate of return of capital	he rate of return on investment
Medical Bottles	0.139	6.38	0.888

Source: Data in Table No. (4) Table No. (5).

(2-7) Payback Period Standard

The payback period is defined as the **t**ime during which the economic project **can** fully recover its costs or investment expenses through the profits it obtains with the operating limit. The payback period is calculated according to the following mathematical formula:

$$Payback\ Perjod = \frac{costs\ of\ Investment}{Annual\ net\ profit}$$

When consulting the data in Table No. (7), it becomes clear that the payback period for the medical bottles factory amounted to (1.12) years, and this means that the mentioned factory will recover the capital invested in it within one year, which is almost a short and appropriate period, and therefore the rehabilitation and operation process for it will be feasible economically appropriate.

Table No. (7)

Ray's refund period for the medical bottles factory in Anbar Governorate

For the period 2021-2030

(Thousand Dinars)

Factory	*Infested Capital*	*Net Profit per year*	*Refund period*
Medical Bottles	*12594500*	*11192840*	*1.12*

Source: Table No. (1) and Table No. (5)

(2-8) Break-Even Point Standard

The break-even point refers to the amount of production at which equality is achieved between the total revenue and the total costs of the investment project.

In which the revenues cover all costs, and in this way, all points that lie above the level of the break-even point will make profits for the project, and conversely, the points that are below the level of the break-even point represent losses incurred by that project. The break-even point is calculated mathematically according to the following formula:

$$B.E.P = \frac{Fc}{P - Avc}$$

Using the data provided in Table No. (8), we find that the break-even point for the medical bottles factory amounted to about (99.7) tons/day.

Table No. (8)
Break-even point quantity for medical bottles factory in Anbar province

Factory	$(\boldsymbol{Fc})$ ***Fixed cost thousand dinar***	$(\boldsymbol{P})$ ***Produced unit Dinar Price / Tone)***	$(\boldsymbol{Avc})$ ***Average Variable Cost (Dinar/ tone)***	$(\boldsymbol{B.E.P})$ reak-even point quantity Tone day
medical bottles	***2757050***	***600000***	***323119***	***99.7***

Source: From the work of researchers based on data:
Ministry of Industry and Minerals, Investment Department, the investment file for the rehabilitation of the General Company for the manufacture of glass and refractories, rehabilitation and operation of the medical bottles factory in Anbar Governorate, 2019, p. 2-12.

It is new to note here, that **for the purpose to identify** the economic feasibility of rehabilitating and operating the factory under discussion according to the above standard, a comparison must be made between the corrective production capacity and the estimated break-even point quantity, which is known as the safety margin. This means that:

The margin of safety = corrective energy - break-even amount

= 120 – 99.7 = 20.3

= 20.3 **(tons / day),** which represents the amount of production that generates daily profits for the factory.

(2-9) Net Present Value Standard

The essence of the net present value criterion is embodied by **considering the time element** when calculating the cash flows of the economic project by converting the future cash flows to their equivalent value at **present** by using an appropriate discount rate.

The net present value is usually combined with the difference between the discounted present value of the cash inflows (revenue) and outflows (costs) for the factory, as in the following formula:

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}$$

This means:

$CF = cash\ flow$

$r = discount\ rate$

$n = years$

According to the above formula, if the present value formula is positive, it means that the present value of the cash inflows is greater than the current outgoing value, which is a positive indicator and reflects the economic feasibility of productive projects and vice versa To find out the nature of the above standard for the medical bottles factory, we can consult the data of Table No. (9):

Table No. (9)

The net present value of the medical bottles factory in Anbar Governorate

For the period 2021-2030

(Thousand Dinars)

factory	*he present value of the **input***	*he present value of costs*	he net present (***NPV***)value

Medical Bottles	*61825680*	*53587522*	*8238158*

Source: From the work of researchers based on Table No. (1) and Table No. (4) in the Statistical Appendix.

Based on the data of Table No. (9), we note that the net present value of the cash flows of the medical bottles factory for the next ten years (the time of the project) amounted to (8238153) thousand dinars, which indicates that the rehabilitation and operation of the mentioned factory **are** of appropriate economic feasibility.

(2-10) Benefit/cost rate criterion

The ratio of **return / costs** is represented by dividing the present value of the cash inflows by the present value of the cash outflows of the production unit. That is:

$$B/C\ Rate = \frac{\sum_{i=1}^{n} \frac{Bi}{(1+r)^n}}{\sum_{i=1}^{n} \frac{Ci}{(1+r)^n}}$$

This means:

$Bi = annual\ benefits$

$Ci = annual\ costs$

$r = discounl\ price$

$n = number\ of\ projrct\ years$

By referring to the data in the previous table, we note that the current value of the benefits for the medical bottle factory during the next ten years amounted to (61825680) thousand dinars, while the current value of costs amounted to (53587522) thousand dinars, and accordingly, the current peak ratio of **revenue / costs** has reached (1.153), which confirms the economic feasibility of the factory under consideration.

(2-11) Internal Rate of Return

The internal rate of return represents the highest interest rate on the loans needed for the economic project so that the present value of the cash inflows is equal to the value of the cash outflows, that is, without the project being exposed to a loss. This means:

$$NPV = 0$$

The internal rate of return is calculated as follows:

$$IRR = r_1 + (r_2 - r_1) * \left[\frac{NPV\ r_1}{NPV\ r_1 - NPV\ r_2}\right]$$

This means:

$IRR = Internal\ Rate\ of\ Return$

$r_1 = Minimum\ discount\ rate$

$r_2 = Highest\ rate\ of\ dedu\ Gtion$

$NPV\ r_1 = Net\ present\ value\ at\ minimum\ rate$

$NPV\ r_2 = Net\ present\ value\ at\ highest\ rate$

Using the data of Table No. (10), it appears that the internal rate of return for the medical bottles factory reached (% 35.92), which reflects the capital profitability of the mentioned factory. It also reflects at the same time the economic feasibility of rehabilitating and operating the aforementioned factory, as it is more than the obvious value of the investment.

Table No. (10), which is represented by the highest discount price.

Internal rate of return for medical bottles factory in Anbar province

(Thousand Dinars)

Factory	r_1	r_2	$NPV\ r_1$	$NPV\ r_2$	IRR
Medical bottles	**%6**	**%17**	**8238148**	**5213640**	**%35.92**

Source: From the work of researchers based on the data of Table No. (5) in the Statistical Appendix.

3- Analysis of the social feasibility of the medical bottle factory:

The social feasibility analysis of the medical bottles factory in Anbar Governorate aims to measure the social returns of the idea of rehabilitating and operating the mentioned factory at the level of a strong economy, through the use of several criteria, the most important of which are (**Al-Shammah**, 1992), (**Shugairi and Salam**, 2009) , (**Awad Allah**, 2000) :

(1-3) The Added Value.

The value-added criterion is of great importance in analyzing the social feasibility of the investment idea because it helps to measure the impact of the project

On the size of the gross domestic product (or national income)

This criterion is calculated according to the following mathematical formula:

$$The\ total\ added\ value = \begin{matrix} The\ total\ value \\ of\ production \end{matrix} - \begin{matrix} The\ value\ of\ production \\ supplies \end{matrix}$$

According to the above equation, if the added value is positive, it means that the project achieves social profits, and conversely, if the added value is negative, this means that the project does not achieve any social profits, but rather drains the national income, whether by wasting economic resources or freezing them without contributing to generating the output. When using the data of Table No. (11), it appears that the total added value of the medical bottles factory amounted to about (3876334) thousand dinars, while the net added value will reach (2616884) thousand dinars in 2021.

Table No. (11)

Estimation of the gross and net added value of the medical bottles factory in Anbar Governorate for the year 2021

(Thousand Dinars)

Factory	Value of production requirements	Value of production	Annihilations	Total Added value	Net Added value

Medical Bottles	4523666	8400000	1259450	3876334	2616884

Source: From the work of researchers based on the data of Table No. (5) in the Statistical Appendix.

(2-3) Rate of Employment.

The employment criterion helps evaluate the impact of the project in providing suitable job opportunities for community members and contributing to reducing the unemployment problem. The employment rate can be obtained according to the following formula:

$Rate\ of\ Employment = Value\ Investment\ /\ Staf\ group$

Based on the above formula, Table No. (12) shows that the medical bottles factory will provide one job opportunity for an investment expenditure of (88733) thousand dinars.

Table No. (12)

The Employment rate for medical bottles factory in Anbar Governorate for the year 2021

Factory	**Workers, No**	**The Value of Investment**	Employment rate
medical bottles	**156**	**12594500**	**88633**

Source: From the work of researchers based on:

- General Company for the manufacture of glass and refractories / records of the administrative and financial department

Table No. (3) in the Statistical Appendix.

(3-3)Rate to benefit from foreign

The importance of the criterion for benefiting from foreign exchange lies in the fact that most of the capital goods necessary for the industrial development process are imported from abroad, which calls for providing the values of imports in foreign exchange. Based on the above criterion, projects that generate the largest amount of foreign currency are preferred, whether by producing goods for export or replacing them with imported goods and reflecting the outcome of calculating this criterion according to the following formula:

$$\begin{array}{c} Rate\ Foreigin \\ Currency \end{array} = Production\ quantity * Selling\ price$$

It is clear from the data of Table No. (13) that the amount of foreign currency expected to be saved annually for the medical bottles factory is estimated at (8,400,000) dollars, which confirms the social feasibility of the mentioned factory.

Table No. (13)

The rate of utilization of foreign exchange for the medical bottles factory in Anbar Governorate

(Dollar)

Factory	Price of selling	Amount of Production –Ton	utilization of foreign exchange
Medical Bottles	600	14000	8400000

Source: From the researchers' work on the data of Table No. (2) of the Statistical Appendix.

3-4 Saving in Foreign Currency

The criterion of savings in foreign currency is of great importance to the national economy, as the high rate of expected savings from the foreign currency is evidence of the high level of social feasibility of the project. The criterion of savings in foreign currency is calculated as follows:

$$\begin{array}{c}\mathit{Rate\ of\ Saving}\\ \mathit{foreign\ currency}\end{array} = \frac{\mathit{Saving\ Annual\ foreign\ currency}}{\mathit{cost\ Investment\ foreign\ currency}}$$

In this regard, the data of Table No. (14) indicate that the expected annual savings in foreign currency amounted to about (8,400,000) dollars and that the cost of investment in foreign currency is estimated at (9480,000) dollars. Accordingly, the percentage of savings in foreign currency for the medical bottle factory is estimated at about (88%).

Table No. (14)

The percentage of savings in foreign currency for the medical bottles factory in Anbar Governorate

(Dollar)

Factory	Invested Cost	Annually Saving	The percentage of savings
medical bottles	9480000	8400000	%88

Source: From researchers' work on data:

- The General Company for the manufacture of glass and thermostats, the investment file for the rehabilitation and operation of the medical bottles factory / Anbar Governorate, 2019, p. 12.

4- **Conclusions and recommendations**:

(4-1) **Conclusions:**

In the foregoing, it was shown to us that the assessment of economic and social feasibility criteria showed positive results for the idea of rehabilitating and operating the medical bottles factory in Anbar Governorate, which proves the validity of the hypothesis of the study.

Where the results showed when applying the criteria of economic feasibility that the mentioned factory will reap financial profits amounting to (11192840) thousand dinars during the period 2021-2030. The rate of return per dinar was about (1.15) dinars, the gross profit margin was about (0.139), and the rate of return on invested capital was about (0.888).

The results also showed when applying the net present value criterion that it amounted to (8238158) thousand dinars and that the present value ratio of the return / costs equals (1.153), while the internal rate of return amounted to about (35.9%).

When applying the capital recovery period standard, it became clear that it is a short period that does not exceed one year and one month. In addition, the application of social feasibility standards also showed positive results no less important than the previous one. The net added value that the factory will generate is about (2616884) thousand dinars.

The foreign operation that this factory will provide annually amounted to about (8,400,000) dollars, while the expected annual savings rate from foreign currency amounted to about 88%, not to mention the (156) job opportunities that the mentioned factory will provide during the first capacity of its operation and its cost is (88733) thousand dinar for one chance.

(4-2) Recommendations:

Based on what was mentioned, the study recommends the following:

(4-2-1): The Investment Department of the Ministry of Industry and Minerals should take upon itself the responsibility of rehabilitating and operating the medical bottles factory in Anbar Governorate, and giving the process of its implementation the utmost care within a time limit not exceeding one year and according to the statements of the field surveys of the General Company for Glass and Refractories Industry.

(4-2-2): The Ministry of Finance and the Central Bank should monitor and provide the necessary financial allocations to cover the full rehabilitation and operating costs of the factory in question.

(4-2-3): The other relevant governmental institutions should undertake to provide adequate support for the factory to enable it to become an effective productivity incubator, whether at the level of the aforementioned company or the level of the industrial sector as a whole.

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Statistical Appendix

Table No. (1)

Estimating annual revenues and costs for a medical bottle factory in Anbar Governorate

For the period 2021-2030

(Thousand Dinars)

Net profit	***Annual costs***	***Annual Revenues***	***Years***
1119284	**7280716**	**8400000**	***2021***
1119284	**7280716**	**8400000**	***2022***
1119284	**7280716**	**8400000**	***2023***
1119284	**7280716**	**8400000**	***2024***

1119284	**7280716**	**8400000**	***2025***
1119284	**7280716**	**8400000**	***2026***
1119284	**7280716**	**8400000**	***2027***
1119284	**7280716**	**8400000**	***2028***
1119284	**7280716**	**8400000**	***2029***
1119284	**7280716**	**8400000**	***2030***
11192840	**72807160**	**84000000**	***Total***

Source: Records of the General Company for the manufacture of glass and thermostats in Anbar Governorate.

Table No. (2)

Estimation of the production value of the medical bottles factory in Anbar Governorate

For the period 2021-2030

(Thousand Dinars)

Current Revenues thousand dinar	***Price of Selling Dinar***	***Amount of Production - ton***	***Years***
8400000	**600**	**14000**	***2021***
8400000	**600**	**14000**	***2022***
8400000	**600**	**14000**	***2023***
8400000	**600**	**14000**	***2024***
8400000	**600**	**14000**	***2025***
8400000	**600**	**14000**	***2026***
8400000	**600**	**14000**	***2027***
8400000	**600**	**14000**	***2028***
8400000	**600**	**14000**	***2029***
8400000	**600**	**14000**	***2030***
80400000		**140000**	***Total***

Source: Records of the General Company for the manufacture of glass and thermostats in Anbar Governorate.

Table No. (3)

Investment costs for the rehabilitation and operation of the medical bottles factory in Anbar Governorate

Details of the rehabilitation and operation	**Estimated Sum Thousand Dinar**

machinery, equipment, and accessories Melting furnaces, chimney, and accessories Raw materials conveying and weighing lines Installation of Equipping the water and power treatment Energy utility equipment Buildings and constructions	**2520000** **4895500** **1229000** **500000** **200000** **3250000**
Total	**12594500**

Source: Records of the General Company for the manufacture of glass and thermostats in Anbar Governorate.

