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**The Image of a Female Character in the African Novel: A Feminist Reading  
of Zaynab Alkali's "The Stillborn".**

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## **Abstract:**

Over the last decades, African literary criticism has witnessed the contributions of female novelists the invigoration of the African literature; especially those female writers whose works that questioned patriarchy, women's role, household issues, and gender based discrimination in the African traditional societies. It is notices that most female writers have embraced feminism in spite of the thematic essence of their individual narratives. Thus, this paper's objective is to examine the images of female characters in Zaynab Alkali's "The Stillborn" from feminist perspective. It is a critical exploration of how Alkali's creative visions as a female writer have pinpointed some social realities which relegate womanhood to gender roles. It also explains the aesthetic value of Zaynab Alkali's works with a special attention on her idiosyncratic use of language in portraying female characters in her fictional narrative. The paper concludes that, the persistent gender inequality, patriarchy, and societal look at the female, which Alkali's works portray, have contributed in subordinating women's role in African traditional societies. Hence, Alkali however, advocates and tries to project womanhood in a positive light, by arming her female characters with intensity of visions to stand for their equal rights, speak of themselves, lead independent lives, and end up all sort of patriarchal domination.

**Keywords: Feminism, patriarchy, Stillborn, Womanism, Oppression, subjugation.**

## **Introduction**

The Africa fictional narrative especially novel genre nowadays reflects a variety of female images in those mostly patriarchal communities. Hence, the African novelists like China Achebe, Wole Soyinka, Chimamanda Adichie, Flora Nwapa, Buchi Emecheta, Amos Tutuola, Ben Okri, Altayeb Saleh and many others; make use of the African environment and landscape in depicting and presenting female characters, for the authenticity and originality of their literary productions. In fact, it is clear that African societies are predominantly masculine. However, the feminine role as represented in fictional narrative is quite dominant. In native spiritual local religions and traditional folklores; the chief goddess of Earth is quite present, such as "Mawu" the moon (female) and "Lisa", the sun (masculine) in Ewe community in Ghana. In Africa in general and West Africa in specific; people's daily routines are immensely influenced by the female deities. In most African traditional societies, although women are not paid much care, they are acknowledged as the mothers of mankind worldwide. Mother Africa is mostly described as the main source of fertility purity, divine providence and source of comfort to the clan. Moreover, some communal practices such as discrimination, family restrictions, gender based violence, subordination and social constrains on women are notably prevailing in the African patriarchal societies. On the other hand, the role of women as caretakers, teachers, and source of joy, family supporters, housekeepers and coziness providers is also glorified in their personal life. The role of the female in traditionally conservative societies is mainly running the household. Thus, this research paper intends to depict the image of female character in the African novel in general, and the West African novelist Zaynab Alkali's works; namely her novel "The Stillborn" in particular. It tries to shade light on feminist manifestation as a literary framework from different perspectives and how it has been exploited in the African narrative prose fiction.

## **Portrayal of Women in the African Novel:**

In most African societies; especially in the rural/remote areas, women; being imbibed with their spiritual experiences and knowledge usually stay in their shrines of the earth goddess and

practice traditional rituals which are believed to instill norms, traditions and social values. For instance, Flora Nwapa's (who was called mother of modern African literature) most striking guiding principles of feminism are demonstrated in her novel "The Lake Goddess" (2020). By reading this novel one will encounter Nwapa's feminine viewpoints and visions as she postulated them directly via her female characters. The feminine principal in the novel is the female character, Lake Goddess Ogbuide, who is considered the mother of Ugwuta Community. In her other novel Idu (1970), she tried to portray the main character 'Idu' submissively intimate female who believed in male's dominance. Although her husband Adiewer has interest in second marriage, she insisted on him to get a second wife. Eventually, when he gets sick, Idu takes a good care of him and nurses him tirelessly she even dies after one month after his death. In Buchi Emecheta's novel, "The Second class Citizen" (1974), the main female character Adah who is educated feels superior, and thinks that a free woman is the one who surpasses the traditional norms and live according to her own conventions. She believes that a woman is created for more than just getting married and produces children and raises them up in the custody of her husband. Again Flora Nwapa's main female character Efuru also represents woman's struggle and protest in her novel Efuru (1966). Efuru is a representation of a female character who decides to live without needing a man in her life; by breaking all her social conventions. Despite the anger and criticism of other fellow females in her community, she insists on her decision to remain as such. She tells them that, although she wants to be nurtured and maintains her culture, she intends to make a difference and to make a breakthrough of change in her society concerning female independence.

In Chinua Achebe's "*Thing Fall Apart*" (1958), female character "Cheilo" is the only respected female in Umuofia village, just because she is the priestess of the oracle of the hills and the caves. That is; she is the spokesperson of the deity, and she is the only person who defies and screams at the tough main male character; the warrior Okonkwo when he makes an offense. She is the one who shouts at him as he takes his own daughter and son to the shrine:

*"Beware Okonkwo!" she warned. "Beware of exchanging words with Agbala. Does a man speak when a god speaks? Beware!"* Chapter 11 (p. 95)

In Buchi Emecheta's novel "*The Joys of Motherhood*" (1979), the female character Adaku depicts the female's resistance and struggle to set herself free from the dogmatized social restrains which causes her suffering. She does not want to have a lifelong commitment but prefers transient relations with male to get money and satisfy her desires and physical gratification. On the other hand, Nnu Ego another female character in *The Joys of Motherhood* who is portrayed as naïve girl filled with hope and ambition of the expected joys for being a mother. She has painfully struggles and sacrifices her life for rearing her children and taking care of their welfare. She measures her womanhood only by having children and raising them up. Thus, Buchi Emecheta in all her novels tries to describe and represent the female image as independent being who could stand for her rights and capable of leading a successful life.

Moreover, the main female character Esi in Ama Ata Aidoo's novel *Changes* (1991) represents an independent working female who protests against the social stereotypical viewpoints on woman as a dependent being in her community. In Esi's point of view African woman is not born just to fulfill the role of mother, wife, daughter, whore, prostitute and a grandmother, she also fits to be a professional community leader, politician, and do whatever a man can do.

Thus, over many years; although all the postcolonial feminist literary attempts to represent female character as being independent, but the African traditional outlook at a woman has a long way to change. It is noticed that, despite the awareness of the African elites about the dynamic nature of art, this dynamism has not hastened and fostered the African fictional narrative to cope up the social norms and communal practices. The reason simply lies upon the colonial views about whatever belongs to the ancestral traditional heritage which is sometime seen as an obstacle to modernity and progress. Hence, most of the contemporary African narratives are seen through the colonial lenses.

### **Feminism in Literature: The Concept of Feminism**

As an ideological and literary movement, it is the sociological fact that the inequality, domination and other societal ills imposed on women in our various societies that has graduated into a struggle best known as feminism. This feminism as a movement, is an ideology and socio-economic and political movement earlier dated as far as the 16<sup>th</sup> century from which we have the earlier records of females' struggle (Waziri, 1981:2 in Ismail, 1994:3)

*It is now known from these records that women the world over irrespective of race, religion or times, have always struggle in one way or the other to transform their socio-political and economic position which have always been less favorable in relation to that of men. Men on the other hand have throughout history used every available weapon including the misinterpretation of religion to ensure male dominance and to keep women ignorant of their rights and responsibilities (Ismail, 1994:3)*

In literary discourse it is a term used to denote the agitation for emancipation of women as they are dominated by men socially, culturally economically and politically as well, as expressed in different literary genres.

### **Historical Perspective of Feminism**

It is obvious fact and widely recorded in literary works, especially feminist, that the first feminist manifesto was marry Wollstonecraft's vindication of the right of woman in 1792(Ibrahim 2002, Ismail 1994 etc) This indeed, marked the birth of women's writing which is formally known as feminist literature. Thus, this writing as academic discipline came into existence in 20<sup>th</sup> century. This emancipation started from the west and much later widely accepted in other places around the world including Africa. Abdul (1983 :160) says that:

*Feminism has found warm acceptance in Africa especially among the highly educated women and their sympathizers. It has shaped the vision, perception and preoccupation of writers like Miriam Ba, Ama Aita Aido, Zulu sofola, Nawal el Sa'adawi, Chioma opera, Buchi Emecheta, Flora Nwapa, Hauwa Ali, Mairo Habibu, Maria Hamdana and Zaynab Alkali to mention but a few.*

Thus, Chindaya (2012) also tries to pin point when feminism was started as a movement:

*The concept of this women emancipation started with the contemporary of Jean Paul satire, a French philosopher, psychologist and poet. It was perpetuated after the French revolution and as per the revolution the*

*movement was spread all over the world through the colonialism and after the 1<sup>st</sup> and 2<sup>nd</sup> world wars (Chindaya 2011:209-10)*

### **Western Feminist Theory**

It is obviously fact and widely recorded in western literary works especially feminist, that the first feminist manifesto was Mary Wollstonecraft's vindication of the right of a woman in 1792 (see Ibrahim 2002, Ismail 1994 etc) this indeed marked the birth of women's writing which is formally known as feminist literature. Although, this writing as academic discipline in the west came into existence since 20<sup>th</sup> century.

To Ann and Carole (1986:707): True feminist is negating male's supremacy, protection, living an independent resourceful life. This inequality of sex is what marked the feminist struggle over centuries. This has gradually developed into a largely complex ideology and social movement that has been concerned with the basis of all forms of social domination as well as the underlying causes for inequality treatment by society.

Chodorow Nancy (1989) posits that, the feminist theory emerged from feminist movement in the west with the aim of understanding the true nature of sources of the unequal living conditions based on gender inequality to examining women's social roles and lived experience; has also set forth some interdisciplinary theoretical frameworks to address issues related to social gender constructions. Thus, Churis (2007) in his *Key Issues in Post-Colonial Feminism: A western perspective*, opines that; some of the earlier forms of feminism in literary works were highly criticized because of their focus on the white western and middle class viewpoints. This trajectory and biased perspective has contributed in creating discriminatory and ethnocentric forms of feminism.

### **Liberal Feminist Theory**

It is quite obvious that, in the ideology of the liberals; freedom is a fundamental right of the individuals in any society. Hence, liberal feminist has the same view with more emphasis on the freedom of women. In fact, there are some conflicting ideas and disagreement about the definition of freedom among the liberals, that is why the liberal feminists are of two groups: the first group are the liberal feminists who think of freedom as personal autonomy), and political autonomy (participating on creating the conditions under which one lives). The second group are the classical liberal feminists who conceive of freedom as freedom from coercive interference. As the result of these conflicting views about freedom among the two groups, there is a dispute on which group might best represent liberal feminism?

Generally, liberal feminists are of the view that, the personal and political autonomy of women is not fully acknowledged in their everyday lives, and that their basic needs and interests are not fully recognized in their living conditions; because they are inadequately represented legitimately in their quest for self-determination and self-realization. They believe that, these deficits are due to, as Okin (1989:89) names it, "the gender system". For them, it is the patriarchal system which imposed upon the social institutions and the inherited traditions which aggravated these situations. That is why women need to strive hard to first identify these deficits and uproot them.

The liberal feminism calls for protective laws that ensure the promotion of equal citizens' autonomy, and that; the state most effectively protect women from violence regardless of where



that violence takes place (Cudd 2006:85 -118, 209; Rhode 1997:1193- 95.). They consider the existence of paternalistic and moralistic laws place control over women's lives. These feminists are supporting the autonomy of women working conditions and legislative regulations that guarantee their rights and safety; (Cornell 1998:57), and (Cudd 2006:154).

### **Radical Feminist Theory**

The basic tenant of the radical feminism resides in the idea that, patriarchy often causes women oppression; and that the male autonomous system does not only manifest itself in personal relations, sexuality and family construction, but it goes further to include all the areas of the male-domination

The term radical feminism in literary theory discourse refers to the tendency that emerged out of the civil rights movement during the 60s and up to the 80s. The main cause that contributed in getting this radical label has been the radical feminists' views about women oppression as exceeding the boundaries of ethnicity, traditional culture, and socio-economic class. The most important texts which depict the history and the fundamental views of radical feminism movement are Alice Echol's *Daring to Be Bad: Radical Feminism in America 1967-1975*, (1989) and an anthology edited by Anne Koedt, entitled *Radical feminist* (1972)

Thus, it is quite obvious that radical feminism has been a bulwark of theoretical thought in feminism in general. It has laid a solid foundation for the rest of 'feminist flavors' seen by many as the "undesirable element of feminism.

On the other hand, radical feminism also of the view that men and women's differential roles have to acknowledged as well as they are supposed to be equally valued. It calls for revolutionizing and dismantling all the repressive institutions. However, Radical feminism in many critical studies has been criticized for not including some identities by focusing on some races rather than others. Thus, in her book: "Radical Feminism Writing, and Critical Agency: *From Manifesto to Modem*" Jacqueline Rhodes (2005) confirms that:

*"For contemporary feminist oppositionists, it appears that radical second-wave feminism consists of consciousness-raising and a problematic tendency to universalize personal experience; in each case, radical feminism, in all its complication and division, exists only insofar as it justifies the present-tense of feminism and composition."*

### **Social Marxist Feminist Theory**

Socialist feminism is another tendency in feminism which primarily concentrates on the public and private life of women's life and tries to liberate women from the economic, social, and cultural. Social feminism theory has two lines of arguments: The Marxist feminism which focuses on the role of capitalism in women oppression, and the radical feminism which emphasize the role off gender and the patriarchy in women oppression. Finn Mackay (2015) asserts that:

*"Socialist feminism is typically identified by its emphasis on how capitalism oppresses women and all other people. A key departure from radical feminism is the claim that capitalism should be seen as the world's primary oppression and that it consequently predates patriarchy. Socialist feminism (like radical feminism) frequently emphasizes the home as the fundamental site of*

women's oppression, perceiving women as laborers to the laborer, drawing theory from, for instance, the significant work of Marx, Engels, and Babel. Through their caring and reproductive work, women preserve the current labor force, produce the future workforce, and serve as a reserve army of labor who may be called upon whenever and wherever needed in the formal wage economy”.

Nevertheless, Social Marxist feminists sometimes oppose and reject radical feminism's main claim about patriarchy as the only or source of females' subjugation. Believing on women's inability to financially and economically free themselves from men particularly in conservative third world communities. Therefore, they claim that for the massive necessity of socioeconomic political justice, women need to be liberated and lead their own dependent livelihood.

Social Marxist feminism claim that class relations with regard to capitalism, sociocultural and political female exploitation based socially assigned roles are the main reasons behind women's oppression. Therefore, social Marxist feminism believes that, by dismantling capitalism and disintegrating class –based society, gender based inequality will be vanished as well.

Ironically, this view has been refuted, because of the fact that in most African societies women usually play key roles in all walks of daily life, from household duties, to their participation with men in war, farming, and bringing up the children. Some studies specially which were conducted in socialist countries in the 1970s and 1980s concluded that females in these communities were subjugated and repressed and their entire lives was subordinated till recent times.

### **Feminism in African Literature**

Generally, feminism is a literary movement that propagates political, social and economic equality of women with men and gives them privileges to seek for emancipation from such vices. Ojo-Ade, (1983:1), has this to say: “*feminism is a movement which seeks to eliminate gender inequality for the female gender socially, economically and politically*”.

However, in a more specific way, “feminism in African literature provides the African female writers the platform and opportunity with which to address the women question and how to uplift and propagate its emancipation. Womanhood is important, according to Kolawole (1997), and for African women, this is not debatable nor contentious. Therefore, they do not necessarily want to act like males or appear like guys.

African feminism theory is not like western feminist theory because Africans do have their own customs, norms, cultural traditions and beliefs of the black race, which greatly featured in their literature.

Thus, African feminism is always concerned with family affairs and marriage institution because it runs contrary to the norms and customs of their communities. These instances are clearly reflected in most African novels and other fictional genres. For example, in the Nigerian novelist Zaynab Alkali's writing it is clearly shown that, family affairs and marriage institution are held in high esteem. So, for African feminists, marriage, family construction, motherhood, childhood, women's social roles, and gender issues in general are very much important in the African literary ethnic, racial, and folkloric and tradition discourse. This is the reason that let Walker (1983) to suggests “Women Rights' theory' instead of “Womanism or Feminism”, because of the dichotomy between the European and African views or concepts; as each of them has a different

approach to the term. Moreover, Ogunyemi (1988) argues that ‘Woman Right’ theory is mostly in favor of a thorough research on the men that are proponents of feminism in such way that it will benefit both men and women.

It is noticed that despite of all kinds of feminism studies in the African literary and critical discourse, men remain the heads of their families. And that ‘women have societal roles and they also somehow authorize the society to control them in some aspects, especially when it comes to dependency, household support, protection, children discipline in addition on how to uplift and better the societal lots for the benefits of all and sundry.

### **African Feminist Theory**

With the peculiarity of the African contexts, the African feminist theory needs not to stereotype African women as mere ‘problems to be solved’, but as human beings who are able to setup their own goals, within the confines of their traditional societies. That is why most of the African feminist like Chimamanda Ngozi Adichie, Nwapa, Buchi Emecheta, Zaynab Alkali and others have distinctively portrayed African female character in the fictional narrative as strong, innovative agent and decision makers in their specific contexts and social environments.