Table No. (4)

The present value of revenues and costs for the medical bottles factory in Anbar Governorate

For the period 2021-2030

(Thousand Dinars)

(*)Current Value of Annual Costs	***Annual Costs***	***(*)Current Value of Annual revenue***	***Annual revenue***	***Years***
6868627	**7280716**	**7924560**	**8400000**	***2021***
6479837	**7280716**	**7476000**	**8400000**	***2022***
6112889	**7280716**	**7056640**	**8400000**	***2023***
5767055	**7280716**	**6653640**	**8400000**	***2024***
5440879	**7280716**	**6277320**	**8400000**	***2025***
5132904	**7280716**	**5922000**	**8400000**	***2026***
4842404	**7280716**	**5586840**	**8400000**	***2027***
4567921	**7280716**	**5270160**	**8400000**	***2028***
4309455	**7280716**	**4971960**	**8400000**	***2029***
4065551	**7280716**	**4690560**	**8400000**	***2030***
53587522	**72809160**	**61825680**	**80400000**	***Total***

Source: Records of the General Company for the manufacture of glass and thermostats in Anbar Governorate.

(*) The current value was calculated by researchers using a discount rate of 6%

((Interest rate for industrial bank loans))

Table No. (5)

The current value of the revenue (financial profit) for the medical bottles factory in Anbar Governorate

Using discount rates of 6%, 17% for the period 2021-2030

***NPV r_2* Current value of profit at a discount of price 17%**	***(**) Discount price 17 %***	***NPV r_1* Current value of profit at a discount of price 6%**	***(*) Discount price 6%***	***Annual Profit***	***Years***
956652	**0.8574**	**1055932**	**0.9434**	**1119284**	***2021***
817636	**0.7305**	**996162**	**0.8900**	**1119284**	***2022***
698880	**0.6244**	**939750**	**0.8396**	**1119284**	***2023***
597361	**0.5337**	**886584**	**0.7921**	**1119284**	***2024***
510505	**0.4561**	**836440**	**0.7473**	**1119284**	***2025***
436296	**0.3898**	**789095**	**0.7050**	**1119284**	***2026***
372294	**0.3332**	**744435**	**0.6651**	**1119284**	***2027***
318772	**0.2848**	**702238**	**0.6274**	**1119284**	***2028***
272433	**0.2434**	**662504**	**0.5919**	**1119284**	***2029***
232811	**0.2080**	**625608**	**0.5584**	**1119284**	***2030***
5213640		**8238148**		**11192840**	***The Total***

Source: From the work of researchers:

(*)An interest rate of 6% has been adopted as the minimum interest rate, which represents the interest rate for industrial bank loans

(**)The interest rate of 17% was adopted as a higher interest rate, which represents the highest interest rate for Iraqi banks for long-term fixed investments.

Table No. (6)

Cost elements for the medical bottles factory in Anbar Governorate for the year 2021

Items of Cost	***Variable Costs***	***Fixed Cots***
Salaries and wages		**1497600**
annihilations		**1259450**
Raw Materials	**3249400**	
Fuel	**438396**	
Spare parts	**214354**	
Canning and Covering	**350000**	
Water and Electricity	**182196**	
Tools	**44660**	
Total	**4523666**	***2757050***

Source: Public Company for the manufacture of glass and thermostats, records of the Planning and Follow-up Department.

MEASURING THE FINANCIAL DEPTH OF FINANCIAL AND NON-BANKING INSTITUTIONSITS EFFECTON ECONOMIC GROWTH IN IRAQFOR THE PERIOD 2004-2020

Prepared by

A.Prof-Dr .Qassem Askari Ibn Karim
Department of Economics
Gh-asaman@yahoo.com

Najlah shamoon shlaymoon
PhD student in the Department of Economics
nashch70@gmail.com

Ahmed Jabbar Shaye
PhD student in the Department of Economics
ajab98512@gmail.com

Abstract

The poor performance of banking activity and non-banking financial institutions, as well as the failure of Iraqi banks to update their banking systems, have contributed to the consolidation of poor banking awareness and a decline in individual banking use, resulting in a low level of banking services, which are an important part of the service sector and the structure of output in Iraq from 2004 to 2020. Activating the role of banking and non-banking financial institutions contributes to diversifying the sources of output and addresses part of the structural imbalance in the output structure. The inductive method and the deductive method were relied upon in order to investigate the potential of reform and the importance of implementing it in the banking system, based on references from books, reports, research and the relevant global information network.

Key words: Financial Depth - Banking Institutionsits - Economic Growth

Introduction

Economic growth is one of the main goals pursued by Governments, to which people aspire; This is the physical conclusion of economic and non-economic efforts in society; It is one of the necessary conditions for improving the standard of living of societies, as well as one of their lax indicators, and economic growth is linked to a set of fundamental factors in society that serve as the climate for its development; as a factor providing highly qualified institutions, adult governance, community participation, scientific research, health and education. So the process of achieving a good level of growth has become organically linked to the availability of this moving climate.. The evolution of financial credit, which is reflected in increasing reliance on the financial system and financial hiring at the expense of the real economy sectors, leads to greater exchange and diversification of financial instruments and thus encourages financial investment, as well as to diversification in the various activities of the economy. (Al-Zubaidi, 2008). The study of indicators of the financial depth of banking and non-banking institutions in financial markets and their role in stimulating economic growth are important studies, which are dealt with in the scientific field. Because of their economic importance, financial and economic development and the economic growth that will accompany them will be sustained if financial jobs in markets become real investments that contribute to the economic revitalization and financing of the economic and social development process.

Research problem:

The Research's problem is that poor performance, banking activity, non-banking financial institutions, and the lack of modernization of banking systems in Iraqi banks have contributed to a lack of banking awareness and reduced banking use by individuals, resulting in a low level of banking services, which are an important part of Iraq's service sector and output structure.

Research Hypothesis

Research assumes that the activation of the role of banking and non-banking financial institutions contributes to the diversification of sources of output and addresses part of the structural imbalance in output structure.

Search objective

The research aims at trying to address the imbalance in output structure by measuring the financial depth of banking and non-banking financial institutions and showing their contribution to economic activity.

Research importance

The significance of research is highlighted in the sense that improving the effectiveness of banking and non-banking financial institutions can generate new sources of savings and finance the capital required for investment, thereby addressing production sector imbalances and improving the structure of national output.

Research Methodology

The extrapolation and extrapolation method has been used to investigate the capabilities of reform and the importance of its implementation in the banking system, based on references from relevant books, reports, research and the global information network.

The temporal and spatial boundaries

Spatial boundaries: Iraq - Temporal boundaries: Duration (2004-2020).

1st. Concept of banking and non-banking financial institutions

Financial institutions are the companies responsible for providing the market with money by transferring it from investors to companies in the form of loans, deposits and investments. Commercial banks, investment banks, credit banks, brokerage companies or investment agents, insurance companies, and asset management funds are among the most common types of financial institutions. Other types include credit unions and finance companies. Financial institutions are organized to manage the supply of money to the market and to protect the consumer.

1. Founder Analysis at Finance

Financial institutions are critical components of a country's financial system, particularly in countries with rapidly changing economies. These banks offer long-term financing requirements for vital sectors. The government deems it vital to manage and regulate banks and other financial services organizations since financial institutions play such an important role for the majority of residents by offering all forms of financial operations, savings, and investment requirements. Similarly, the failure of a financial institution might induce economic fear and strain. Deposit accounts are managed and controlled by organizations such as the United States Securities Investors Protection Authority (FDIC) to safeguard people and businesses from the many sorts of hazards to which their assets may be exposed when deposited with a financial institution. Loss of faith in financial institutions might result in more severe external effects on the economy. (Al-Quraishi, 2009).

2. Types of financial institutions

There are different types of financial institutions that are dealt with on a daily basis. Whether it's through depositing money, applying for loans or disposing of currency.

Financial institutions can be divided primarily into two types: banking and non-banking financial institutions. Banking financial institutions include commercial banks whose main role is to accept deposits and grant loans, while non-banking financial institutions include investment banks, insurance companies, financial companies, rental companies and others. The following is a summary of both types of financial institutions (Money and Banks, 1990).

The most prevalent sort of financial organization is the bank, which acts as a financial mediator between "depositors" and "borrowers." The primary responsibilities of a banking financial organization are to receive deposits and then lend to clients for purposes such as purchase, education, company development, and investment. The Bank also serves as a payment agent, offering a variety of payment services such as ATM cards, credit cards, check services, direct deposit services, and bank transfers, among others. The Bank's capacity to provide loans is controlled by the amount of cash reserves it has, and raising money is very simple for the Bank because some accounts, such as on-call deposits, provide no advantage to the account holder. The financial institution Earns money by investing funds invested in assets and, on occasion, financial goods, most commonly through loans. Investment banks, rental businesses, insurance companies, investment funds, and financial firms are all examples of non-bank financial entities. A variety of financial services are offered by the non-bank financial institution. Debt subscriptions, stock issuance, securities trading, investment, advisory services, transactions, and other services are provided by investment banks to businesses. Insurance companies and other financial entities give protection against specific losses for a set sum of money. Pensions and mutual funds serve as savings institutions where investors may put their money to work and earn a profit. Market makers and financial institutions function as brokers, enabling the trade of financial assets such as derivatives, currencies, and stocks. Other financial service providers, such as rental businesses, provide facilities for acquiring tools and equipment, while real estate financing firms provide funds to acquire real estate and provide financial guidance in exchange for a specified commission. (Yahya, Critical Theory, 2001).

The major distinction between banking and non-bank financial institutions is that banking financial institutions accept savings account deposits and other sorts of deposits that non-bank financial organizations do not.

2nd.Concept of economic growth

Economic growth is defined as an increase in real per capita income or output that is greater than the rate of population growth, while also providing productive and social services and protecting non-renewable resources from depletion. It is also defined as an increase in the amount of goods and services produced by a given economy. As a result, economic growth is defined as an increase in the market value of an economy's commodities and services through time. (Samo Bloon, 2006). Thus, economic growth is as follows:

- Increasing real domestic product between two periods.
- High per capita real income.

Economic growth is one of the most significant economic indicators since it represents the total value contributed by all production units in a particular economy, such as agriculture, mining, industry, power, banking, insurance, housing, commerce, and public services.

The difference between the value of a unit's total production and the value of the intermediate products and services used in that production is the added value of that unit. (Shlimon, 2015).

The percentage of GDP growth is used to quantify economic growth, and it is compared to the prior year. Economic growth is primarily driven by more capital, technical advancement, and greater education.

Because it is commonly considered that economic growth is the key to societal well-being, economists, planners, and politicians in both emerging and developed nations have made it a priority to accelerate the process of economic growth. The process of rapid growth is based on the increasing potential of modern technology as well as the necessary institutional and ideological changes. From the foregoing, we may deduce a number of characteristics of economic growth, including: -

- A focus on long-term growth, rather than transit growth.
- Long-term growth and the significance of centralized technologies.
- From the foregoing, we can see that a variety of - Institutional and ideological adjustments are required, demonstrating the relevance of the institutional system in the growth process. (Henderson, 2010).

3th. Measuring the financial depth of banking and non-banking institutions and their impact on economic growth

Banking and non-banking systems are among the most important inventions of modern societies, in view of the essential role they play. Through their role in the media between depositors that make up the supply side of funds in the banking system and borrowers that make up the demand side of such funds, the banking

system is an important mechanic for collecting savings and turning them into investments.
The financial sector contributes effectively to economic growth through the provision of resources to meet basic needs, either directly or indirectly, because the financial sector is concerned with mobilizing financial resources for economic growth through the banking system, the insurance sector or the stock market, leading to an increase in the value added of the use of technological services and the provision of foreign exchange through remittances..

4 th.The system banking-the size , the structure , Efficiency and stability:-
The banking system remains the bulk of most countries' financial system, particularly in emerging and developing markets. So we included a set of indicators, measuring the size, structure, efficiency and stability of banks across countries and over time. In addition to the indicators discussed in the previous section, the database contains several other indicators of the financial intermediaries' size. Specifically, based on preliminary data from IFS, the following three indicators measure the size of the three types of financial institutions relative to GDP (Financial Institutions and Markets across Countries and over Time Data and Analysis, 2009):

- Central Bank assets to GDP
- Deposit of banks' funds to gross domestic product
- Assets of other financial institutions for GDP

These indicators provide evidence of the importance of the financial services of the three types of financial institutions relative to the size of the economy. Assets include claims on the entire real non-financial sector, including the Government, public institutions and the private sector. The sum of these three indicators refers to the total claims made by financial intermediaries at the level of non-financial domestic sectors relative to GDP, and thus constitutes a comprehensive indicator of financial intermediation. Private credit through bank deposits and other financial banks to GDP represents private sector claims through funds deposit banks and other financial institutions divided by GDP. It is a standard indicator of finance and growth literature. Countries with higher levels of private credit to GDP have shown faster economic growth to reduce poverty (Hindi, 2010).
The current global financial crises highlight the importance of good asset and liability management. As funding sources become more scarce and costly, liquidity

management becomes more important. As well as issues related to fiscal upgrading: Although increased borrowing can help an enterprise increase its revenues, at the same time it exposes it to greater risks (which is what highly leveraged institutions have recognized in successive crises(Abdel-Qader Mohamed Abdel-Qader I. A., Trends, Modern in Development, 2003).

The deposit of funds against central bank assets of countries where deposits of funds and assets are significant has the greatest role in financial intermediation from central banks with limited deposits and assets, so that they can be considered to have higher levels of financial development and thus show the positive relationship between deposits against central bank assets and economic growth (Robinson, 2004).

5 th. Financial depth of banking and non-banking institutions in Iraq and its impact on economic growth

The Iraqi banking system consists of the Central Bank and commercial banks, most notably Rafidain Al-Rashid and the Iraqi Trade Bank (TBI), the State-owned Islamic Riverine Bank, and specialized banks, most notably industrial, agricultural and real estate banks. as well as non-bank financial institutions, most notably insurance companies, the pension fund and some investment funds. Thus, the Iraqi banking system consists of a wide spectrum of banking institutions, as intermediate channels between savers and investors, which places a great responsibility on the monetary decision-maker to control liquidity levels and achieve monetary stability. There are many institutions that do some banking, including money transfer companies, bank exchange companies, a loan guarantee company, a small and medium-sized enterprise finance company, two electronic banking and smart card services companies, as well as bank branches spread across all governorates of Iraq. (Annual Report of Financial Stability in Iraq, Central Bank Department of Monetary and Financial Stability for different years).

1. **Financial depth index of banking institutions**

Table 1 indicates that the dimensions of fiscal depth are evident in terms of the ratio of bank credit to GDP, showing the path of change in fiscal depth for the period 2014-2020. These years saw the highest credit-to-GDP ratio at 14.3% and increased to 25.06% in 2020. This credit performance index is lower than the averages of all those groups, including low income in the world. Measures are needed to remove the obstacles responsible for restricting this activity. The total deposits, including those of the Government and public enterprises, are 62.4

trillion dinars and the total cash credit for all sectors is 37.2 trillion dinars. State banks contributed 29.8 trillion dinars and private banks contributed about 7.3 trillion dinars of that credit volume, 19.6% of the total credit. The total claims of deposit banks to the non-financial economy, both in terms of GDP and in terms of deposit funds as well as central bank claims, rise with the level of economic development, and - because bank credit is an essential function of the modern economy that is not compensated for by the financial market, which operates mainly with securities, The excessive diversity of banks away from their traditional activities should lead to a review of controls, restrictions and errands from the point of view of specialization, division of labour between banks and other financial institutions, as well as the specialization of banks themselves and compensation for economies of scale (Diversity) experiences with the large size of credit, diversifying credit activity away from concentration and devising additional means to protect banks from risk.