Thus, the idea of “Africa and feminism theory” compared to its European counterpart has brought different debates as it puts scholars who have different theoretical and ideological backgrounds and of different classes, races, culture and experiences in a dilemma of coming to a unified conceptual meaning. Just as the African continent which is geographically of varying ethnic groups with huge diversity in all walks of life, and different colonization experiences.

African Feminism also tend to include all African descends even if they are living or raised up out of the African continent. Thus, all the strands African feminism have emerged and developed strong movements which are highly in favor of women by ascertaining their rights and solidify their great roles in all aspects of human endeavors.

Moreover, Steady (1981) seeks to reverse the western ideologies inherent in both Feminism and Womanism. She offers her theory of African Feminism to project the peculiarities of the African woman. According to her:

*“Whatever one’s viewpoint, the ramifications of the feminist movement for black women are nuanced... The black woman stands out as having a different priority list for a number of reasons. She is oppressed not only because of her gender but also, for the most part, primarily, because of her ethnicity and class. Women do not constitute a general category; instead, they are members of many socioeconomic groupings. Due to the fact that many black women are low-income, there may be some alienation from the middle-class feminism that views feminism as an attack on males rather than a system that encourages inequality.”*

Richard (1980) believes that some social problem in Africa such as famish usually concentrate on the systematic economic injustice which is experienced by women is basically prevail as the result of their gender. Whereas according to Oakley (1981) African feminism is about putting women first, prioritizing their interest and representation those interest in every share of life for smith (1982) famish is the political theory and practicing that seeks to free women of all colors, classes, abilities, sexual orientations and ages from all forms of oppression. Thus, feminism in



African context attempts to influence politically and socially and tries to exercise some power on the current events so that women may gain more leadership powers in their communities.

### **The Role of Women in African Feminist Fiction**

The African feminist fiction tries to examine the literary creation of a woman writer whose concern for and understanding of the experiences and fate of woman has won her an international acclaim. Feminist theory has to do with the propagation of political, social and economic equality of women with their male counterparts. Feminist writers in the African context try their best in their writings to propagate women emancipation. Women in African society are culturally and traditionally disallowed in the societal provisions, which should in effect, empower women socially, politically and economically through a dynamic and effectual weapon that is education.

The leading African exponents, who based their writings on feminist, are: Zaynab Alkali, Mariama Ba, Flora Nwapa among others. As we popularly known “True feminism is an abnegation of male protection and a determination to be resourceful and reliant” (Anne and Carole 1986:), the basic outlines of feminist literary movement are towards wiping women’s marginalization, discrimination, oppression, deprivation, restriction and inferiority complex which is culturally and socially exercised.

Thus, the strong points of the feminism are that as a literary movement and as it moves toward propagating political, social and economic privileges to seek for emancipation, it has the following:

**Marginalization:** Women in all fields of human endeavors are marginalized and considered weak etc.

**Discrimination:** Female sex is considered generally dependent on male and less productive. They are not employed and even if employed are less paid.

**Oppression:** Women at their work places and matrimonial homes are oppressed and intimidated. They receive enormous hatred, curse, beating etc. From their family members and laws.

**Deprivation:** Women are deprived their rights, privileges and freedom. They are economically deprived and disallowed the chances to elevate educationally.

**Restriction:** Women are restricted and denied the juicy realized in social interactions especially in African societies through traditional taboos and superstitions beliefs.

**Inferiority complex:** Is another strong point of feminism which attempts to show that women are inferior to their male counterparts. The proper place for women is kitchen, because they are weak, subservient naive etc. Compared to male sex which is considered as a symbol of strength authority etc.

These are the strong points which feminism theory tries to emphasis and make them viable in the patriarchal communities. While on the other hand, the weak points of the feminism are mostly derived from radical feminism as they deviate from the moderate posture of the earlier movements. Hence this paper tries to analyze these points in the Nigerian feminist novelist Zaynab Alkali’s novel “The Stillborn”

## Alkali's Background

Zaynab Alkali was born in Borno state, Nigeria. She was educated at Queen Elizabeth Secondary School in Ilorin, Nigeria, Ahmadu Bello University, Zaria and Bayero University, Kano. She is married with six children and considered as the first woman novelist in northern Nigeria and the first female to advocate openly about the female status in the northern Nigerian patriarchal society. She taught in different universities in Nigeria, such as University of Maiduguri, Nasarawa State University, and Bayero University, Kano in addition to her work at The National Primary Health Care Development Agency in Abuja. Her first novel "The stillborn" which was published in (1984) marks her debut as a novelist. The novel won the association of Nigerian Authors prize for prose fiction in 1985 after its publication in 1984 at Longman Nigeria Limited. The stillborn is a story that tells a narration of Li, a major and female character who faced deprivation and restriction from Baba her father who used to be a disciplinarian and rules his family with an Iron hand:

*"After a few weeks at home, Li began to find the atmosphere in her father's compound suffocating. She felt trapped and unhappy already she missed the kind of life she had lived at primary boarding school, fries and gay. At home the little ones were too young to understand the restriction and the older ones too dull to react" (Alkali 1984:3)*

## Portrayal of Female Character in Alkali's Works

As regard to the portrayal of women in Alkali's works it is noted that; Amase and etal (2014) emphasize' she *"has utilized female characters to further a cause higher than any feminist grudge that a female character might harbor against the broader community"*. Alkali's subject woman, but her treatment of it indicates remarkably new emphasis which is different in degree, if not in kind, from the feminist position made familiar by novelists like Flora Nwapa and Buchi Emechita. Thus, it is clear that when reading her novels from feminist point view, an ascetic vision of truly liberated woman informs the themes as well as the styles of narrative world; specially her novel "The Stillborn" which openly manifest the status of woman in north Nigerian society. There is hardly a trace of excess of self-indulgence in Mrs. Alkali's prose; and this austere style effectively underscores the central argument of the novel because the stillborn shows a fully formed independent woman, not a stillbirth, the genealogy of such new woman is imprinted throughout with the ethical ideals of "independence" and "moral rectitude."

In her works, Zaynab Alkali educates her reading public about the woman's experience in a predominantly Muslim society. The major problems faced by Alkali's women seem to be that of man's struggle with nature. As women in Africa are reduced to male enslavement, Europe in the 14<sup>th</sup> -18<sup>th</sup> century witnessed a mass burning of witches whose parallel powers threatened the power of the aristocracy and the church. The experience in the Middle East was also traumatic as women were kept in confinement from puberty to menopause and derived the right to education. These oppression, deprivation and enslavement have found expression in many pages of African Literature as writers' present characters whose pathetic stories give their readers cause for concern and a challenge to women. In "The stillborn", Alkali uses Li, the principal character as a symbol of courage and determination, the two virtues that help her to become "the man of the house".

## **The Analysis of the Female Images in Alkali's The Stillborn**

The stillborn can be described as culture based as Alkali delves into the cultural norms of her society where children were made to dance to the dictates of tradition. She uses Li and Sule to mirror the lamentable desecration which culture was subjected to and which parent found difficult to break.

Li is presented as a young woman seeking to escape from the oppressive societal restrictions. She therefore, insists doing things, even the simplest things her own way. Alkali's portrayal condemns the unfair and oppressive treatment of the African women trapped in the inability of women to become economically independent, through determination and hard work. Li and her brother Sule are so harassed in their household that Sule reveals to Li:

Can't wait to get out (p.4)

Commenting on "The Stillborn", Odiya Ofeimun (1975) says that the stillborn is of particular importance because it is written by a woman who is giving voice to womankind in Nigeria's North "beyond the whisper and muffle scream" which has been subjected to for centuries. Ofeimu's comment gives an insight into what the novel is preoccupied with: it tells the story of a girl from youth to puberty and womanhood and her struggles to give meaning and validity to her existence. In the course of these struggles, she is brought face to face with the harsh realities of life. But through determination, she in the end is able to overcome these social restraints and parental harassment.

Thus, in the novel, the female characters; and due to their exposure to western education, Li, Awa; Fiama, and Habu envision marriage as a successful union of one man and one woman, wherein they both contribute to the prosperity of the married family and live joyfully forever in love, as summarized in Li's beliefs.