Table (1)

Mortgage credit to output the local Total million dinars

credit ratio /GDP	GDP at current prices	bank credit	the year
1.04	53235359	552,448	2004
1.07	73533599	785,073	2005
1.45	95587955	1,384,231	2006
2.04	111455813	2,275,531	2007
2.12	157026062	3,323,634	2008
3.62	130643200	4,734,055	2009
5.61	162064566	9,084,973	2010
6.98	217327107	15,171,445	2011
8.85	251907662	22,296,216	2012
8.26	267395614	22,081,289	2013
0.97	2589006331	25,110,985	2014
14.30	199715699.9	28,562,670	2015
14.31	203869832.2	29,180,601	2016
13.31	225995179.1	30,069,636	2017
14.31	268918874.0	38,486,947	2018

15.13	277884869.4	42,052,511	2019
25.06	198774325.4	49,817,737	2020

Source: Prepared by the researcher based on:-

The orientation of banks in developing and developing countries, including Iraq, towards greater diversification along with greater importance of non-lending income may be understood as the context of a general course of development that is positive in terms of scale economics and risk reduction as described above. However, empirical studies have revealed different results, which may be attributed to the weak monitoring and control capacity of banks, leading to an increased risk of failure when expanding to activities and sectors that the bank does not have sufficient experience to deal with, including serious risk assessments, It is not exactly this issue that arises about the performance of Iraqi banks in competing for employment in the exchange market or the provision of risk-free services at the expense of credit. But diversity by engaging in types of financial investment or offering products that were not previously available to banks, including speculation in financial assets, insurance, derivatives, etc. But the shares are clear between Iraq's experience and the global diversification of banking, namely, high returns on unorthodox operations and an attempt to reduce credit weight in banking in order to avoid the losses of borrowers' failures.

In table 2, cash credit provided to public institutions (banking) by the Central Bank is the highest in 2016, with 7,637,859 dinars, reflecting an increase in fiscal depth in 2016. This illustrates the poor performance of banks in providing credit and their partial reliance on cash credit to expand their activities.

Table (2)

Cash credit provided by the central bank to financial institutions

Million dinars

credit ratio /GDP	**GDP at current prices**	**bank credit**	**the year**
0.42	53235359	222,597	2004
0.34	73533599	248,407	2005
0.78	95587955	745,045	2006

0.79	111455813	877,644	2007
0.44	157026062	690,059	2008
0.46	130643200	603,740	2009
0.49	162064566	802,064	2010
0.55	217327107	1,194,319	2011
0.94	251907662	2,379,798	2012
2.43	267395614	6,492,613	2013
0.28	2589006331	7,361,903	2014
3.86	199715699.9	7,708,723	2015
3.75	203869832.2	7,637,859	2016
3.19	225995179.1	7,201,678	2017
0.99	268918874.0	2,675,495	2018
0.96	277,884,869.4	2,654,868	2019
1.37	198774325.4	2,717,075	2020

Source: Order researcher From data the bank central Iraqi, Newsletter Statistics annual 2004-2020.

2. Indicator Measure depth financial for non-institutions banking

Table 3 shows the weak financial depth of non-bank financial institutions in the Iraqi economy, while there is no clear relationship between the total claims of central banks or other financial institutions relative to GDP and the level of economic development. Note that in the case of other financial institutions, cross-country variation may be driven to the extent that data are available according to their actual size. While bank assets on deposits to gross domestic product (GDP) and funds held against central bank assets have increased over time, this reflects the weak role of these institutions in economic activity, as the ratio of insurance companies' investments to output is only If compared with financial and banking institutions, we will see a greater role for banks in economic activity than non-banking institutions in the Iraqi economy..

Table (3)
Non-banking financial institutions (insurance companies)

The ratio of investment to output%	Gross domestic product at current prices Million dinars	Investments toTrapatInsurance	the years
0.01	130643200	18119	**2009**
0.01	162064566	18962	**2010**
0.01	217327107	92151	**2011**
0.01	251907662	64771	**2012**
0.01	267395614	50716	**2013**
0.00	2589006331	52235	**2014**
0.02	199715699.9	53467	**2015**
0.01	203869832.2	48525	**2016**
0.01	225995179.1	44217	**2017**
0.02	268918874.0	46223	**2018**
0.02	277,884,869.4	45677	**2019**
0.03	198774325.4	52440	**2020**
0.02			**the average**

The source was prepared by the researcher based on the data of the Iraq Stock Exchange

CONCLUSIONS

1. The weak ability of banking and non-banking institutions to stimulate savings receptacles, as well as the reluctance of many banks to grant credit, as indicated by the credit-to-output ratios, will make it possible for weaknesses and imbalances in banking activity to persist unaddressed.
2. Although many banking and non-banking institutions have adopted some modern banking systems, they are still unable to attract individual deposits, increase the number of customers, improve banking activity and support the quality of banking services.
3. Weak financial depth of non-banking institutions versus financial depth of banks in economic activity.

Recommendations

1. Raising efficiency in domestic financial institutions through increased competition and improved quality of banking service..
2. Liberalizing credit guidance. In the context of the banking sector process, the freedom of banks to direct their bank and non-bank credit according to the creditworthiness standard is a component of sound financial reform and the development of specialized banks.

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Research trends in the profit, cash flow, & stock returns: A bibliometric analysis

Prepared by

Dr. Hesham Ali Shatnawi
Faculty of Business Administration
Ajloun National University

Shatnawi_hisham@yahoo.com

Dr. Islam Bassam Abu Jaffer
Faculty of Administrative Systems and Information Technology
North Europe Academy
Sam_jaff@yahoo.com

Mohammad Ibrahim Alomari
Muta University
alomarymohammed@yahoo.com

Dalal Mohammad Gaazi Hamdan
Muta University
Mohammad.sawalha@jaec.gov.jo

Abstract

Corporation earnings have a background from early studies in 1992 until the present time. It continues to be of great interest to the companies and other interested parties. Thus, the current paper will aim to answer the following proposed research questions: Which are the most commonly used methods for detecting the relationship between profits and cash flow in the literature? Which are the terms that are most frequently encountered in the literature associated with "stock returns?" Which countries are most preoccupied with publishing regarding this topic? To answer research questions, bibliometric analysis and visualization were utilized. For collecting the sample, articles on this topic were selected from the international Web of Science core collection database. Following this, a bibliometric analysis of the articles was performed using the VOSviewer program. A total of 66 publications on profit, cash flow, and stock return were exported. Through the bibliometric analysis, the researcher identified the keywords that have the closest proximity to profit, cash flow, and stock return.

Keywords: Profit, Cash flow, Stock return, Co-occurrence keyword, Bibliometric analysis

1. INTRODUCTION

Identifying the elements influencing stock price movements may lead to more accurate and consistent pricing, as well as better investment selections. This will eventually lead to the creation of capital markets. One of the crucial aspects is the organization's available and free cash flow. Creditors are willing to invest in organizations that have more internal funds because they have more powerful debt repayment mechanisms and, simply put, more financial flexibility (Fama, 2021).

On the other hand, it permits managers to create growth prospects and development plans that will lead to a rise in the company's worth. Another element is profitability. By reviewing previous trends of firms, it can be established that using merely profits per share in one year cannot lead to a realistic valuation of the shares; this is because this value may be significantly lower in the following years. Thus, it is preferable to prioritize consistent profitability as the primary criteria. This means that the greater the profits of a specific firm are compared to the average or intended profit in the previous or upcoming years, the greater the risk of the company and the lower its value will be; conversely, a small difference signals a lower risk and a higher share value. The purpose of this research is to look at the impact of consistent profitability and cash flows on the stock market value of firms (Esty & Winston, 2009).

Accounting data from financial reports may be used to characterize a company's financial situation. The financial reports are influenced by two factors: the businesses' activity and the accounting system they use (Palepu et al., 2020). Several studies have been on the utility of financial report information (both annual and interim reports). Accounting information is studied in some studies

to anticipate organizations' future financial performance, such as profit and growth (Hariyati, Tjahjadi & Soewarno, 2019), while other studies examine the influence of accounting informationon the share price (Amahalu et al., 2018).

Earnings, in the eyes of investors, are a metric for assessing management success. However, manipulation and smoothing of earnings by management have resulted in some additional aspects in order to prevent manipulation and probable misappropriation, which is why concentrating on cash flow reporting as a complementary statement with primary financial statements is important. Cash money is vital in making financial decisions and disregarding it produces difficulty in carrying out the decision or failure in making decisions. Traditional measures such as the accounting rate of return have been modified by cash flow-based measures in assessing economic performance and calculating the economic rate of return because financial studies have shown that when trying to measure the growth of business units, cash data has less ambiguity than reported information based on the financial basis (Okolie, 2014).

The purpose of the study is to look at the research trends in profit, cash flow, and stock returns from 1992 to 2021 in order to identify gaps and research limitations in these disciplines. The relationship between several company performance measurements is based on profit, cash flow, and stock returns. This is an applied study, and its design is semi-empirical, as evidenced by bibliometric analysis and visualization. The study's findings show that earnings-based measurements are more closely connected to stock returns than cash-flow-based ones. Furthermore, in certain organizations with larger accruals, earnings are more dependent on the company's equilibrium than cash flow measurements.

Cash flow is the amount of money that a corporation has left over after paying its current and capital expenses (Amran & Ali Abdi, 2012). This concept has been defined in a variety of ways; for example, Kudratova, Huang & Zhou (2018) proposed two definitions: the traditional method, wherein paid funds for a company's investment are subtracted from operating cash flow; and the new method, in which paid funds for a company's investment are deducted from operating cash flow. The second definition expands on the classic CF by including discretionary cash outlays (DCO) and discretionary CAPEX (CAPEX).

According to DiMasi, Grabowski & Hansen (2016), cash flow is the net cash generated from operating activities after subtracting development expenses; this cost is then added to R

& D expenditures while deducting investment expenditures on new projects. Cash flow, as defined byShamsudin & Kamaluddin (2015), is the cash obtained from operating operations less the cash elements of investment. Zerni et al. (2010) define cash flow as operating cash flow less dividendspaid on preferred stock, common stock, and CAPEX. Stable advantages are also quite important and are seen as long-term profits; in other words, these earnings are not transitory and ephemeral, but rather everlasting. The more studied the profit, the more power the firm has to keep present earnings and, as a result, the greater the profit quality. According to Richardson, more sustained profitability has greater quality; hence, it has been given numerous definitions. For example, Penman explored profit quality by examining the link between future profit and present profit (Dietz & O'Neill, 2013).

According to Osadchy et al. (2018), profit quality is described as the profitability that gives the key goals of financial statements; in this way, they may provide profit information about the evaluation of the enterprise's cash flows to investors, creditors, and other users. Profit quality is defined by Bellovary et al. as the symbol of reported profit power to reflect the enterprise's genuineprofit, the predictability of future profit, and the sustainability of reported profit. Thai considers profits to be of high quality when: (Menicucci, 2019)

- Accrual quality is strong; many estimates of earnings quality demonstrate that a positive benefit is one that shows cash.
- Profit stability coefficients are crucial; poor profit quality is indicated by low profit stability. Profit responsiveness is reduced when there is a lack of sustainability. To evaluate profit stability, Freeman et al. analyzed the following link between present and future profits.

Profitability is profit derived through regular operations, while alpha is a measure of the stability of asset returns that serves as an indicator of for-profit sustainability. Higher sustainability is acquired as a value of this relationship approach (Saeed & Izzeldin, 2016). Steele (2013) feels thatusing identical coefficients for the cash and commitment sections in the above relationship is inappropriate and should be modified. Many divisions have also been proposed to calculate the efficiency. Among them are residual income indicators, which take into account the capital cost of these measures. CVA and EVA are two of them. Indicators of remaining components that do not include capital costs Profits before interest and taxes, earnings before interest and taxes plus depreciation, earnings before unusual items, operating profit after taxes, and net return on assets are some examples (Adeleke, 2021). Market-based measures, such as total shareholder return, market added value, and value index, are derived from capital returns. Operating cash flows and investment cash returns are examples of cash-based metrics. Traditional measures, such as operating profit, net income, and profits per share, are based on historical data (Malan, 2014). Several studies have been conducted in relation to the latest study, some of which are included below.

Habib (2008) investigated enterprises in New Zealand and discovered that, while profitability has greater explanatory power than free cash flow, both free cash flow and profitability connected withstock returns have high information components. However, these two criteria are also influenced by firm-specific characteristics, which are discussed in depth in the quoted study. Penman et al. (2009) assessed the market value of free cash flow and concluded that it has a growing influence on stock returns; also, profitability leads to an increase in stock price. During a five-year examination of Greek enterprises, Dimitropoulos & Asteriou (2010) show that when profitability is only transient, investors search for different ways to assess performance. It is also shown that, as compared to cash flows, profit has a larger influence on stock returns; all of these correlations are, of course, positive. Moradzade Fard, Alipour Darvish & Nazari (2014) examined companies on the Tehran Stock Exchange between 2004 and 2008 and discovered no significant association between free cash flows and company stock prices. Using regression analysis, Ahangar (2011) examined Iranian stock forms between 1996 and 2010 and discovered that a company's earnings may be utilized to forecast stock returns the following year. In other words, changes in profitability

will affect stock returns. In another research, Habib (2011) investigated the link between free cashflows and profit sustainability in Australian stock returns. His findings suggest that while profitability is ephemeral, free cash flow is positively associated with stock returns. Da Vinci (2012) investigated several investing models in terms of stock return. His study's findings showed the efficiency and inefficiency of various criteria by offering a variety of evidence and justifications. CFNAL-MA3 was used. Aduda, Odera, and Onwonga (2012) investigated the factors influencing company stock returns and concluded that the index's components influenced the stock price.

In research of Polish enterprises conducted by Lischewski & Voronkova (2012), it was shown thatcompany size and reputation are beneficial in established markets, but liquidity is the most crucial in emerging nations. Toumeh, Yahya, and Amran (2020) investigated the link between capital structure, free cash flow, stock variety, and business success; their findings suggested that leverage is an effective method of lowering free cash flow and enhancing a firm's performance. Reducing the improper volatility in the company's investments from free cash flow may improve business performance. The following assumptions are made based on the theoretical framework and research background. Free cash flow is an important factor in stock returns. Profitability has an impact on stock returns. The link between free cash flow efficiency and company stock returns isinfluenced by profit stability (GómezBezares, Przychodzen & Przychodzen, 2017).

2. MATERIALS AND METHODS

Data from publications, bibliographic references, citations, and authors are used in the bibliometric study. The researcher may use this data to evaluate the historical evolution of specific scientific subjects as well as find links across disciplines.

The previous study concentrated on identifying new regions using bibliometric analysis. This research highlighted the significance of citations in published papers in the sense that the choice of work is a major indicator of the quality of the paper. Not only is the research of current domainsvital, but so is the analysis of developing domains.

The source of information for the bibliometric analysis is the records found in databases such as the Web of Science core collection database, which is the world's largest database. By using the related keywords (ALL) as a field tag, the search terms applied to identify the nearest published papers include the keywords "profit," "cash flow," and "stock return" on the Web of Science platform. For all data sources (1992–2021), The researcher got 87 results, but after filtering the related research areas and the documents that were published in the English language, we exported66 pieces of research for use in the bibliometric analysis.

To analyze co-occurrence, citation, and bibliographic coupling for keywords and clusters, VOSviewer (version 1.6.16) was utilized. Using conventional important attributes such as "links,""occurrences," and "total link strength."

3. RESULTS AND DISCUSSIONS

Microsoft Excel was used to represent the descriptive data exported from the WOS core collection database to indicate the importance of evolution in research and the countries or institutions that contributed to the research avenues in different disciplines. VOSviewer software was utilized to visualize and map the relationship between the most important keywords and recognize them as a cluster in different colors and sizes according to the importance of each one in the map.