*She was planning to become an effective Grade I teacher, and Habu was going to become a renowned physician like the white guys who worked in the village mission hospital. Before her, a picture of a large European home filled with houseboys and maids appeared. Li grinned inside. The overgrown stream, the prickly hillside, and the dusty market would soon become distant memories. (p. 55)*

Alkali condemns, though her protagonist, the suffocating atmosphere of many homes in urban and traditional settings. Baba's home, for instance is so suffocating that Li and Sule see it simply as "worse than a prison" (P.3)

The unloving and domineering attitude of Baba and the unpleasant behavior of their mother make Li miss her kind of life at the boarding school. Hence, her determination to escape and her insistence in doing things her own.

*"Without someone constantly bugging me about where I've gone, (P.3)"*

Just as Li is presented as a determined young Lady out to free herself from their "home prison", Alkali also presents Awa as Li's opposite humility make her submit to the cruelty of her parents. At 18, Awa is still the "workaholic" of the house. She is so afraid of her parents that she dared not raise a dissenting voice against their cruelty.

Alkali here postulates that young girls like Awa suffer similar fate and they leave it too late by the time they finally free themselves. Awa allows herself to be used and controlled by her parents to the extent that Sule expresses fear for his 18-year old sister whom he fears might grow older than age if things continued like that. He wonders how a man of her age will continue to cage herself in the confines of the kitchen, cook, fetch water and do all sorts of house chores without thinking of her own future. She becomes the most oppressed. Alkali postulates that for women to liberate themselves, they must be disciplined and determined. Women Liberation is rooted in these two virtues and not any violent and aggressive rhetoric.

Li, the protagonist, is Alkali's embodiment of courage and self-discipline. She demonstrates the fact that the African woman could become someone if determined enough. Her self-discipline enables her to wait for such a long period as tradition demands. It helps her, during that period of waiting, to keep the likes of Alhaji Bature at bay. Her decision not to remarry even such a benefactor as Alhaji Bature who sees them through rainy days, demonstrates her self-discipline. She tactfully frustrates Awa's effort to forget Habu and marry Alhaji Bature.

*How can I forget the father of my child, big sister? You yourself said, just now that to break up a home is like breaking a child (P.85).*

What the passage implies is that Alkali discourages any form of divorce. She encourages women to stick to their husbands, especially if they were blessed with children. Li's self-discipline cautions her to keep her experience with Habu and his exploits to herself in order not to give room for gossip. Her resolve to become economically self-reliant and the importance she attaches to women education. With her education Li becomes "the man of the house". Education provides her the economic means to cater for the entire family without the help and protection of a man. Li becomes the symbol of the Western Education Women. In spite of the neglect and hardship, Faku survives in Garba's house through courage. Like Li, she keeps the sad experience of her marriage to herself, refusing to confide even in Li when she pays her a visit. Out of sheer determination, Faku carves out a new life for herself in the city. Initially the going is rough and:

*"For four years Faku, drifted without a proper sense of direction. Then three years ago, she had been befriended by a kind elderly woman who interested herself in social welfare work. Now Faku was in the way of becoming a social welfare officer herself (P.102).*

She finds fulfillment at last through self-determination and hard work. The three female characters in the stillborn are unfortunate to be subjected to traumatic marriage experiences. Alkali uses them to articulate the importance she attaches to the marriage institution. Some of the issues she handles in the stillborn include restrictions imposed on women by tradition and betrayal, which determines the fate of the protagonists.

Li marries Habu as the ideal husband to make her dream of city life comes true. Faku too married Garba for the same reason, while Awa marries Dan Fiama who, she thinks, will become the principal of the new school of her dream. But neither of them finds love or peace contrary to their expectations. Faku, the only victim of polygamy, finds neither love nor peaceful co-existence in Garba's household contrary to what the Holy book says about equality of love in marriage. And like Alhaji Usman in Tahir's The Last Imam whose preference for his

concubine's son alienates and frustrates his wives, Garba frustrates and subjects Faku to hardship and neglect.

What Alkali intimates here is that strained relationship creates a wide gap between couples and makes harmonious living difficult. She thinks polygamy contributes more to the subjugation of women. Marriage for her women becomes a mirage. Even Awa, who decides to remain in the village, is not spared for Dan Fiama becomes so frustrated that he becomes an alcoholic and abandons all responsibilities to her.

Li waits for Habu in the village for some years in keeping with tradition. In spite of all his shortcomings, Li decides to go back to the crippled Habu Adams in the belief that their destinies were tied together. The point Alkali makes here is that marriage to a good, honest, conscientious and God-fearing husband is bound to be successful in the words of Faku:

*What was this love about which the others were scratching their heads? What was it, if not love, when a man took care of his household, fed and dressed them properly? Who was she to protest if a guy would provide for twelve other wives? (P.46)*

However, when Li goes to town to meet her husband, after four years of being abandoned in the village, she meets a totally different Habu:

*"Hot tears rolled down her cheeks as she bowed her head. Silently, she cried out, "Where is my man? That boyish man with an amazing smile and a wicked sparkle in his eye?" Where is my proud, self-assured, bikini-clad sweetheart who walked the entire length and breadth of the town against the jeers of the people just to see me? (p. 70)*

Alkali posits here that there could be peace and harmony in polygamous homes when the husband meets all the need of the family. And where the reverse is the case like that of her protagonist, there is bound to be a failure.

Alkali is concerned with the disorder that permeates her society. One of the disorders in **The Stillborn** is gossip, which she sees as a social malaise that can easily dislocate the fabric of societal living. To sensitize her reading public, Alkali presents a selected group of characters who often associate themselves with rumor mongering, people who keep their eyes and their ears open to gossip.

The gossips about Faku's family make life unbearable for her in the village. Gossips have it that her mother is a witch and was responsible for the drowning of her three sons shortly after her husband's death. Faku is thus treated with mixed feelings. Her marriage to Garba becomes a welcome venture that provides her an escape from the depression. She becomes a victim of social injustice by no offence of hers.

But Li's family is the most gossiped in the village. So many detractors praise Mana's fortune for the impending marriage of her two daughters. Some disqualify Li as unfit for Habu and condemn her relationship with Alhaji Bature. The gossips about Alhaji Bature turn into an open confrontation between Li and his wives. The incident decides Li; she leaves the village to further her education in the city.

Alhaji Bature is seen as every woman's dream of a son in law. Dan Fiama is gossiped for taking up residence in his wife's house. There is also gossip about Kaka being a witch.



*Who uses infants to promote the growth of his crops  
... and how a man of forty years (my senior) could  
grow more corn (P.61).*

Another misnomer that Alkali points out in the stillborn is the negative influence of traditional norms on the young. Baba Garu's highhandedness, for instance, instills fear in his family. That is why returning home after her primary education; the thought of home dampens Li's spirits.

*When she considered her parents, a menacingly  
gloomy notion threatened to overshadow her joy. She  
swiftly repelled it. It was not appropriate to think  
negatively at this moment. (P.1)*

Her hasty decision to marry has been born out of the suffocating atmosphere in the village.

The imposition that a married woman must wait for her husband to come and fetch her when visiting is another societal disorder. Li thus waits for four years before she is finally taken to Habu in Lagos. During her father's funeral, she again waits for Habu in vain until the encounter with Alhaji Bature's wives. Because of the constraints imposed on her by Baba, Awa still remains single at 18, always adhering to the traditional courtship that forbids a woman from taking undue interest in men. In her unfettered loyalty, Awa thus discourages Li from taking undue interest in Habu and makes abortive attempts to keep him away.

Against this background, Alkali's women could be said to be women of sound moral virtues. In spite of the long period of waiting for Habu, Li refuses to give in to pressure from Awa and Alhaji, thus preserving her moral virtue. Faku remains faithful to Garba despite the neglect. And Awa continues to accommodate Dan Fiama in spite of his irresponsible attitude and drunken stupors.

Alkali her points an interesting picture of village life. Its calmness and quietude punctuated only by the sound of the village generators, the second of which is

*Signaling the hour of sleep and releasing the night  
to the walking witches and discontented spirits.  
(P.2)*

One very interesting thing that dominates the lives of Alkali's female characters is the dream factor. Some of their dreams turn out to be mere illusions even though they end up marrying men of their choice. In their innocence, Li and Faku dream to marry well-to do men setting up home as contented wives and members of the emergent middle class. But their dreams become **The Stillborn**.

Some dreams bring the dreamer in terms with events of the day. Some deal with hidden anxieties while others try to resolve problems which stretch back many years. Some are revelatory while some others come as a warning of danger or disaster as in the case of Li.

The dream factor in **The Stillborn** is very much peculiar to Li. All her dreams become meaningful except that concerning Habu and the city. Her first dream warns Baba of the impending danger if he traveled. But he treated it as a child's anxiety. Li, in the dream, sees some sort of a vision in which she seen what would be invisible and unattainable to natural sight. In the first dream, the accident that awaited Baba Garu and the other members of the church

congregation. And during the intervening year's dreams becomes Li's regular source of encouragement and inspiration.

As a young lady, there were times when Li's lack of wisdom caused her father to react negatively. Her first dreams leave him weary of Li. Baba ignored her advice not to travel that day because something dreadful would happen to him. And the worst did happen. A sudden thunderstorm caused the prayer house to cave in leaving in hundred casualties and Baba seriously wounded.

In the city, Li dreams of her ancestral house in the dream:

*“Li discovered her ancestors' house vacant and in ruins, along with all of the dwellings. A number of the huts were falling apart, whereas others had roots and doorways that had collapsed in. ... she moved to where her father's hut had been and saw a heap of red soil... (P.74).*

The dream informs her of her father's death, which also becomes a reality. Li has two dreams in Faku's house. First, she sees Faku enter the house, naked and Garba enters shortly after, banging the door after him; secondly, she crosses a desert land and meets Faku tilling dry, unyielding land. And all her attempts to talk to Faku fail. The two dreams reveal Faku's pathetic situation in Garba's house. Her physical look is enough testimony for Li to realize the going was rough for Faku.

Li's dream of marrying a medical doctor and of the city that will “make her body smooth” and where “she would keep her hair long” becomes an illusion. She says of the city that:

*“The city would continue to provide endless comforts. They held the key to the future. There were many amazing and extraordinary things in the world. And weren't they young, enthusiastic, and prepared to live their life to the fullest? (P.5)”.*

But the luxurious life she anticipates with Habu in the city becomes a life of regret, nightmares and distress.

Li's dream comes when she falls into a reverie during which she witnesses her granddaughter's marriage. Li advises her to make the best of her marriage and that it was her daughter, Shuwa's turn to dream. Li makes Shuwa aware that she'd spent her whole life dreaming and reminds her that:

*“Children, it is good to dream since everyone passes away, and as long as we are alive, we will keep dreaming. However, it's also crucial to keep in mind that, unlike newborns, not all dreams come true. Some are stillborn, while others are aborted. (P.104)”*

*“Li is convinced by this dream that the connection that had bound her to Habu, the baby's father, hadn't been cut. (P.104).”*

Alkali educates young people about the intricacies in life. She uses the dream factor to remind Li of her days gone by and of the Joys and excitements she'd had with Habu. This last dream projects Li into old age recreating in Shuwa her youthful exuberance; tall; graceful, and good-looking with a beautiful gap between the upper row of her teeth.

Awa dreams and looks to the future with optimism. She looks forward to seeing the primary school become a secondary school with Dan Fiana as principal and herself as head of adult education classes. But when the new school finally becomes a reality, Dan Fiana and she are made to serve in junior positions. They both become disappointed and frustrated. Dan Fiana becomes an alcoholic and Awa resigns herself to fate.

And for Faku, the city in her dreams becomes a paradise. She marries Garba not only to escape the suffocating atmosphere in the village created by gossips about her mother but to enjoy an easy life in the city. Like Awa and Li, Faku's dreams become Stillborn.

Most women see Alkali as a breakthrough in artistic creation on the part of women and the publication of her novels as an important event coming as it does at a time when Nigerian women were "taking horns". Other critics frown at what they regard "as unfair treatment of her male characters" but commend her in her attempt and determination to use the pen to fight the prevailing social problems eating deep into the fabric of the continent of Africa.

Like her contemporaries from the south, Alkali makes immense contributions to the creative female tradition of Nigeria writers which has predominantly been a southern affair. Again, like her percussions, Alkali is deeply conscious of the fundamental conflicts and frustrations confronting the African woman in the city and the rural area.

The more reason why she creates female characters with forceful personalities that help them realize themselves in society, in spite of their **stillborn** dreams, disappointment and frustrations. Alkali demonstrates in her writings creative potentials and acute sensitivity to female problems and experiences.

## Conclusion

Deduction can be made that the results of the findings of this present paper revealed the real picture of the role of woman in Alkali's *The Stillborn* in which *feminist* literary criticism is used as the approach for the vindication of such role. The paper showed the negative influence of traditional norms on the youth in African societies. Thus, still the study showed the reason why the writer creates female characters with forceful personalities which will inevitably help them to realize themselves in male-dominated society, in spite of their the stillborn dream, disappointment and frustrations as clearly depicted in Li. Alkali also in this text- *The Stillborn* demonstrated creative potentials and acute sensitivity to female problems, which if they heed they can even contribute to the societal development much more than their counterparts. This similitude of course was portrayed especially through the main character Li, and her friend Faku.

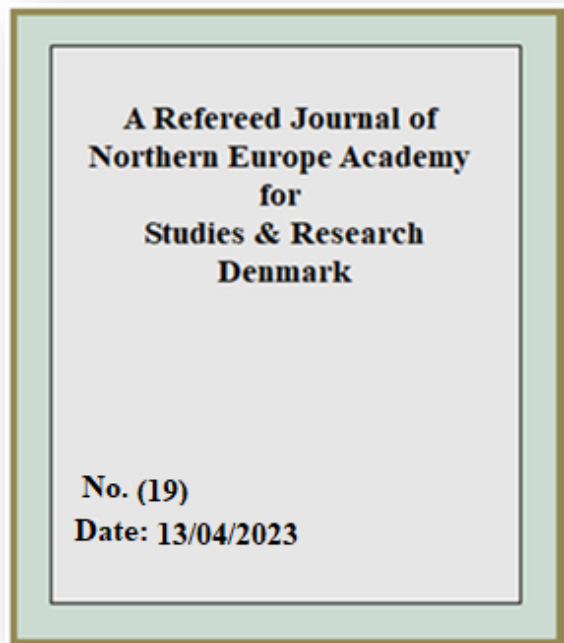
Finally, reading novels including other genres of literature, especially those written by *female* writers is very much important for they add value to our understanding of the nature, style and how the portrayal of their characterization is assigned to women. Hence, learners should be encouraged to analyze the works by *female* writers using *feminism* as a theory towards the vindication of their world view regarding *male* domination we witness in our various societies.

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## Analysis of the developmental impact of participatory yield formulas (reality and challenges)

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## **Abstract**

Participatory financing formulas are among the most important financing formulas in development, as it is the basic investment formula embodying the objectives and principles of Islamic economics and achieving justice between the two parties to the transaction (the bank and its customers). Using this formula helps achieve economic and social balance among citizens. Financing participates on the basis of the Islamic bank providing the financing required by the customers without stipulating a fixed interest, as is the case in financing in conventional banks. The bank and the dealer Through this axis, the different definitions of the partnership contract will be addressed in order to highlight its characteristics, types, and developmental impact..

**Keywords:** Participation formulas, economic development, financing, Islamic banks

## **Introduction**

The financial transactions dealt with by Islamic banks in conjunction with the financing contract is a legitimate financial transaction in Islam, which has been approved to facilitate people in the operation of their finances and earn a living Halal. The customer who offers to deal with this transaction must identify the content of its contract, its legitimacy, as well as the legal regulations and conditions relating thereto.

### **Research problem:**

Economic development often requires steady growth in the monetary bloc. If the amount of money is reduced in relation to the requirements of economic activity, this leads to an economic recession. Therefore, the need to finance economic activity in non-traditional Islamic formats is necessary in order to drive economic growth..

### **Research Hypothesis**

Participation is one of the means available for economic development in both the positive and Islamic economy and as a form of financing.

### **Search objective**

The research aims to identify what forms of participation and their developmental role are through selected economic indicators and the constraints they face and their risks..

### **Research Methodology**

The inductive analytical approach was followed, relying on Arab and foreign sources and websites.

## **1<sup>st</sup>. Participatory formats (concept and approach)**

### **1. Concept of participatory formats**

The essence of the system of modes of participation in Islamic banks means that the parties to the contracts of economic activity are partners - in certain proportions - by the results of this activity, profit or loss, i.e. partners in sheep and fine. This system results in various and different organizational contracts, depending on the nature and type of activity it governs. Speculation - such as farming and bargaining - is a partnership contract based on the capital of one side and the work and management of the other, and is rewarded - under this contract - the capital of the human (labour) capital of cash. On this basis, the parties are partners in profit according to the agreement, the financial loss is on the owner of the capital because the worker (speculator) will lose his business unless he is in default.

This decade has evolved and its development has covered the following aspects (Munther, 2004):

- A. The contract of speculation is not limited to an individual transaction between the owner of the money and the speculator, but has become permissible for multiple owners of the money in one speculation, which can be called collective speculation.
- B. The personality of speculators shall not be limited to the natural person, but may be a moral person such as a company or enterprise.
- C. The subject of speculation should not be limited to trade but should include all investment activities that do not contravene Islamic sharia (agriculture, industry... and others).
- D. Speculators may combine the rackets with the head of money in a single speculation. In each case, he has the rights and obligations guaranteed by the project and determined by the agreement.
- E. More importantly, the Lord of Money could authorize speculators to pay money to another speculator.