3.1 Publication activity and growing trend in the study period (1992-2021)

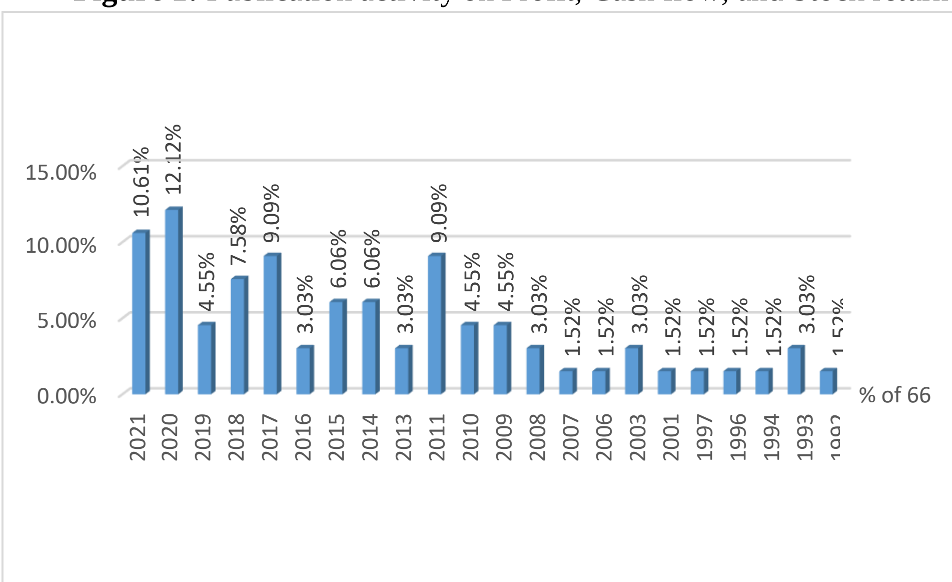
According to the findings, as seen in Fig. 1 and Table 1, publishing activity was relatively low in the 1990s, with just 1 to 2 papers published each year. Nonetheless, there has been an increase in publications since 2009. It can be seen that the development has several peaks in 2011 (n = 6), followed by a falling tendency (n = 2 in 2013, n = 2 in 2016). In 2017 and 2018, the number of publications remained steady (n = 6), gradually growing over the next three years to 3 in 2019, 8 in 2020, and 7 in 2021.

Table 1: Publication activity on Profit, Cash flow, and Stock return

Publication Years	Record Count	% of 66
2021	7	10.61%
2020	8	12.12%
2019	3	4.55%
2018	5	7.58%

2017	6	9.09%
2016	2	3.03%
2015	4	6.06%
2014	4	6.06%
2013	2	3.03%
2011	6	9.09%
2010	3	4.55%
2009	3	4.55%
2008	2	3.03%
2007	1	1.52%
2006	1	1.52%
2003	2	3.03%
2001	1	1.52%
1997	1	1.52%
1996	1	1.52%
1994	1	1.52%
1993	2	3.03%
1992	1	1.52%

Figure 1: Publication activity on Profit, Cash flow, and Stock return



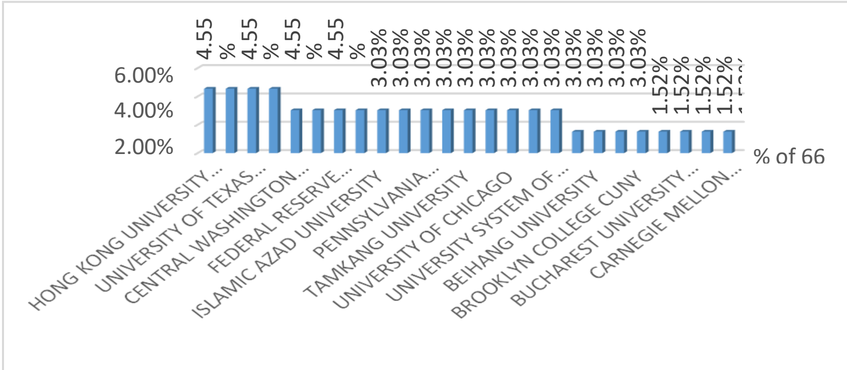
3.2 Dissemination and collaboration within institutions

A total of 25 institutions (primarily universities and research institutes) from 20 countries produced at least one of the examined papers, with only seven of these countries accounting for less than 2.5 percent of total production. Universities account for approximately 84 percent of all institutions worldwide. Because an article might be produced by many authors from various institutions and countries, there may be more papers published by nations than the total number of articles evaluated in the research as shown in table 2 and figure 2.

Table 2: The most productive Institutions publishing in Profit, Cash flow, and Stock return

No.	**Affiliations**	**Record Count**	**% of 66**
1	HONGKONG UNIVERSITY OF SCIENCE TECHNOLOGY	3	4.55%
2	UNIVERSITY OF CALIFORNIA SYSTEM	3	4.55%
3	UNIVERSITY OF TEXAS DALLAS	3	4.55%
4	UNIVERSITY OF TEXAS SYSTEM	3	4.55%
5	CENTRAL WASHINGTON UNIVERSITY	2	3.03%
6	ERASMUS UNIVERSITY ROTTERDAM	2	3.03%
7	FEDERAL RESERVE SYSTEM USA	2	3.03%
8	HARVARD UNIVERSITY	2	3.03%
9	ISLAMIC AZAD UNIVERSITY	2	3.03%
10	NATIONAL BUREAU OF ECONOMIC RESEARCH	2	3.03%
11	PENNSYLVANIA COMMONWEALTH SYSTEM OF HIGHER EDUCATION PCSHE	2	3.03%
12	STATE UNIVERSITY OF NEW YORK SUNY SYSTEM	2	3.03%
13	TAMKANG UNIVERSITY	2	3.03%
14	UNIVERSITY OF CALIFORNIA IRVINE	2	3.03%
15	UNIVERSITY OF CHICAGO	2	3.03%
16	UNIVERSITY OF PIRAEUS	2	3.03%
17	UNIVERSITY SYSTEM OF GEORGIA	2	3.03%
18	AUSTRALIAN NATIONAL UNIVERSITY	1	1.52%
19	BEIHANG UNIVERSITY	1	1.52%
20	BOWLING GREEN STATE UNIVERSITY	1	1.52%
21	BROOKLYN COLLEGE CUNY	1	1.52%
22	BRUNEL UNIVERSITY	1	1.52%
23	BUCHAREST UNIVERSITY OF ECONOMIC STUDIES	1	1.52%
24	CALIFORNIA STATE UNIVERSITY SYSTEM	1	1.52%
25	CARNEGIE MELLON UNIVERSITY	1	1.52%

Figure 2: The most productive Institutions publishing in Profit, Cash flow, and Stock return



3.3 Countries and territories

Exported publications have been published from 25 different countries or territories. Out of those 25, 9 are located in Europe, 7 in Asia, 2 in North and South America, and 1 in Oceania. Table 3 gives information on the worldwide distribution of the contributing countries. In Table 3 and Fig.3, we observe that the largest contributor is the USA (56.06%), followed by China (13.64%), Taiwan (6.06%), and other countries with smaller percentages. Approximately 24.24% of papers are published by other countries.

Table 3: The most productive countries publishing in Profit, Cash flow, and Stock return

No.	Countries/Regions	Record Count	% of 66
1	USA	37	56.06%
2	PEOPLES R CHINA	9	13.64%
3	TAIWAN	4	6.06%
4	AUSTRALIA	3	4.55%
5	CANADA	3	4.55%
6	ENGLAND	3	4.55%
7	IRAN	3	4.55%
8	GREECE	2	3.03%
9	INDIA	2	3.03%
10	NETHERLANDS	2	3.03%
11	RUSSIA	2	3.03%
12	SOUTH KOREA	2	3.03%
13	TURKEY	2	3.03%
14	BRAZIL	1	1.52%
15	GERMANY	1	1.52%
16	INDONESIA	1	1.52%
17	LITHUANIA	1	1.52%
18	PAKISTAN	1	1.52%
19	ROMANIA	1	1.52%
20	UKRAINE	1	1.52%

Figure 3: The most productive countries publishing in Profit, Cash flow, and Stock return

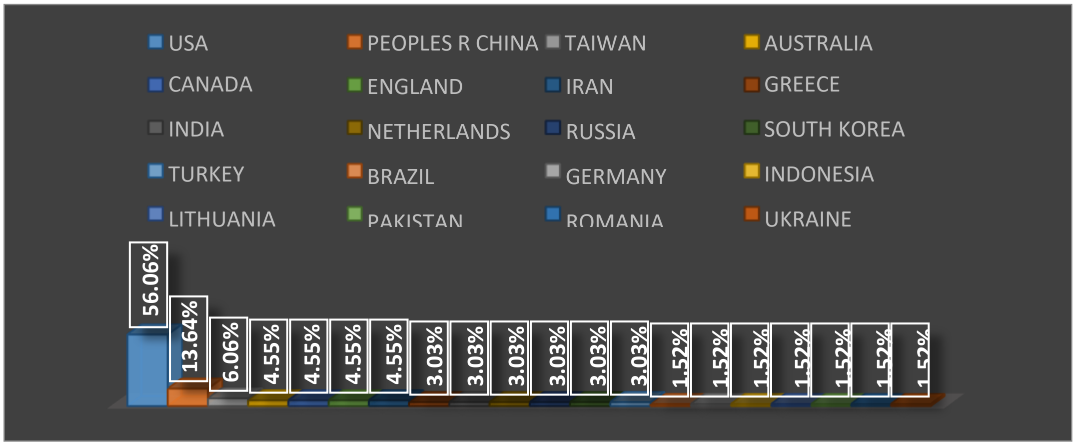
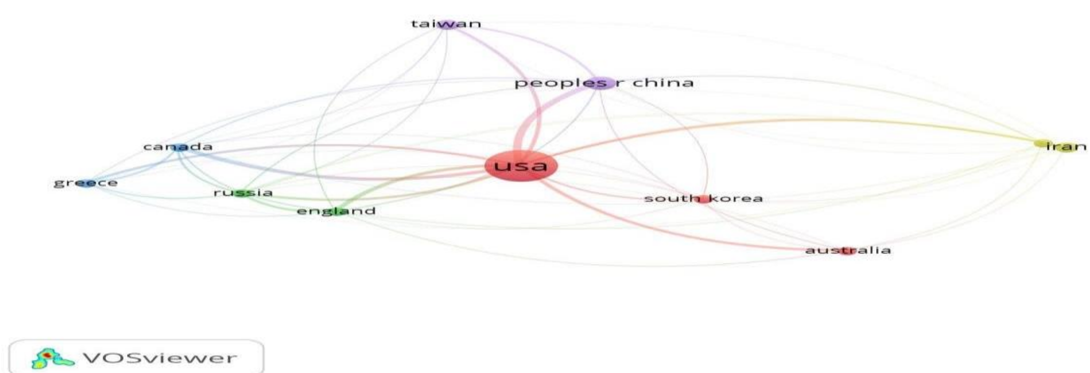


Figure 4 depicts the network of cooperation that exists between countries in total. Items are denoted by a label and, by default, a circle. The size of an object's label and the circle indicate its weight; therefore, the item with the largest label and circle is the most important. The distance between distinct items represents the relatedness of countries in this study subject, while the lines connecting things represent linkages. The key advantage of the map is the ability to identify countries or regions with similar characteristics. Countries on the same continent, in particular, tend to have a similar profile and appear together on the map.

As the researcher can observe in Fig. 4, the largest circle corresponds to the USA, which has closerelations with other countries such as China, Korea, Taiwan, Canada, and England, mainly with England. The distribution of the countries is arranged in five clusters on the map. Moreover, Cluster 1 appeared in red and contained three countries. Cluster 2 appeared in green and containedtwo countries. Furthermore, Cluster 3 appeared in blue and contained two countries. Also, cluster4 has 2 countries in yellow. Finally, cluster 5 has 2 countries in purple.

Fig 4: Cooperation network between the USA and other territories in Profit, Cash flow, andStock return



3.4 Trends and future research on Profit, Cash flow, and Stock return

The number of articles in which keyword maps appear together in titles, abstracts, and keywords is determined by their co-occurrence. The goal of mapping and clustering techniques is to provide insight into the structure of a network, and the two types of approaches are frequently employed in combination in bibliometric and scientometric analysis. The researcher performed a clustering analysis based on term co-occurrence. It includes breaking down the analytical units into groupingsof comparable linked objects. The resulting word connections might be linked to the theme lines of several scientific domains. Clustering analysis aids in the identification of research patterns.

The researcher utilized the program VOSviewer to obtain a representation of a network of objectswith the total number of linkages and their link strengths in order to execute the co-occurrence of keywords analysis. The size of the circles associated with each item is proportional to the importance of the words displayed. The cluster analysis was performed in order to determine whichareas of profit, cash flow, and stock return research are now more developed and what the future trends in them may be. The program enables an in-depth examination of bibliometric maps and may present a map in a variety of ways, each stressing a distinct component of the map.

To acquire a representative sample of distinct clusters and ensure consistency, terms with a minimum of three occurrences were chosen. Figure 5 depicts the co-occurrences of the terms "profit," "cash flow," and "stock return" research on network visualization. The researcher may use co-word maps to reflect the semantic structure of a study area. It is a very valuable tool for calculating the number of times a keyword is repeated, as well as for determining the strength of links between keywords. The clusters of keywords are represented by circles, while the linkages between these keywords are shown by lines. In general, a shorter distance signifies a stronger bond. The researcher ran a cluster analysis based on the co-occurrence of terms in the data. Four distinct clusters have been identified, which characterize the key research trends.