There is an agreement between the bank and the entrepreneur whereby both parties submit capital requirements, and share profits and losses in the proportion of each other's contribution, taking into account the human effort in a special share, given a percentage of the profits to the entrepreneur (Safwan Qusay Abdul Halim, 2019).

While both speculation and participation are based on the principle of partnership in return and, as a result, each partner has a common relative share in profit, And the loss of the capital ratio, you differ in the fact that the money is from one side and the work from the other side in the first, In other words, there is a complete disconnect between the capital's ownership and management, the employer may not work. While all partners contribute to the money of participation, they may work from each other or from one of them, the speculation is safe, acting as a proxy and profit is a partner and the contract is corrupted as a tenant. Participation is based on both the agency and the secretariat. Each partner is a trustee of his partner's money and an agent in the conduct of the conduct of the company's capital in accordance with the terms of the contract.

## **2. Law governing agreement or participation contract and the form of participation contract**

### **A. Participation Contract Act**

An agreement contract is often a civil contract and it is subject to the provisions and rules of the Civil Code. A partnership contract is often a commercial contract that is subject to the provisions and provisions of the Commercial Code. If one of the parties to the contract is a public moral person, such as an institution, ministry or government body, he or she is subject to the provisions of the Administrative Code and is competent by the Administrative Court (Ibrahim).

**B. Format of a participating contract**

Mr. (first party):.....

It carries a National ID number:.....

Mr. (second party):.....

It carries a National ID number:.....

**The parties have agreed as follows:**

- The introduction to this Agreement is an integral part of it.
- Their type of business shall be written.
- The parties agreed that the company's capital..... was paid from the partners.

Each partner's share (each partner's share is then written as follows):

Share of First Partner.....%

Share of second partner.....%

- Partners' shares are transferable to their legitimate heirs, and no party may waive its shares in compensation or without compensation except with the consent of the other partner.
- Both parties, Mr. I and Mr. II, are fully responsible for the management of trade in the place of this partnership and are the first and last responsible to official and informal bodies.
- Taxes are deducted and net profits are divided into 3 sections of the first partner, the second section of the second partner and the third section of the profits in the company's account.
- The Party undertakes..... Prepare books of accounts on a daily basis and periodically.
- The company shall be dissolved if any unlawful incident occurs not to dissolve the company due to death but to pass on to the heirs of the deceased partner, No party has the right to withdraw from the company before one year has passed since its presence as a partner, provided that it gives a written warning of its desire to withdraw one month prior to leaving the company.
- If intentional losses occur on the part of a partner, the partner is obliged to compensate the other partner for the damage suffered.
- In cases of disputes and disputes, recourse is made to a court.....
- The duration of the partnership agreed upon by the parties shall be written, when and when it begins and may be renewed if necessary.

- The contract is signed and acknowledged by the parties and they have signed it in their full mental capacity and in front of the restored witnesses with the date of conclusion of the contract.

### **3. Legitimate adaptation of co-financing**

Participation contract refers to multi-party participation in money, work and management and everyone has the right to participate in the results and returns of the participatory process, The scholars included a series of contracts within the process of participation company, such as Mudaraba Company, Annan Company, Bargaining Company, Facial Company, Al-Abdan, Farmer and Al-Masaqah, etc., But the interest of scholars in this issue focuses on Mudaraba and Al-Anan companies and the legitimate adaptation of co-financing appeared on three different opinions:

- According to the first opinion, the contract for co-financing falls under the content of the Mudaraba company in which the funds are allowed to be mixed.
- In the opinion of the second opinion, the contract for trade financing falls within the concept of Al-Anan in the funds.
- The third view is that co-financing combines the concepts of Mudaraba and Al Anan.

Modern scholars agreed to adapt the co-financing process as Annan, depending on the similarity of elements and content, until the doctrinal rules of co-financing were based on the jurisprudence of Annan. Al Annan Company is a legitimate financial contract in Islam, as it realizes the interest of the people and contributes to the investment and development of funds, and its judgment is fixed based on the provisions of the Holy Koran, the Prophet's Sunna and the Consensus (htt).

## **2<sup>nd</sup>. Developmental Advantages of Participating**

### **1. Raising marginal efficiency and reducing investment risk**

The Islamic Bank invests its available resources through the speculative and participatory systems, i.e., it is a partner in the investment process. In the case of profit, the bank has a share according to the agreement and loss according to the ratio of the capital, thus reducing the risks that the entrepreneur will encounter, as the Bank will share them (Abu Al-Saud, 1989). The bank's share of the actual profit resulting from the use of the supplier was seen as the cost of obtaining financing But it's not like the rest of the cost, it's a special cost and it's not like that in all cases. cost of profit and aid in loss, although it would be a reason to reduce the investor's share of the yield earned However, at the same time, it caused the bank to charge part of the realized loss according to the amount of the contribution. This description is not the cost of obtaining financing from traditional banks (interest), which the entrepreneur pays in the case of profit or loss. The introduction of such a funding system would increase investment's marginal efficiency and reduce risk.

To demonstrate these results, let's assume that an investor needs as much money as he has, to invest in a particular project. It has two banks, one of which is traditional and takes interest (16%) on the amounts it lends. The other is Islamic, entering as a partner in profit and loss, taking into account the right of the partner (investor) to work and manage a certain amount of



profit and to be (25%). The high marginal efficiency of investment by dealing with the Islamic Bank compared to the traditional Bank can be illustrated by the following table:

Table (1)  
Net profit of the trader (partner) with the traditional and Islamic bank in different hypothetical cases of profit and loss

| Net profit or loss of partner with Islamic Bank |             | What a partner takes for a currency of 25% % | Net profit or loss Customer with Bank % Traditional | Profit Ratio or % Loss | Situation |
|---|-------------|--|---|------------------------|-----------|
| % Partner                                       | % Bank      |  |   |                        |           |
| Losses 3  | Losses 3    | -  | Losses 22   | Loss 6                 | <b>A</b>  |
| None  | None        | -  | Losses 16   | None                   | <b>B</b>  |
| Profit 5  | Profit 3    | <b>2</b>                                     | Losses 8  | Profit 8               | <b>C</b>  |
| Profit 10                                       | Profit 6    | <b>4</b>                                     | None  | Profit 16              | <b>D</b>  |
| Profit 12.5                                     | Profit 7.5  | <b>5</b>                                     | Profit 4  | Profit 20              | <b>E</b>  |
| Profit 17.5                                     | Profit 11.5 | <b>7</b>                                     | Profit 12   | Profit 28              | <b>F</b>  |

Source: Dr. Muhammad Kamal Attia, "Accounting of companies and banks in the Islamic system, 1st edition, Manshaat Al-Ma'arif, 1998, p. 70.

Table 1 indicates the high marginal efficiency of an Islamic Bank partner's investment, as compared to that of a traditional bank, in all cases of presumptive profit or loss; When the result of the activity is a loss of (6%), if this investor is borrowed from the traditional bank, the total losses will be (22%) - (6% + 16% interest) - whereas if he were a partner of the Islamic bank, his total losses would be (3%), because the bank bears half of the losses, i.e. (3%) as well. In the event that the project does not make a profit or loss, the dealer of the traditional bank shall pay interest (16%), i.e. its losses will be (16%), while the Islamic Bank partner shall not incur any losses. When the result of the investment activity is a profit of (8%), the net loss of the borrower investor from the traditional bank will be (8%), while the participant with the Islamic Bank earns a net profit of (5%) - (2% against currency + 3% share of Ras Maleh)... Thus, when the project makes a profit of 28%, the partner of the Islamic Bank earns a net profit of 17.5%, while the profits of the trader of the traditional bank do not exceed 12%. In this case, the marginal efficiency of the investment increases by 5.5% as a result of dealing with the Islamic Bank, compared to the same as the traditional bank.

One can conclude that investment financing in Islamic banking financing formats based on the principle of partnership in the outcome of investment activity increases investment's marginal efficiency.



## 2. Supporting economic development

**The partnership system makes an effective contribution to economic development by:**

- Ensure the cooperation of the head of money and work or management in the establishment of economic projects, some of them may have more funds, but they do not improve their investment. Others may have experience and skill in work and management, but they lack the head of money. The partnership system also provides the regulatory framework within which small capital can be invested in large and profitable areas, which cannot be accompanied and accessed in private owing to the large volume of financing or administrative burdens it requires (Ibrahimi, 1997). This has the effect of expanding the productive capacity of the national economy. The partnership system is a business curriculum suited to all economic activities, agricultural, industrial, commercial... and others.
- The participation of Islamic investors' banks entails the recruitment of all its potential and technical expertise in the feasibility study of the proposed projects to accurately assess their return, with a view to seeking the best investment opportunities. As long as it receives depositors' funds on this basis, it is concerned with investing and employing them for the benefit of all parties. For this purpose, it combs economic development programmes to capture appropriate investment opportunities and subjects them to such studies for the same purpose. Contrary to what happens in traditional banks, which are not involved in this role, they are not concerned with the choice of investment opportunities nor with the feasibility of these projects, but with loan recovery guarantees and interest, whatever the nature of this project and whether it makes a profit or a loss. This role of Islamic banks based on the partnership system will have a range of important development consequences, including (Abu Al-Saud, 1989): -
  - Better allocation of available economic resources, preserving society's wealth of waste and use in areas that are not beneficial or morally prejudicial.
  - The efficiency of the use of these resources, as the partnership system, entails that profit is a potential return that is not stable, nor is verification guaranteed and depends on the project's success; Islamic banks perform their activities in a risky field, and on this principle, the bank is involved in the risks and benefits of financing. It has a direct interest in monitoring how money is used and the nature of the projects in which it is used. For that reason, it will be more cautious in providing funding, paying great attention to the selection of the project and partners and supervising, following up and advising the partner where necessary, thereby making good use of resources and decreasing profligacy, and more resources available for investment and development (Al-Ahi, 1998).

Effective control over the use of funds in Islamic banks is a step forward in the operations of traditional banks, which are less interested in how the loan is used and followed up, as long as it is documented as guaranteed and interest is paid at its time. The lender has no direct financial interest in how the loan is used and whether it is used in development or non-development projects, or in areas approved by Islamic law.

    - As a result, these banks' developmental role is more effective.

- Islamic banks based on the partnership system engage savings of Muslims who avoid dealing with traditional banks, thereby increasing the level of total savings that affect the need for mechanized economic development.
- By contributing to one of the scarce resources that every country seeks to encourage, it is important for investment activity in particular and economic development in general. This type of resource is a prerequisite for real production sector investment projects.
- Adopting a participation system and dropping the interest rate of dealing, reduces production costs. Interest is an important item of cost, with low commodity prices increasing demand, thus increasing investment, increasing employment and exploiting available economic resources, contributing to the process of economic development.

### **3. Maintaining price stability**

In a previous field, traditional commercial banks have the ability to create credit and control the offer of cash by creating credit money or deposit money, to get more interest that is the main source of their profits. However, borrowers' liquidity as a result may not be accompanied by a real increase in the production of goods and services. The creation of cash will then increase the supply of cash more than the flow of goods and services and as a result of higher prices (inflation).

Islamic banks invest real money in their possession, not doubling credit and creating deposits. As a result, the injection of cash will go into the field of real productive investment and exchanges, only when there is capacity to increase production of goods and services, and if investors fail to do so, investment tunnel flows will cease, thus financing flows will be accompanied by real flows of goods and services, and as a result prices will be more stable (Ibrahimi, 1997).

Traditional banks' treatment of interest, in itself, will increase prices by the rate of interest - being one of the production costs - resulting in continued price increases as a result of the deterioration of the real value of deposits and the exposure of depositors to losses. Inflation thus consumes interest rates and perhaps even a portion of deposits in these banks.

While uncertainty in traditional banks is motivated by the difference (increase) in the inflation rate that was expected at the time of deposit, the interest rate is constant - the problem arises - the uncertainty in Islamic banks is linked to the factors of the partnership's expected profit rate - which is unknown - and the rate of inflation. Since the sources of uncertainty (profit and inflation) are not independent, price rises

(Inflation) is often accompanied by an increase in yield (profit) and when unforeseen variables in yield tend to be commensurate with unexpected variables in the rate of inflation, this will preserve the real value of deposits.

### **4. Ability to deal with economic crises**

#### **1. At the banking institution level**

The return partnership system achieves greater resilience, resilience and absorption of banking crises, compared to traditional banks. While we hear from time to time, old commercial banks declare bankruptcy and collapse in the face of the financial shocks they face, we have not yet heard that one Islamic bank has declared bankruptcy, which is evidence of the robustness of the Islamic banking system.

To prove the validity of this assumption, let's assume that there are two banks that are Islamic and the other that run an interest system, pay for deposits (10%), and that Ras Mal each (50 million dinars). The laws allow banks to accept fifteen times as much deposits as heads of money. This means that the resources available to each bank are (800) million dinars. If we assume that each bank makes a net profit of 11% on its total resources. That is, each bank makes a profit of 88 million dinars. In this case, the traditional bank must pay interest in the amount of (75) million dinars to depositors and the remainder (13) million to shareholders. This will bring the bank's total capital to 63 million dinars. At the Islamic Bank, depositors and shareholders have won 88 million dinars. Assuming that the bank - under the speculative contract with depositors - (50%) of the total profit earned, means that it will receive a profit of (44) million, i.e. its capital will become (94) million dinars (Ahmed, 1998).

Assuming that both banks suffered a loss - not a profit - of 40 million dinars per 1, due to some debtors' inability to pay their debts. In this case, the traditional bank must pay interest on deposits amounting to 75 million and the amount of the loss, i.e. its total loss will be 115 million dinars, exceeding the capital by 65 million dinars. As a result, the bank will be bankrupt in accordance with banking regulations and regulations. While the Islamic Bank will transfer this loss to the investment deposit accounts, the capital will remain the same.

## **2. At the macro level**

The effectiveness of the partnership system in addressing some macroeconomic problems, particularly inflation and contraction, is highlighted by the system's derived methods, which can serve as effective monetary policy instruments; In the case of inflation, monetary authorities could increase Islamic banks' share of the speculative contract on the share of financiers, which would mean an increase in the cost of credit and lower demand for it, thereby reducing the level of liquidity in trading. Unlike Deflation, where these authorities reduce speculative shares and increase management's share of the participation contract, facilitating the credit outcome and increasing Monetary Current. Investment expenditure is employment or employment (Al-Kuraidi, 2003).

The mechanism (Mechanism) can be adopted in the sectoral allocation process (Sectoral Allocation), with the aim of concentrating activity in a particular sector and not in other sectors of the national economy, by increasing investors' gains in this sector by increasing their share in the speculative contract.

On the other hand, the benefit system has always been one of the causes of the financial and economic problems of individuals (businessmen and consumers), institutions and nations. Indeed, the debt disaster - which has plunged politicians and economists - in many countries - especially developing countries - is one of the products of this system. From time to time, a new IMF country announces its inability to pay its debt and interest and demands a rescheduling. Political attitudes and interference in internal affairs have become a price (Al-Qahf, 1979).

The debt catastrophe has made it clear that most developing countries' economic resources are being drained, owing to their magnitude and importance; For example, the external indebtedness of 13 Arab countries owed a border \$158 billion at the end of 1995. In Somalia (2210.7%),

Sudan (287.6%), Mauritania (230.5%), Yemen (138.3%), Syria (128.3%), Jordan (95.9%), Algeria (78.7%) and Egypt (52.6%) (States, 1997).

In the face of this alarming erosion of the external debt catastrophe of Islamic countries -- which was the result of an interest-based borrowing policy in the context of a domestic savings deficit - some researchers believe that the key to this crisis is the establishment of participatory, loss-making international financing relationships (Al-Qarnshawi, 1995).

### **3. Achieving social justice**

As long as the Islamic economic curriculum has provided a fair regulatory framework for labour and capital cooperation in the field of production, it has also provided a fair system for distributing returns to these elements, Islam is abhorrent of exploitation and abhorrents man's inequality in income and wealth. Islam does not deny the role of the capital in economic activity and does not limit the price of its contribution, but it does not set a fixed return against it, but rather requires both the capital and the organization -- initially -- to share a share of the activity's expected net return. While at the end of the period each receives this share calculated on the basis of actual rather than anticipated net return, which makes it a potential return for monetary earners, commensurate with their contribution to regulatory efforts. Interest financing, however, involves a substantial injustice to the borrower, by forcing it to pay interest plus the loan amount, especially in the case of loss caused by factors that are irrelevant. Wealth is concentrated in the hands of a few capital owners (Abdullah, 1984).

On the other hand, while traditional banks focus on collateral and borrower's financial solvency, Winning their rich credit facilities, Islamic banks focus on the nature of the project and on the security and reputation of its principals, This leaves room for the participation of small producers, craftspeople and professionals and their contribution to economic development, which is fair in providing the capital for all segments and categories (Aboul Fotouh, Islamic Economics Journal).