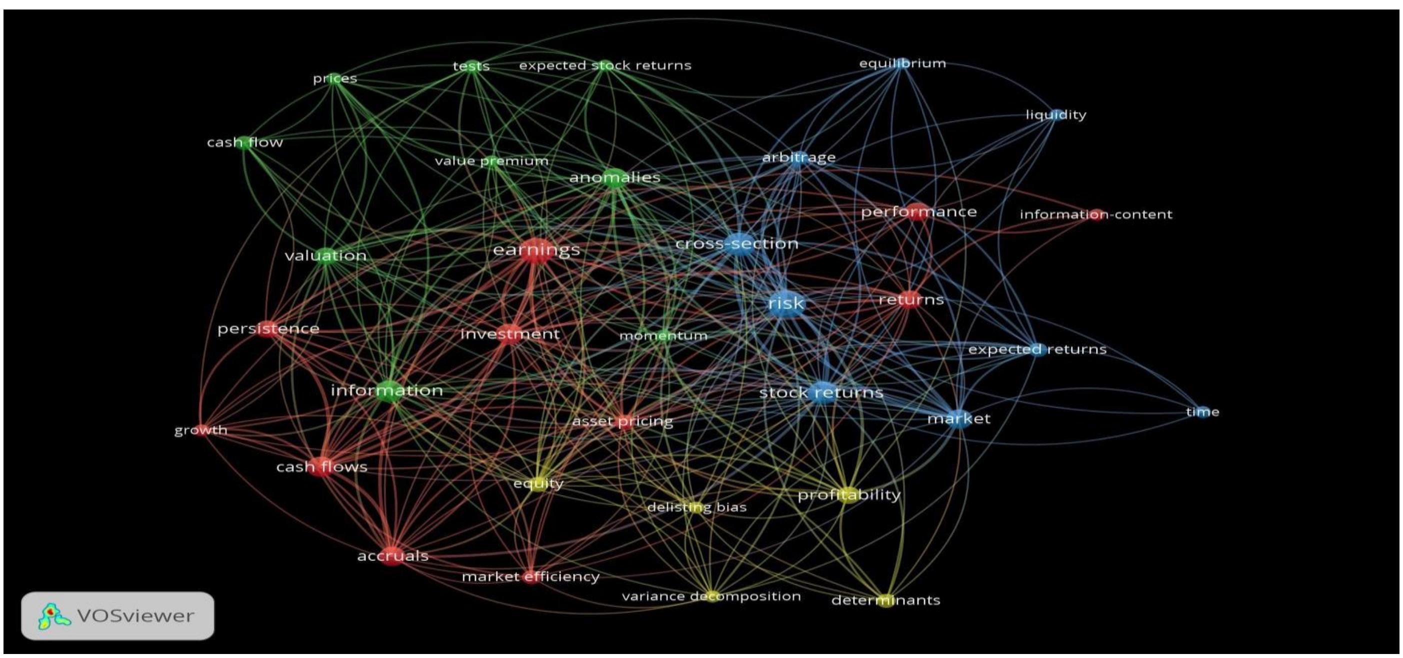
3.5 Clusters analysis

In cluster 1, the researcher found eleven keywords related and connected together. The main keywords in this cluster are earnings, cash flow, and investment. Table 4 shows the keywords that formed the first cluster. The disappearance of corporate investment in cash flow is a current conundrum in empirical finance research, as reported by Lewellen and Lewellen (2016). Fazzari, Hubbard, and Petersen (1988) launched this line of study by arguing that the experimentally observed sensitivity of investment to cash flow showed the existence of financial restrictions because the subsample of businesses was regarded a priori as more constrained. Subsequent research has questioned whether investment-cash flow is a fair indicator of financing limitations. Verona (2020) makes an important current contribution to this literature by demonstrating that investment-cash flow fell to very reduced numbers in the late 1990s and thereafter, and argues that they might decently be good indicators of financial constraints because they did not return to pre-crisis levels even though firms were manifestly constrained during this period. Brown and Petersen (2009) and Aca & Mozumdar (2008) have all documented disappearing investment-cash flow.

Table 4: Keywords in cluster 1 on Profit, Cash flow, and Stock return

Keywords (Cluster 1) Earnings	Links	Total length strength	Occurrences
Earnings	27	71	14
Cash flow	19	47	9
Investment	24	44	9
Accruals	20	39	8
Returns	23	34	7
Performance	13	18	7
persistence	19	32	6
Asset pricing	22	36	5
Market efficiency	16	18	4
growth	14	20	3
information-content	4	7	3

Fig 5: Co-occurrence network for all keywords on Profit, Cash flow, and Stock return



In cluster 2, the researcher gets nine keywords related and connected together. The main keywordsin this cluster are expected stock returns, information, and cash flow. Table 5 shows the keywords that formed the first cluster. My major prediction is connected to Mushinada and Veluri's (2018) theoretical work, but it has larger ramifications. Create a model in which investors are overconfident about their private information and, as a result, overweight their private informationwhile underreacting to public signals (e.g., analyst forecast revisions). As a consequence, future returns may be forecast. Mushinada and Veluri (2018) go on to argue that return predictability should be higher in firms with higher uncertainty because investors are more overconfident when firms' businesses are difficult to value. According to this hypothesis, greater uncertainty is associated with significantly higher (lower) stock returns following good (bad) news. My data leaves the door open for other behavioral theories since I do not include measures of private knowledge or overconfidence in my empirical research. For example, my findings are consistent with a behavioral model in which investors, due to the anchoring/conservatism bias, over their prior convictions relative to new knowledge and weigh them further when there are higher information uncertainties (Gustavsson & Svenler, 2020).

Table 5: Keywords in cluster 2 on Profit , Cash flow and Stock return

Keywords (Cluster2) Information	**Links**	**Total length strength**	**Occurrences**
Information	22	41	10
anomalies	22	51	8
valuation	20	34	6
tests	17	20	4
cash flow	10	12	4
expected stock returns	3	17	3
momentum	16	20	3
prices	12	16	3
value premium	14	16	3

Nine keywords formed the third cluster. risk is the most occurrence word with stock returns, market, and equilibrium. There are several approaches for estimating market return moments. The sample moment from historical returns is the most commonly employed estimate. The computation of sample moments, on the other hand, needs the selection of a time window. It is widely known that estimating higher moments exactly is difficult (Vamvatsikos & Fragiadakis, 2010), which would recommend using lengthy windows, however, it is preferred to use small windows to capture the conditional character of the factor sensitivities. A time-series model may be used to produce more trustworthy estimates of conditional higher moments, but the concern is whether theempirical results are resistant to the choice of time-series model. The availability of pricing data on a tick-by-tick basis is an intriguing option. The researcher can calculate the return variance by adding the squares of the high-frequency returns specified in Hafner (2013) and Hansen & Lunde(2014). However, estimating skewness or kurtosis from high-frequency data is less common, maybe because the sampling features of these estimators are unknown.

Table 6: Keywords in cluster 3 on Profit, Cash flow, and Stock return

Keywords (Cluster 3) Risk	Links	Total lengthstrength	Occurrences
Risk	30	75	16
cross-section	30	55	12
stock returns	27	49	11
market	22	38	8
arbitrage	20	29	4
expected returns	16	24	4
equilibrium	13	15	3
liquidity	8	8	3
time	5	5	3

Five keywords formed the fourth cluster. Profitability is the most frequent word along with equityand variance decomposition. Shareholders or owners of firms choose directors and CEOs for their businesses, and these individuals manage all activities in good faith. According to Al Shammari (2018), the agency problem arises when directors' and CEOs' actions are diverted from the primary interests of shareholders. The agency problem arises when the interests or risk-taking appetites of owners and managers diverge, and there is a lack of communication due to an information asymmetries system (Afza & Nazir, 2014).Instead, shareholders naturally place a premium on the wealth and interests of the organizations under their control, resulting in a fall in business profitability. Thus, the form of ownership influences business profitability. Ward (2016). Firm profitability often indicates the necessity to engage in actions that ambiguously define the underlying goal of the transaction while also providing cover for managers acting in various diversionary events that raise their shareholder expenditures. When business profitability and management diversion or rent removal are complimentary, agency theory explains the link (Chaffee & Davis-Nozemack, 2017).

Table 7: Keywords in cluster 4 on Profit, Cash flow, and Stock return

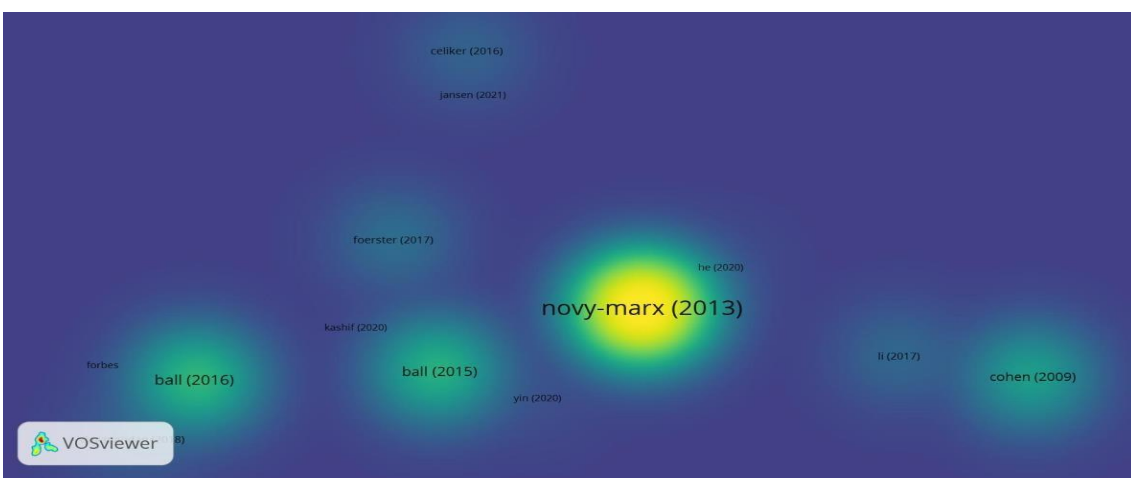
Keywords (Cluster4) Profitability	Links	Total lengthstrength	Occurrences
Profitability	19	34	6
equity	23	32	5
determinants	10	14	4
variance decomposition	15	16	3
delisting bias	15	17	3

3.6 Citation map for documents

The middle area in Figure 6 corresponds to the maximum density, whereas the outlying area corresponds to the lowest density. The greater the density, the larger the weight, and so the co- occurrences within a cluster are greater.

- ➢ The cluster's size shows its level of importance. The following regions have received special attention:
- ➢ The middle section of the map displays the most important citation documents published in research lines. Novy –marx (2013) is the most important document that connected withhe (2020).
- ➢ The left peripheral section of the map gathers terms ball (2016) in the top area. That is associated with Forbes.
- ➢ The right peripheral area collects documents related to cohen (2009) that are related with Li (2017).

Fig 6: Density visualization for cited documents published in Profit, Cash flow, and Stock return



4. CONCLUSION

In recent years, there has been an increase in interest in the literature relating to profit, cash flow, and stock return. Profit, cash flow, and stock return investigation are seen to be in an evolutionaryphase of exponential development and need to be investigated more.

The researcher's work is unique in that it uses bibliometric methods and content analysis to investigate the integration of profit, cash flow, and stock return in depth. To that aim, the researcher examined the patterns and trends in the literature on profit, cash flow, and stock return from 1992 to 2021 in order to identify prospective research areas to consolidate the subject. Our research includes 66 publications on profit, cash flow, and stock return from 116 authors, 35 journals, 80 institutions, and 25 countries throughout the world. Based on the bibliographic data mapping, the co-word analysis was used to learn about other emerging research streams and the connections thatconnect them.

The findings indicate the most active writers as well as sub-areas of study in profit, cash flow, and stock return. As a consequence of the investigation, possible areas of expertise for profit, cash flow, and stock return have been identified. Keyword-based co-word analysis revealed fresh insights into important research themes and sub-areas connected to market effects. Profit, cash flow, and stock return will have short-, medium-, and long-term ramifications for markets and long-term development goals. This research is an early attempt to gather insights on how to achieve profitability, cash flow, and stock return. Bibliometric analysis is used by field researchers.

A major trend is the increase of synthesis research for financial literature in profit, cash flow, and stock return. The number of topics and subthemes investigated by scholars with regard to the financial crisis is fast growing, implying that stocks have had an influence on our current and future way of life across different boundaries. Profit, cash flow, and stock return continue to entice scholars, who add fresh viewpoints to the framework. While the number of study subjects grows, certain of the key research sub-topics become more essential. Among the primary problems are the consequences of profit, cash flow, and stock return for enterprises, cash, supply chains, people, global financial markets, global and local stock exchanges, and decision-making. As a result, the bibliometric findings of this study indicate that profit, cash flow, and stock return are emerging as a financial market discourse. Selected fundamental themes offer opportunities for practitioners and academics looking to improve their studies. According to this bibliometric analysis, 69 distinct publications were published during the research period by 25 different organizations in 20 differentcountries.

This study's further recommendations supplement past objective and assessment literature analyses of profit, cash flow, and stock return (financial markets) research. Each year, the journals covered by the WOS databases are developed and evaluated to assure their high performance. Although the absence of additional databases such as Scopus, Google Scholar, EBSCO, and PubMed may have affected the data structure, this bibliometric study relied only on this database for data collection. As a result, suggested studies must extensively study these databases in order to gather more comprehensive information while avoiding influence.

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Analysis of the semantic relationship between poverty and unemployment in Iraq in accordance with the philosophy of the Islamic economy

Prepared by

A. Prof. Dr. Mohammad Bidar
Mohamad@yahoo.com

Najlah shamoon shlaymoon
PhD student in the Department of Economics
nashch70@gmail.com

Ahmed Jabbar Shaye
PhD student in the Department of Economics
ajab98512@gmail.com

Abstract
Islam has realized from the beginning the importance of the material factor and its situation, as it must be placed as an influencing factor among other factors. The Islamic economy had a special concept and conception in theory (legislative foundations) that the jurists put in place to address and alleviate the situation of poverty and unemployment, and the problem of poverty is one of the most complex problems that societies suffer from. Humankind because of its association with the economic system and its impact on political, economic and social considerations in it, which led to the survival of those societies suffering from its division into two categories, the first rich accounted for wealth and the second poor, which continued to suffer from underdevelopment and a low standard of living. Islam has established a war on poverty and imposed a siege on it. Every observatory has set it up to ward off danger to faith, morals, and behavior, to preserve the family, to preserve society, and to work on its stability and cohesion and the rule of brotherhood among its sons. Hence Islam enjoins that every individual living in his community achieve what he lives a decent human life by. It means that an adequate standard of living must be created for him, and that the continuous changes that accompanied the economic life in Iraq clearly had their effects on the present generation, as the rate of poverty and unemployment reached its peak clearly for the period (2010-2020).
Key Words: semantic relationship – poverty – unemployment - Islamic economy

Introduction

Poverty has been associated with the very existence of man since time immemorial. But many of the verses of the Holy Koran and prophetic talk have come up with solutions to the problem of poverty and unemployment. This is proof that Islam always seeks to lead a life of dignity that will make it productive and effective in society. At the same time, I have appealed to the rich to help the poor and give them their money. Islam has adopted a number of means to eradicate poverty and unemployment. Before referring to these means, it must be pointed out what poverty is and its impact on the individual and the Muslim community.

Search problem:

The economic problem in Iraq is partly related to the existence of unemployment, which reflects the extreme disparity in the employment and distribution of wealth and income. It is the continuing changes in the political and economic situation that have brought about economic life in Iraq and the rise in poverty, addition to the voluntary role of the rich class in achieving social solidarity through voluntary expenditures. Muslims The Islamic approach has been distinguished in dealing with the problem of unemployment through.

Islam did not look at the problem of unemployment on the basis that it is an independent problem separate from other life problems facing society, but rather looks at it through its connection with the other problems of society, and then its treatment of it is a part of its comprehensive treatment of these problems to achieve the sufficiency level.

Search hypothesis:

The elimination of unemployment contributes to economic development and thus to the eradication of poverty by providing employment opportunities for the unemployed.

Purpose of search:

The aim of the research is to give effect to the concept of employment by reducing unemployment through the establishment of small-scale development projects, such as the Zakat Fund, with a view to reducing unemployment and poverty in Iraq.

Importance of research:

The current situation in Iraq gives priority to the investment side, which has deteriorated. Successive wars, blockades and occupation have led to the suspension of many productive plants and institutions owing to the destruction and vandalism that have caused them. This has significantly increased the unemployment problem.

Research methodology:

Research has relied on theoretical analytical descriptive and deductive methods to prove the hypothesis of the study.

1st Poverty, its effects on the individual and society and ways to address it in accordance with Islamic law

1. **Poverty is language and language**

Poverty in the language means need, and that poverty and lack is the opposite of being rich, and I need it is in need, so it is poor, the plural of the poor, the poorest against the richest, and poverty is a source against riches, and that is when a person becomes and does not have what suffices him. Mujahid said, “The poor who does not ask.” And on the authority of Jabir Ibn Zayd, he said, “The poor who does not ask.” And on the authority of Ikrimah, he said, “The poor is weak.” (Bu Hamad, 2006), Islam has made it possible to satisfy these needs and to provide them to those who have not found them. If one provides them to himself, and if one fails to provide them to himself because there is not enough money in his hands or because he cannot collect enough money, the law has helped him.

In general terms, poverty is a multifaceted phenomenon that goes beyond the decline in income to the failure of human capacity to meet basic needs, make decisions, exercise freedom of choice, dispose of productive assets and face shocks, as well as the insecurity of physical violence associated with low social level, physical capacity, gender, religion or race ((IFAD), 1992).

2. Effects of poverty on the individual and society

The most significant negative effects of poverty on the individual and society can be identified:

A. Poverty has implications for religious belief:

Undoubtedly, poverty is one of the most dangerous pests on religious belief, especially extreme poverty, which is next to obscene wealth.

This perversion of religious belief, which arises from poverty arising out of misattribution, says Imam Ali (Peace), "Poverty is the greatest death." (Commander of the Faithful).

B. Poverty has implications for morality and behavior :

If poverty is a threat to religion, it is considered as belief and faith, and it is no less dangerous for morals and behavior, as the deprived poor is often pushed by his misery and deprivation, especially if his neighbors are rich and well-off, to behavior that is not acceptable to virtue and decent morals, and that is why they said, “The voice of the stomach is stronger than the voice of conscience.” And worse than this is that this deprivation leads to skepticism about the moral values themselves, and the fairness of their standards, as it led to skepticism about the values religious (Al-Afghani, 1973) as well as committing several crimes due to the effects of poverty, such as theft, forgery, bribery... etc .

If bribery spreads in a society whose members have weakened the strength of its members and weakened the resolve of its members, and instead of their search for learning, work, diligence and production, they look for the briber and work to take him over instead of the honorable and pious producer in order to achieve their goals (Bu Hamad, 2006) .

C. Poverty and its repercussions on the family:

Poverty poses a threat to the family from many aspects, to its formation, its continuity, and its cohesion. By forming a family , we find that poverty is one of the biggest obstacles that prevents marriage and youth, and the burdens behind it of dowry, alimony and economic independence. That is why the Holy Qur'an recommended such people to hold fast to chastity and patience until They have the economic capacity to do so (Bu Hamad, 2006) .

D. Poverty and its repercussions on society and its stability :

Poverty poses a threat to the security, safety and stability of society, and it was narrated on the authority of Abu Dhar Al-Ghafari that he said: "I am astonished by the one who does not find food in his house, how he does not go out against people wielding his sword." If it results from misdistribution and the luxury of a few in society at the expense of many groups, then this is the poverty that stirs souls, causes strife and disorder, and undermines the pillars of love and brotherhood among individuals. As long as there are huts, palaces, foothills, peaks, gluttony and hunger in society, hatred and resentment kindle a fire in the hearts that devours the green and the dry and widens the gap between the deprived and the affluent. Hence, destructive principles take their nests among the victims of poverty, deprivation and loss. Poverty also threatens the nation's sovereignty , freedom and independence. His chest is eager to defend his homeland and defend the deprivation of his nation, for his homeland did not feed him from hunger and did not secure him from fear, so he feels that he is a stranger in his homeland and in the members of his community, and Imam Ali bin Abi Talib (peace be upon him) depicts for us the most wonderful images when he said (richness in alienation is a homeland and poverty in Home is a stranger) (Commander of the Faithful).

Poverty has dangers and bad effects on public health due to malnutrition, poor ventilation and housing ... as well as its impact on mental health due to boredom, frustration, anxiety and laziness, and all of this has an impact on society and the economy (Bu Hamad, 2006).

2nd.Ways to tackle poverty in Islam:

One of the most important means by which Islam has worked to address poverty is the urge to work (Bu Hamad, 2006) , and there are many instructions about work in the Holy Qur’an as in the pure Sunnah, and it shows the prestigious position that work has enjoyed and the high status it occupied. It is sufficient to remember in this context, Work derives its value from being an effective element of production and an important pillar in building a civilized edifice and building construction. It was and still is a social necessity imposed by the living needs of individuals, and that work has a social value and the great services that the worker performs in order to eliminate poverty, misery and deprivation and alleviate Human suffering, Islam condemns unemployment, condemns the question, and calls on the ruler to find job opportunities.

also emphasized the need for the worker to get his wages before his sweat dries up, and that this wage should be appropriate to the effort that the worker makes without underhand or excessiveness, because if he is given less than he deserves, he has been unjust.

3th. The concept of poverty within the framework of modern schools of thought:

This part of the study deals with the most important schools of thought in their divergent views on the concept of poverty and its implications for the possible trends and public policies proposed to address the problem of poverty and unemployment, especially from the perspective that it constitutes an imbalance and weakness in the social, political and economic system prevailing in a particular country, and the effects of this also on the nature of indicators And the criteria adopted to determine the problem of poverty. It is necessary to refer here to the review of these schools and to identify their most important contents. It is not limited to the field that falls within their title only, but also extends to the areas that are included in the titles of other schools, and this aims to link to the farthest possible extent of the contents and pillars of those Schools, so schools appeared aimed at reaching pillars to address poverty, including: -

1. **Benefit School:**

The utility school sees through the most prominent theorists of capitalist thought (Adam Smith , David Human, John Stuart Mill)

The utilitarian school provides a definition of poverty as that condition that can be said to exist in a particular society when one or more people in that society are unable to reach the minimum acceptable standard of living according to the standards or standards of that society.

According to the above foundations, the utility school is based primarily on income and consumption expenditures, followed by indicators or measures of living standards, that is, it depends on income as a path or method for analyzing and determining the state of poverty (Muhammad, 2009).

2. **Basic Needs School**

The definition of poverty according to that school clarifies that it is a state of the continuous inability of a particular family to meet their basic needs for living and survival, and these needs include food and nutrition, water suitable for human consumption and sanitation, health and clothing, income, shelter, peace and security, and education The foundation, job education, health and social care for the family, and participation in the political process (Muhammad, 2009).

3. **School of available capabilities:**

This school of thought is about the concept of poverty that was addressed by (Marty Sen), an Indian economist who was awarded the Nobel Prize in Economics in 1998.

This school introduces the term available potential or potential energy, which refers to the extent of freedoms available to the individual to express himself, and the term achieved results or employment, which describes the type or form of results expected or that can be reached through the capabilities available to the individual and the theory in short deals with:-

The decent standard of living for a particular individual can be viewed through the quality of life lived by that individual, which in turn consists of the achieved results that are interconnected with each other and represented in the material formations of the individual and the work or activities that he performs.

That the school of available capabilities was developed due to the failure of the school of basic needs at the individual level to reach acceptable levels at a certain minimum. The results achieved or areas of employment resulting from the availability of those basic capabilities can vary to include that the person enjoys an adequate level of nutrition or has an adequate level of nutrition. Good clothes, living in a suitable home, able to face diseases, etc., leading to more intertwined social outcomes and fields such as participation in community life and being able to appear publicly without any sense of shame or shyness, and so on (Muhammad, 2009).

[4fo]. Analysis of poverty rates in Iraq for the period 2010-2020

The study and analysis of the phenomenon of poverty in Iraq is one of the topics worthy of attention, given the conditions that Iraq went through in terms of wars and economic blockades, which resulted in significant rates of poverty, despite Iraq's possession of wealth that makes poverty rates almost negligible. This indicates poverty In Iraq, it is usually marked by lines called poverty lines, which are among the most important indicators of living standards It expresses the minimum required level of basic needs . These lines are divided into the extreme (food) poverty line, which expresses the basic food needs , and another line expresses the basic food and non-food needs and is known as the absolute poverty line. (Non-food or higher poverty line), poverty can also be expressed by the percentage of poverty.

Table (1), according to the surveys of the Iraqi Ministry of Planning and the first poverty alleviation strategy in Iraq 2010-2014, indicates a decrease in Rate poverty at general 2013 compare year 20 12 From (18.9%) to (17.0%) , no It's back up in End 2014-2017 _ to (22.5%) after crisis the war against Terror and lower prices Oil, and then decreased in 2018 and 9/1/20 to (20.5% and 20 %), respectively, to rise again in 2020 to (31.7%) as a result of the rise in the Iraqi dinar exchange rate to 1450 , which led To the rise in food prices The impact of the Corona virus on food security (Nations, April 21, 2021).

Table (1)

Rates in Iraq for the period 2010-2020

Poverty rates %	**year**
15	2010
23	2011
18.9	2012
17	2013
22.5	2014
22.5	2015
30	2016
22.5	2017
20.5	2018
20	2019
31.7	2020

The table was prepared by researchers based on:-

- The first poverty alleviation strategy in Iraq 2010-2014 .
- Ministry of Planning, Central Bureau of Statistics

5 [fi]. Unemployment, its nature and nature, with reference to unemployment in Iraq

The Islamic religion urges work and walk in the land, and promises it worship and jihad in the way of God Almighty, when pure intention, honesty and perfection are taken into account. Hence, Islam hates unemployment and considers it an economic, social and humanitarian problem with an economic danger to the individual as the individual loses income and health as he loses movement. And psychologically, where he lives in a vacuum, and socially, where he resents others, and the most dangerous cases are when the breadwinner loses his sense of responsibility, and the family loses the feeling of reassurance about the ability of the breadwinner and trust in him, as everyone faces a state of tension, anxiety and fear of the unknown tomorrow. As for the danger of unemployment on society, it is the disruption of the energies of individuals who are able to produce, which negatively affects the economy of society.

1. **The definition of unemployment:**

Unemployment is also defined as the phenomenon or situation in which individuals are unable to engage in activities during a certain period of time, due to the presence of factors beyond their control, even though these individuals are of working age, willing, able and searching for it. In this case, it is called complete unemployment (Al-Helou, 2008).
It can also be defined as an amount of work time and work energy, or both, that have not been optimally utilized in the production process of goods and services (Zaki, 1997).

also defined as the lack of legitimate job opportunities for those who have the ability and desire to work, and it can be full or partial.

2. **Complete unemployment**

Is the loss of earnings due to a personal inability to obtain a suitable job, despite being able to work and ready for it and actually looking for work.

3. **As for partial unemployment:**

It is a temporary reduction or decrease in the actual, normal and legal working hours, as well as the suspension or decrease of earnings due to a temporary suspension of work without the termination of the work relationship in particular for similar economic, technological or structural reasons.

Unemployment also means leaving some of the possibilities available to society unexploited, and this is a waste of resources.

defined as the difference between the amount of work offered at prevailing wage levels and the volume of work employed at those levels, during a specified period of time (El-Tamawy, 1984).

That is, the size of unemployment reflects the size of the gap between supply and demand in the labor market. Despite the difference in the definition of the concept of unemployment, there is a difficulty among economists in defining unemployment. However, the most common definition is "the worker's desire to work at a certain level of wages." Unemployment is calculated as follows (Arab, 1991):-

$$Unemployment\ rate\ = \frac{The\ number\ of\ unemployed\ workers}{The\ country's\ workforce}$$

4. Forms of unemployment:

Unemployment does not have one form or one type, but it has many forms and types that vary in terms of their causes and therefore require different measures to confront them.

A. Frictional unemployment:-

It arises because individuals leave their jobs voluntarily in order to search for better work, as well as new generations to the labor market such as graduates. The standard of work for the better varies from one individual to another. The best work may be the highest in terms of pay, or it is the opposite that provides a longer rest time, or The work that is most attractive to the individual due to its compatibility with his inclinations and preparations. Undoubtedly, the amount of frictional unemployment and its duration depend on how quickly the unemployed worker obtains the new job he seeks.

This, in turn, depends on the degree of availability of correct and accurate information about the labor market (supply and demand in different jobs - terms of employment and the quality of skills related to each of them).

Unemployment has its cost for the worker, of course. This cost is represented in :

- The cost of searching for the best job (the cost of moving from one place to another - the cost of inquiring about different jobs).

- Lost wages due to the worker leaving his work. The wage is his main source of income, and the worker's sacrifice of his current job in order to find a better job means depriving that worker of the income he was getting.

5. **Structural unemployment**

This unemployment exists as a result of structural changes in the economy. These changes may be due to the discovery of a new resource such as petroleum, for example, and the depletion of an old resource such as coal, which leads to the laying off of miners because the skills they have do not match the requirements of work in the field of petroleum production. Work as a result of changes affecting the national economy, such as the state of technological development of some industries or their productive branches (Murad, 2008).

The structural change may be due to the emergence of new goods in the market that replace existing goods and achieve better satisfaction of needs, which encourages demand for them and the expansion of their production at the expense of old goods.

Of course, new goods need certain specifications in the workers who produce them, and these specifications may not be available in workers who were working in the production of old goods, and then these workers become unemployed.

Structural change may also occur as a reflection of the steady technological development and the development of more efficient methods of production that use the capital element, which leads to the substitution of machinery and equipment for some workers in the projects that apply these methods. This is that structural unemployment is mainly found in developed countries because by their nature they are witnessing continuous changes in their economic structure, and these changes are necessary to ensure the progress of the economy, otherwise its burden falls on a category of workers who are being laid off because of it.

treatment of this type of unemployment is not an easy matter because it requires a relatively long period during which it is necessary to provide workers who are unemployed with the expertise and skills that must be available in order to work in the new fields created by structural changes.

There is no doubt that this requires a large expenditure on training programs for workers, and you also need someone who can teach in these programs. This is what makes the treatment of structural unemployment in newly developed economies difficult, because they lack local competencies capable of training the workforce, forcing them to seek help from foreign expertise, and this makes the training cost prohibitive.

6. Disguised unemployment :

Unemployment here refers to individuals who actually work, but do not add anything to the national production. They are only in a state of employment, while their work does not result in the creation of goods or search services. If we withdraw those who are in disguised unemployment from the economy, the national production would not be affected. The meaning here is It is that situation in which a large number of workers are accumulating in a way that exceeds the actual need for work (Saqr, 2006).

developing economies, especially those in which agricultural activity predominates, where the surplus labor force that does not find productive areas for work is accumulated in areas that are not productive by nature or forced to engage in any work even if it does not lead to any production.

Developing countries are generally characterized by a large abundance of workers, while the job opportunities available in them are limited due to the narrow areas of production in general, and here there is a large surplus of work trying to obtain any income, no matter how low, and this pushes him to engage in any business, even if it is unproductive.

This is helped by the low level of education in developing countries and the high percentage of unskilled labor, which encourages the acceptance of any work, as if the causes of disguised unemployment lie in the nature of the developing economy and the characteristics of its structure. It is known that the industrial sector in developing countries still occupies a small importance and its capacity Absorption of labor is low, so there is no alternative in front of surplus labor from moving towards the agricultural sector or the service sector and overcrowding in it, and the result is the presence of numbers of manpower in the activities of these two sectors that exceed the actual needs of those activities, i.e. the failure to put the right man in the right place as well as the poor means of production and the weakness of Production art (Al-Helou, 2008).

7. Compulsory unemployment:

Compulsory unemployment: It is unemployment in which a person has no choice but is imposed on him or is afflicted by it. It may be caused by a change in his profession or profession while he did not learn another profession or service in his childhood from which he earns his living, by his family neglecting his education in childhood or other reasons, or learning A profession and blocking its market to change time and its development, and he may have a profession, but he does not own the tools of his craft , especially if he works in a country and for some reason expelled him from its lands. His work (Rashid, 1971), and the responsibility here is on the state (the employer) to secure work for each unemployed and willing person, or to secure him and his family from hunger and poverty.

8. **Unemployment in economic theory**

- **Unemployment in the classical theory:-**

The classical school does not recognize the existence of compulsory unemployment, and if such unemployment exists, it is either voluntary unemployment due to the refusal of the unemployed to work with the prevailing wage in the market, or the frictional unemployment that occurs as a result of workers moving from one job to another.

Accordingly, the classic believes that there is no need for the government to intervene and take policies to address the problem of unemployment, since the existence of compulsory unemployment is a temporary existence that quickly leads to a reduction in real wages and a return to the automatic equilibrium situation at the level of full employment. which would reduce wage elasticity (Mamouri, 2008).

- **Unemployment in the neoclassical theory :**

Neoclassical thought is an extension of the classical theory, so they believe in economic freedom and the sovereignty of the full use case, based on Say 's law (Say) for markets which states that every supply creates demand for it.

neoclassical asserts that every increase in the supply of labor results in unemployment in the labor market, which leads to a decrease in the real wage, which results in an increase in the required amount of work until it absorbs unemployment and achieves full employment. Neoclassical thought also indicates that the flexibility of wages and prices always guarantees full employment in the labor market and that any imbalance in it is automatically corrected through the change in wages, and forced unemployment, if it exists in the long run, will soon disappear (Al-Helou, 2008).

- **Unemployment in the Keynesian theory :**

Following the collapse of neoclassical thought in light of the Great Depression that America suffered in the thirties of the twentieth century, which led to the

accumulation of production and the high rate of unemployment, a new thought emerged that believes in the existence of unemployment represented by the Keynesian theory adopted by
(John Maynard Keynes) through his proposals to solve the depression crisis The Great, as the market and price system could not solve the dilemma of the Great Depression that the United States of America suffered, which led to the destabilization of confidence in the classical theory and the other economic orbit because it considered the problem of unemployment as a temporary phenomenon and that the market economy is able to treat it automatically, contrary to what was prevalent in the economy The global economy from a rise in unemployment rates and a decrease in production and income rates promised a harbinger of the collapse of the capitalist system. The Keynesian theory was a reform movement for the capitalist economy and saving it from collapse through state intervention in economic life and the use of financial and monetary policy tools to address cases of unemployment and deficiency in aggregate demand (the Internet / Unemployment in Iraq). but there are other factors that increase unemployment, the most important of which are (the Internet / Unemployment in Iraq :) :-

a. Economic stagnation: It is an influential and dangerous factor in the economic process so that the demand for labor declines as a result of this stagnation and therefore it directly affects the economic process of the individual through the lack of demand for labor.
b. Mismanagement: It is one of the main factors in the extent of unemployment and the increase in its numbers, if the mis-dividing of the qualified human cadre to carry out the workers at studied and programmed periods of time suits the conditions the country is going through. There are short, medium and long-term plans that require unskilled and medium skilled hands and advanced owners Like an engineer, a doctor, a teacher , etc.
c. Failure to provide appointments for temporary contract holders in many factories and companies due to the lack or stoppage of production in them, such as spinning and weaving factories, the company, the General Tailoring Company, the Vegetable Oil Company and many other companies.
d. The economic transformations that Iraq witnessed as a result of the political change that occurred after 2003, which produced a building crisis for the Iraqi economy due to the weakness of the production system and the lack of interest in the city's strategic industries that depended on institutions that could not be

expanded because they required huge investments that could not be provided due to the problem of debt, which led to Most of them dissolved and this aggravated the unemployment phenomenon.

6 Si. Analysis of unemployment rates in Iraq:

When tracking unemployment rates in Iraq and through Table (2), we note the following:

1. The increase in total unemployment rates from the natural levels of (4%) during the period 2010-2020.
2. Unemployment was affected by the economic situation and the shocks to which the Iraqi economy was subjected, through the high unemployment rates during the period 2010-2020.

Table (2)

Unemployment rates in Iraq for the years (2010-2020)

Unemployment rates %											the years
2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	
13.8	13.8	13.8	13.8	17.5	15.3	15.3	11.9	11.9	11.1	15.2	

Source: from Preparing researchers, based on the data of the Ministry of Planning, the Central Bureau of Statistics. Statistical releases for different years.

It is worth noting that some economists point out that if the unemployment rate exceeds 12%, it is an indication of the inefficiency of the labor market, as a large number of people who are able to work at the prevailing wage level are unable to obtain it (Saqr, 2006) .

Hence, Islam obligates every individual to engage in a beneficial work, small or large, and censure unemployment. Therefore, work is the first and main means to meet the needs of individuals (Arab, 1991) . The stage of redistribution of income represents the ideal Islamic method for treating unemployment and is done through collecting money from the wealthy class in application of the obligation of zakat And redistributing it to the poor class to raise the standard of living of this class to the level of sufficiency, and the state is responsible for ensuring this, in addition to the voluntary role of the rich class in achieving social solidarity through voluntary expenditures. Muslims The Islamic approach has been distinguished in dealing with the problem of unemployment through

Islam did not look at the problem of unemployment on the basis that it is an independent problem separate from other life problems facing society, but rather looks at it through its connection with the other problems of society, and then its treatment of it was part of its comprehensive treatment of these problems. enough to achieve the sufficiency level.

Conclusions

Conclusions

1. prepare poverty From cases Economic Which miss in which the person to me income enough to get On supplies Home for life like education, and health, and housing, and food, and others From needs the necessary to secure level Decent for life, and depend on Archaeology resulting About poverty whenever Has risen size this a is a phenomenon, like deviation, begging, and crime, and others.
2. Islam has established war on poverty and unemployment, and the siege has tightened it, and every observatory has set it up to ward off danger to faith, morals, and behavior, to preserve the family, to preserve society, and to work on its stability, cohesion, and the rule of brotherhood among its children. The Islamic religion urged work and promised it worship and jihad for the sake of God Almighty whenever pure intention, honesty and perfection were taken into account. Hence, Islam hated unemployment and considered it an economic, social and human problem that poses a threat to the individual economically as the individual loses income and health as he loses movement, and psychologically as He lives in a vacuum, and socially resents others, and the danger of unemployment on society is due to the disruption of the energies of individuals who are able to produce, which negatively affects the economy of society, and threatens its morals, because the soil of the void only sprouts evil and crimes.
3. that to put Strategies mitigation poverty Aim to to me Processing increase this is phenomenon after contracts From wars and penalties Economic Which imposed On Iraq at nineties From horn Twenty, please About dissipation Resources Economic and stop wheel development. longer to put The strategy phrase about document obligate The state to achieve development and mitigate From poverty Which phrase About program for ministries Related To determine Framework her job With specialists to continue repairs economic and financial and administrative From Okay Investigation Goals development.

4. We note from Tables (1) and (2) that unemployment and poverty rates in Iraq are closely related so that they had the same path most of the study periods.

Recommendations

1. Following a strategy that can decide to invest in the unemployed by expanding the range of opportunities available, improving capabilities and creating job opportunities through.

   A. **Voluntary spending:**

   The individual Muslim spends voluntarily on various charitable causes to meet the needs of his brothers .

   B. Compulsory spending :

   It is the zakat money that the Muslim pays, which is imposed by the state and heavenly legislation on the rich to spend in the interest of the poor. And as in the Almighty's saying (Take from their wealth a charity that purifies them and purifies them with it) Surat Al-Taw bah, verse 103 and the word "take" here is a form of an order, meaning an obligation to pay it.

2. Activating the role of Islamic banks in providing job opportunities for the unemployed through their resources intended for investment and production.

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The Influence of Electronic Piracy On Electronic Management and Society

Prepared by

Aseil nadhum kadhum

Easeel18@yahoo.com

Aseel nadhum kadhum

Easeel18@yahoo.com

Abstract:

This article discusses a comprehensive study aimed at revealing the reality of achieving cybersecurity and its impact on electronic piracy in all institutions and society in general, as well as offering recommendations for reducing these crimes and identifying the most important variables that contribute to them. Electronic hacking conduct is to get hacked. Electronic hacking has a wide variety of undesirable and negative implications for society, according to the findings of this study, and computers and networks are among the technologies accessible to hackers.

As a result of scientific and technological advancement in communications, information technology, and the Internet, new patterns of advanced electronic hacking and extortion in commissions and media disclosure have evolved (social networking sites). Raising awareness and resisting steps that expose criminals to legal prosecution and consequences commensurate with the magnitude of the crime committed are both required. Random sampling was employed, which was compatible with the study's data and goals, which totaled 130. The study also included a questionnaire and an interview, and the results showed that the sample items agreed on the impact of cybersecurity as a method to an average degree. The researchers selected the descriptive analytical approach as the study's methodology and instruments since it is the most suited way for performing the investigation and achieving its goals.

The findings of this study are the numerous precautionary steps that may be implemented to avoid cyber hacking so that people can enjoy utilizing technology rather than being limited in their use. Work to implement extensive scientific and practical awareness ways to preserve security for public and private institutions and the community, as well as to unify the community's social and cultural activities where the suggestions were made. Finally, we urge a more thorough investigation of cybersecurity and its societal implications.

Key word: cyber, cyber security, various, electronic, technological

Introduction:

Cyber security now encompasses not just the protection of information, which is a company's and society's most important asset, but also all aspects of technical infrastructure. Finance, commercial, emergency services, public services, and government defense are the engine where society works to reduce and control the possibility of a cyber-attack, and risks must be managed because of a technically interconnected community, where attackers look for vulnerabilities, they engage in malicious actions for reasons such as challenges, profit, or curiosity, and this attraction stems from the ease with which these activities and impairing are carried out, and risks must be managed because of a technically interconnected community, where attackers look for vulnerabilities, they engage in malicious [3] From here, electronic piracy is defined as a violation of intellectual, literary or creative property rights by a person who downloads and copies programs without the permission of its creator, as well as illegal copies of books, music, and computer programs.

The rapid modernization of technology in many societies, where countries tend to agree to work, has led to the growth of electronic thefts in recent years, as well as the global spread of the Corona virus, which has contributed to the rapid modernization of technology in many countries. cultures. Strengthening the distance education system, until the emergence of the Corona virus, in an attempt to adapt to the new reality imposed by the Corona virus on the world. The Internet has evolved into a seemingly natural way to facilitate and control human life. Due to the growing confidence in the Internet, some hackers have been able to take advantage of some of the human communities vulnerable to hacking through electronic hacking operations for current or future personal gain, humanity did not stop the Corona virus issue until the emergence of computer viruses killing those who were not infected with it. As a result, humanity is at risk of contracting two viruses: The Corona virus and computer viruses, the so-called C&C virus, or computer viruses that exploit the Corona virus. [4]

Thousands of computers throughout the world are being targeted, signaling a huge shift in information security that academics understand in concept and that this technology is putting into practice. Many countries and places have experienced terrorism and worry as a result of hacking, including information security corporations in the United States, and Europe and China are two of the world's most powerful economies. While the sacrifices demanded by hackers are insignificant in comparison to the extent of the danger and its moral implications, it does pave the way for a new future for the technical threat's opposite side. The rogue face has the capacity to damage more services than it does individual interests, national economies, or the ability to produce an atomic weapon. [6]

Here, the so-called cyber security, also called information security and computer security, must be activated, a branch of technology concerned with protecting systems, property, networks and programs from digital attacks that usually aim to gain access to, change or damage sensitive information, extort users to obtain money or disrupt business operations [7]

Governments and commercial organizations all over the world make extensive use of information and communication technology, making security a top priority. To achieve this, they implement technical security measures and develop security policies that define proper behavior among employees, consumers, and citizens. The fundamental goal of cyber security awareness campaigns is to persuade people to adopt safe practices. Effective Internet influence, on the other hand, needs more than merely alerting people about what they should and should not do. They must first accept the confidentiality of the pertinent data, then comprehend how it should respond, and last, be ready to do so. Face a slew of additional obligations. [5]

According to Edward Amoruso, author of Cyber Security published in 2017, “the set of technologies that will reduce the risk of attacking software, computers, or networks.” Tools to combat hacking, detect and stop digital viruses, and provide encrypted communications are among these methods.

An experiment was used in this study to investigate the factors that may discourage or prevent digital piracy in a developing country in the Middle East. They can better understand the factors deterring digital piracy by separating respondents into groups and using different treatments for each study group.

- **Research questions:**

1) What strategies are employed to strengthen and combat cyber security?

   Is the Internet a Threat to Electronic Management?

2) How important are cybersecurity and cyber flexibility in e-management for mitigating cyber risks?

- **Objective**:

1. Assess the level of strategies used to enhance and combat cybersecurity

2. Recognize the extent of the impact of the Internet and its threat to electronic management

3. How important is the importance of cybersecurity and cyber resilience in electronic management and its impact on society to mitigate cyber risks?

• **The importance of cyber security:**

The importance of the study can be divided into two aspects:

Theoretical aspect:

The importance of the study is that it studies a topic that was and will remain one of the renewable and important topics for countries, their governments and society, which is the transformation of traditional governments in countries into electronic governments that provide government services electronically. And since the administrations have started this transformation, it is necessary to follow up on this project to ensure its success. This study aims to enhance the aspirations of researchers to advance society to horizons of sustainable knowledge, by employing modern technologies in the provision of administrative services. Therefore, it is hoped that this study will be an addition to intellectual production on the subject of digital transformation and e-government, and the possibility of its application in all environments of society.

The practical side:

The following groups can benefit from the results of this study as follows:

• Institutions and companies: through the possibility of acquainting them with the reality of digital transformation, and assisting decision-makers and officials in developing appropriate strategies and future plans in cybersecurity.

• Citizens and users of e-government services

• Researchers and people with an interest in the subject: Contribute to the creation of a search gateway for scholars and those interested in the subject.

The limits of the study:

The objective limits of the study: This study was limited to identifying the requirements for achieving cybersecurity for society.

Human limits of the study: The study was applied to a random sample of 130 .

The spatial boundaries of the study: This study was applied in the province of Babylon, Iraq

- **Theoretical background**

1) Terms related to cybersecurity

Cyber security is a method that entails installing numerous layers of protection on the computer, network, program, or data that the user want to safeguard. There are a variety of terminology used in the field of cybersecurity, including:

- Cyberspace is an interactive digital realm made up of the weak and intangible aspects of a group of digital equipment, network systems and software, and users, who can be either operators or users. It is referred to as the contemporary army's fourth arm.
- Cyber deterrence is the prevention of dangerous acts against digital space and national assets, as well as assets that enable space operations.
- Any activity that compromises the capabilities and functionalities of a computer network for personal or political gain allows the attacker to manipulate the system without putting the system at danger.
- Cybercrime is a term used to describe a series of illicit acts conducted using electronic devices or devices connected to the Internet that necessitate the use of particular computer technologies and information systems to commit, investigate, and punish.

2) The following are the factors that make the Internet a rich ground for hackers:

- Increase teleworking: Increase the implementation of networks that allow employees to access company databases remotely, with a large increase in employee demand for access, Furthermore, these personnel have a poor cyber security culture, and the majority of them use personal computers that may include non-native or obsolete software. It makes it much easier for many hackers because of the attainable goals and numerous weaknesses that can be exploited.
- Human governance uncertainty, vulnerability to cyber security measures, segregation of the company's IT personnel, and issues managing the e-commerce environment are all challenges in securing the online business environment. Workers whose work area is unknown are included in this category. Anti-theft is becoming increasingly difficult, providing the ideal setting for hackers to fulfill their objectives.

- As more people strive to adopt the concept of social distance, their reliance on virtual discussions via social networking apps and video calls grows, Intelligence hackers targeted them with the goal of extorting personal information by stealing or encrypting it. They can also take control of their own devices, which will be utilized by botnets to launch cyberattacks against companies, organizations, and governments.
- More time spent on the internet entails more risks: Internet usage has increased, as has social presence. Vodafone, for example, reported that in some countries, the percentage of downloads had surpassed 50%. Some countries, such as Italy, have high levels of internet usage, climbed by 30%, while the United States of America's consumption increased by 18% until March 22 - that is, before it took first place in terms of the number of infections - thus the increase in the period of presence on the Internet also means an increase in the rate of exposure to cyber-attacks.
- Taking Advantage of Human Fear and Anxiety: Not only that, but hackers have taken advantage of human fear and anxiety to undertake cyber hacking operations, since many people are browsing the internet for information about the Coronavirus. More information can be found here. This virus and the symptoms it causes. Hackers have constructed deceptive websites that operate as a trap for visitors once they enter, including health tips to prevent infection and statistics on the number of new cases of the disease. Visitors' personal information is stolen and sold online on one of these sites, or their personal devices are hacked.

3) Definition of malware

They are specialized programs that, in addition to destroying data and information on a computer, phone, or network, attempt to disrupt the system and its operation. User data and files are deleted and encrypted so that they cannot be accessed or received without paying.

4) Methods for detecting exposure to a malicious program

This is mostly unusual damaging conduct that reveals its presence, and we may observe the following:

- If the gadget is slow while the computer or phone is being used normally, this can be noticed.
- The appearance of advertisements on the screen in places where they do not normally appear is one of the most accurate indicators of the presence of malicious software, and it usually takes the form of a lucrative advertisement such as "Congratulations, you won a million dollars," which you should not click on because it will cost you a lot of money.
- After meeting major issues as a result of malware, sudden system shutdown, blue screen, and freeze might occur, particularly on Windows systems.

The mysterious loss of disk storage space indicates that the computer is infected with a high number of harmful files.

- There has been an unusual surge in the device's internet consumption.
- Background malware activity is indicated by increased consumption of system resources and a very fast fan start.
- Changing the browser's home page without authorization and clicking on links might result in errors and undesirable destinations, as well as slowing down the browser.
- Unexpectedly, new components, tools, or extensions appear in the browser, which is bad for the browser. Antivirus software fails to work, and it is impossible to update it.
- There is a real program that informs you that it has obtained your data and that you must pay a ransom to get it back.

Even if the computer appears to be in good working order and there are no unusual behaviors, there is insufficient evidence of computer health, since malware can be disguised in ingenious ways.

5) What causes a gadget to become infected with malware?

The Internet and email are two of the most prevalent ways to get malware. By visiting one of the sites it has previously recorded, downloading vulnerable files, opening unsafe emails, or clicking on dubious adverts and profit messages, this malware may gain access to you.

6) Stay away from malware.

The most critical precautions to take to avoid becoming infected with malware are as follows: • Only download programs from the company's official website.

- Do not click on any advertisements or offers that show on your screen.

  Never open e-mail messages from somebody you don't know.

- Complete disdain for any website that provides services in the form of untrustworthy software or adverts.

7) What type of malware is the most common?

1. Adware is a program that is solely dedicated to displaying advertisements.
2. Spyware: computer monitoring and spying software.

3. Virus: A dangerous program that, when downloaded, links to another program and then repeats itself, infecting more programs.
4. Worms are harmful programs that repeat themselves repeatedly and are ready to spread to other devices, multiply, and destroy files.
5. Trojan: This is one of the most dangerous hazardous programs since it enters the computer without permission, collects financial and personal data, allows alteration, and allows ransomware to be loaded.
6. Ransomware encrypts files and appears in front of you, telling you that you must pay money to get the files back within a certain amount of time.
7. Rootkit: On an infected computer, software that grants the attacker administrator privileges.
8. A keylogger is a malicious program that records every keystroke you make on your keyboard, allowing the attacker to steal passwords and usernames.

- **Previous piracy research**

1. Study by Jessica Dawson and Robert Thomson* The Future Cybersecurity Workforce: Going Beyond Technical Skills for Successful Cyber Performance
This study aimed to identify the importance of cyber education and workforce development, and that there is a dearth of quantitative evaluation. The method used was a review of the literature related to cyber news. The research focuses on technical skills while recalling the social influences that dictate success or failure in everyday environments. It has identified future hypotheses, developed the workforce in the field of cybersecurity, and made recommendations for social and cognitive measures that may indicate better performance in the future.
2. Study by Bruce D. Caulkins; Karla Badillo-Urquiola et al.: Cyber workforce development using a behavioral cybersecurity paradigm

This paper contributes to the ongoing efforts in the cybersecurity community to enhance the development of the cyber workforce by providing an overview of key gaps and suggesting practical learning strategies. The paper outlines a pilot educational program launched at the University of Central Florida (UCF) The present paper provides a starting point for further discussion of the human side of cybersecurity, and concludes with considerations of "lessons learned" from early responses to UCF from the program's inaugural student cohort.

3. Study by Melissa Dark et al.: Realism in Teaching Cybersecurity Research: The Agile Research Process

This study demonstrates an urgent need to educate future researchers about the research process itself, which is increasingly unpredictable, multidisciplinary, multi-organizational, and team-oriented. In addition, there is a growing demand for cybersecurity research that can produce fast, reliable and actionable results. The rapid research process is a new approach to providing such rapid and reliable applied research. Designed to be fast, transparent and iterative, each iteration produces results that can be applied quickly. Purdue University uses Agile Research.

4. Hussain Aldawood* and Geoffrey Skinner Reviewing Cyber Security Social Engineering Training and Awareness Programs—Pitfalls and Ongoing Issues

This study highlights the persistent pitfalls and issues that organizations face in the process of developing human knowledge to protect against social engineering attacks. A detailed review of the literature is presented to support these arguments with analysis of contemporary methods. The results show that despite modern cyber security preparations and trained personnel, hackers are still successful in their malicious work of stealing sensitive information that is essential to organizations. Factors affecting users' efficiency in detecting and mitigating threats have been identified as business environmental, social, political, constitutional, regulatory, economic, and personal.

5. A study by Nawal bint Ali Al Balushi and others entitled: The reality of digital transformation in Omani institutions

This study aimed to explore the reality of digital transformation in the Sultanate of Oman, by identifying the roles played by the various institutions in the Sultanate in the field of digital transformation and e-government. The study relied on the qualitative descriptive approach, and the semi-structured interview as a main tool for data collection. Among the most prominent findings of the study are: Institutions have made clear efforts and roles for digital transformation, such as awareness, education, training, integration, readiness, and others. The study recommended the need to introduce and promote the available electronic services, by exploiting technology such as various media and social networks, in order to be recognized by the beneficiaries and then expand the scope of their use.

Commenting on previous studies:

Through what has been presented from previous studies, it is clear that the studies that dealt with the field of cybersecurity and its impact on society are very limited to the researcher's knowledge - but what has been accomplished in scientific research or theoretical literature has emphasized the importance of studying cybersecurity from its various dimensions and the study is proceeding The current trend is in the same direction, with the aim of promoting the idea, culture and awareness of cyber security and reaching the requirements and proposals necessary to achieve cyber security from its various dimensions, especially in Iraq - Babil.

And the current study agrees with all previous studies in the study of cybersecurity in general, as it agrees with some of them in the type of study and the approach followed, which is the descriptive analytical approach, and it agrees with it in the data collection tool, which is the questionnaire.

While the current study differed with Melissa Dark's study, it used the rapid approach of Agile Research, which relied on the use of technical programs. And the Badillo-Urquiola study, which adopted the method of the curriculum as an experimental educational program

The current study was characterized by providing a set of cybersecurity requirements through the application of the research tool (the questionnaire) to random samples from the community and reaching a set of recommendations and results.

In this study, an experiment is conducted to assess the elements that can discourage a young person from engaging in digital hacking.

This study will seek to improve security services in the country in general, and education in particular, in order to combat threats, threats and cybercrime. The results will expose people to diverse cybersecurity activities and risks while creating a public platform model for cyber resilience awareness and promotion.

Methods:

A descriptive survey design was adopted by the researchers. This architecture produces a flat model that allows researchers to provide a thorough account of the variables' cause, effect, and scope. Iraq was chosen as the study's subject. All IT professionals, IT engineers, and security officials who have been exposed to IT are included in this study's community. The researchers utilized stratified random sampling as a method of data collection.

The study's 130 participants were chosen using this way. The "Cyber Security and Resilience Questionnaire" was the primary tool employed in this investigation (CSRQ). The questionnaire was divided into sections "A" and "B," with section

"A" containing information regarding the respondents' personal data and section "B" containing two variables such as strengthening cybersecurity and Internet resistance. The technologies employed in the study were utilized to have computer professionals authenticate the face and content. The researchers employed the Cronbach's Alpha reliability method to test the tool's reliability level by APSS software with 20 subjects who were not included in the main study. A reliability coefficient was calculated as a result of this test (0.81), This indicates the reliability of the research instrument. Respondents presented their audience to the researcher via a cover letter.

Percentages and the chi-square test were used to analyses the data. At the 0.05 alpha level, a significant test was performed on the hypothesis.

- **Results and discussions**

Research Question 1

Research topics are screened to reveal solutions to improve cyber security and resilience in e-government in the face of cyber threats and its impact on society. Percentage analysis was used to answer the question. (see Table 1)

Table 1: Percentage analysis of measures employed in e-government to improve cyber security and cyber risk resilience

PERCENTAGE ANALYSIS	FREQ	%	Remark
Reconstruction of public and private organizations considers and develops a holistic approach to information security, as well as the security measures required to safeguard IT infrastructure.	6	8	5^{th}
To supply this infrastructure, security experts must be trained and developed.	14	18	4^{th}
Act now before the situation worsens and the costs of inactivity mount.	22	23.5	3^{th}
To create a vibrant digital community, create a good network of national computer emergency response teams with strong internet security.	27	21	2^{th}
Cyber simulations should be regulated, and a clear guideline for	31	29.5	1^{th}

the central information infrastructure should be established.			
Total	100	100%	

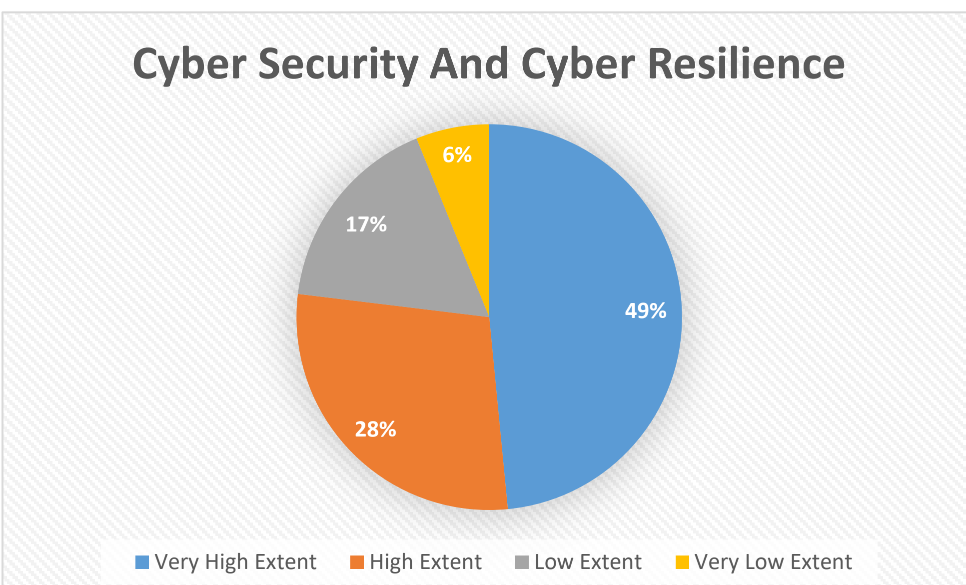
Source: Field Survey

Table 1 shows that "organize simulations of cyber incidents, and build a well-defined policy on critical information infrastructure (CIIP) protection" are the most commonly employed tactics in increasing cyber security and cyber resilience over electronic management (29.5 percent), "Review public and private enterprises, establish their overall approach to information security, and put in place the appropriate security measures to protect vital IT infrastructure," according to the least used plan.

Research Question 2

The purpose of the study was to find out how much cybersecurity and cyber resiliency can help mitigate the challenges that the Internet presents to electronic governance and its impact on society. The solution to the research question can be found in Table 2.

Table 2: Percentage examines how cybersecurity and cyber resilience may assist electronic management reduce cyber risks.



Cyber Security And Cyber Resilience	Freq	Percentage
Very High Extent	63	49
High Extent	37	28
Low Extent	22	17
Very Low Extent	8	6
Total	130	%100

- **Source: Field Survey**

According to the results of Table 2, 58.5 percent of respondents said that cyber security and cyber resilience have aided in the extremely high reduction of cyber risks in cyber management. It was deemed excessive by 31.5 percent of those polled. The third group of people confirmed the 6.5 percent number. While the smallest percentage of respondents (3.5%) reported that cyber flexibility and cyber security had only a minor impact on reducing cyber risks in government.

Hypothesis 1

This null hypothesis indicates that people's perceptions of the influence of cyber security and cyber resilience on decreasing cyber risks in cyber management are not significantly different. (Refer to Table 3)

Table 3: Chi-Square analysis of the extent to which cybersecurity and cyber resiliency greatly help cyber risks in electronic management.

Cyber Security And Cyber Resilience	Freq	Expected Freq	X 2
Very High Extent	63	32.5	51.07
High Extent	37	32.5	
Low Extent	22	32.5	
Very Low Extent	8	32.5	
Total	130	%100	

***Significant at 0.05 level; df = 3; Critical = 7.82**

The value of X2 determined as shown in Table 3 is (51.07). This result was compared to the crucial X2 value (7.82) at 0.05 levels with 3 degrees of freedom to see if it was significant. X2 (51.07) had a calculated value that was higher than the critical value (7.83). As a result, the outcome was important. Thus People's perceptions of the influence of cybersecurity and cyber resilience in minimizing cyber risks differed greatly, according to the survey. Due to the significance of the outcome, the null hypothesis was rejected and the alternative hypothesis was accepted.

• Conclusions

The current study dealt with an analysis of the reality of digital transformation in the world due to the Corona pandemic and the extent of the impact of this transformation in terms of cybersecurity and electronic piracy and its impact on all institutions and society, by clarifying the roles that institutions play in this aspect such as community awareness, education and training, and linking in data and its integration between institutions, And re-engineering its procedures, and measuring the level of its readiness for transformation and other roles, then the study touched on evaluating the level of improving cyber security in institutions - the study sample - and the government cloud and others, in addition to digital society development projects represented in training and awareness programs, and other cybersecurity projects.

Based on the findings of the current study, it recommends the following:

- The importance of introducing and advertising accessible electronic services via the use of technology such as various media and social networks in order to get recognition among beneficiaries and subsequently extend their use.
- In order to achieve sustainability, profit from collected experiences, and avoid work delays or interruptions, build permanent transformation teams in institutions and limit the continual change process in them, which negatively affects the quality and continuity of work. Recommendations
- Companies must raise awareness of cyber security and promote awareness of security risks in online communities.
- Companies must make long-term investments in enabling technology and resources to improve cybersecurity.
- Securing the material needs of the devices and equipment used, providing the technical requirements, adhering to the methods and procedures of modern technology, and educating workers in the field of web technology to use the system, are all important considerations. Training courses for employees and measures to avoid electronic piracy have become. More

popular in a variety of professions. Work in the field of data management and help in promoting electronic culture.

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