In addition, the partnership system broadens the enterprise ownership base, so that quite a few individuals have the opportunity to participate in corporate equity and production units in different sectors, other than the interest system that narrows the base and confines it to a few headers funds (Al-Marzouki).

#### **3<sup>th</sup>. Risks and constraints of participatory work**

Working with the formulas based on this principle - especially speculation - is confined to many risks and obstacles, basically relying on the element of trust, which necessitates the application of a pure Islamic environment, as well as the difficulty of applying some of its conditions, which has led to the reluctance of Islamic banks to adopt them, despite the fact that they constitute the basic alternatives to the working system of interest. These risks and constraints include: -

##### **1. Entrepreneurs' unwillingness to finance participation.**

Many business enterprises - which used to adopt beneficial financing methods - do not favour the bank's participation for several reasons, including:

- Count it a kind of interference in the secrets of its work.
- To participate in part of its profits, which it accounted for all of them prior to this system.

- Benefiting from their experience with much effort and money.
- Their preference is methods that involve their full control over the investment process.
- Count this method less flexible compared to alternatives available to deal with traditional banks. From the outset, the Bank's contribution is fixed and based on which the dividend distribution ratios are determined, whether partly or entirely exploited. The participatory contract leaves no room for trying to optimize the amount of funding. for example, trying to partially or completely refund it when a partner does not need it (Mansour, 1985).

## **2. Difficulty in selecting partners and the problem of ethical risks**

This problem arises from the lack of adequate information on persons, their areas of work and past dealings, and is compounded by the limited geographical spread of Islamic banks, which can be assisted in this regard. Thus, the information that can be obtained about the participant remains within the limits of the information required to sign the contract and contained in the required investments and assets. Much information remains unacceptable, as each party can show only how much information about itself and its true intentions, capabilities and purposes are needed to persuade the other party to engage in the contract.

Thus, the Moral Hazard problem arises. If the Bank's information about the partner is found to be incorrect or insufficient, the conduct expected of it will not be realized, and the Bank's decision to make an erroneous decision is thus sacrificed and the result of the loss.

More than one researcher has referred to the problem of moral danger involved in partnership contracts, namely, the (funded) partner acting against the Islamic Bank's interest or concealing some information in order to obtain the benefits it does not deserve... and others. Some promised it the fundamental problem of the bank's non-utility model.

If the client's solvency and the quality of the guarantees provided by him is sufficient to complete the correct decision to grant him the loan by the traditional bank. Information about the customer's honesty, honesty and true intentions does not significantly affect the achievement of the final result of loan recovery and interest. These qualities are essential in the Islamic economic curriculum in general and in Islamic banking in particular. In the speculative financing formula, for example, making a profit and sharing it with the bank depends not only on the availability of favourable economic conditions, but also on the speculator's security, good intentions and sincerity, which are difficult to verify when contracting.

This is a major point of difference not only between the Islamic Bank and the traditional Bank, but also between the Islamic system and the capitalist system. The first is to build ethics and values. Therefore, all kinds of relations and contracts brought about by Shari 'a presuppose the availability of this Islamic environment in a society that is more relentless than committed, but we rarely find the likes of these in this time (Siddiqi).

Partners' practices associated with this problem - in terms of the transactions of Islamic banks - take a number of forms, including:

- On the one hand, many partners do not hold regular and timely accounts, keeping contested sets of records for contested purposes, such as reducing profits, inflating



- losses and showing fake losses... and others. Participation requires sound and reliable accounting, so as to reveal the true results of joint venture work (Al-Wadi, 2000).
- On the other hand, many partners offer manipulation of accounts, such as:
    - Calendar of first-term goods in excess of the value of the last-term goods at a low price.
    - Evaluate assets in excess of their value in order to increase their scattered amounts in order to reduce or cancel profit.
    - Overpaid by managers who are often relatives of entrepreneurs
    - In addition, the nature of the work entails associating with businessmen who work in various ways to get rid of the tax payment, which exacerbates this poor practice by urging legitimate cover.

This problem was triggered by the fact that Islamic banks moved away from financing by speculation and participation, as they were tested by the low level of security of many of their clients. Contrary to the perception of the Islamic Bank's model, speculative and participatory contracts are the real alternative to interest financing.

### **3. The inadequacy of certain laws to the system of participation**

For example, tax laws allow interest to be calculated as part of the deductible costs in determining the tax vessel, while the bank's share of the participant's profits is not treated as the same. Capital gains (\*) are not taxed in most laws, but this does not apply to profits held by the bank in the end-of-estate company. The first was to treat it as capital gains because it is intended for the purchase of fixed assets and to encourage a partner who will become a producer after a worker who has the means to produce income.

In all countries, the law protects the lender and assists it in recovering its lending if it finds money at the borrower's disposal, but the law itself does not protect the owner of the money in the speculative contract if the worker claims that the financed enterprise has failed (Abu Al-Saud, 1989).

### **4. Participation Management Problem**

On the one hand, the participation system requires a technical administrative body with a degree of skill and technical expertise to find appropriate investment opportunities for participants, choose the right partner, implement and manage these posts and supervise them, at a time when these emerging banks are not able to build such a device.

A second aspect of the participation system is the problem of monitoring the implementation of the work, especially if the bank's investments are widely distributed geographically, which makes it difficult to supervise and control these operations, which makes the fate of those participants largely dependent on the honesty of the partners.

Third, since the majority of Islamic banks' resources are of a short-term nature, which restricts the bank in choosing long-term private participation processes, limits the bank's ability and freedom to choose appropriate participation and limits it to short-term participation, and reduces its developmental role (Al-Najjar, 1980).

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\* Profits arising from the sale of a capital asset at more than one purchase price.

## **CONCLUSIONS**

1. The importance of banking participation through investment financing based on the principle of partnership is highlighted in the outcome of investment activity, where it increases the investment's marginal efficiency.
2. Effective control over the use of funds in Islamic banks is an advanced step in the operations of traditional banks that are less interested in how the loan is used and followed up.
3. The partnership system makes an effective contribution to economic development by ensuring the cooperation of the capital, labour or management in establishing economic enterprises and the efficient allocation of available economic resources.
4. Traditional commercial banks have the ability to create credit and control the offer of cash through the creation of credit money or deposit money, to obtain more interest that is the main source of their profits. Islamic banks invest the real money they have, they do not double credit and create deposits. As a result, the injection of money will go to the field of real productive investment and exchanges.
5. The return partnership system achieves greater resilience, resilience and absorption of banking crises, compared to traditional banks.
6. The partnership system broadens the enterprise ownership base, so that quite a few individuals have the opportunity to participate in corporate stocks and production units in different sectors, other than the interest system that narrows the base and confines it to a few headers.
7. The majority of Islamic banks' resources are of a short-term nature, which restricts the bank in choosing long-term private participation processes. This limits the bank's ability and freedom to choose appropriate entries and limits it to short-term entries, and reduces its developmental role.

## **Recommendations**

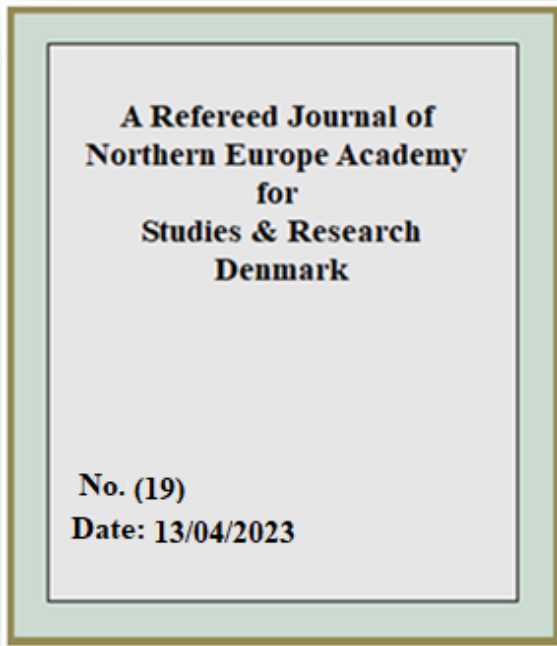
1. Expanding the role of Islamic banks in financial intermediation so that they can provide financing for economic development projects without interfering with the difficulties and problems of direct investment work.
2. The need to diversify Islamic banks' resources between a short and long-term nature to expand their development role
3. Expanding the role of effective control over the use of funds in Islamic banks
4. Matching the size and time of funding for many projects that may not suit some savers to the risk nature involved Potential



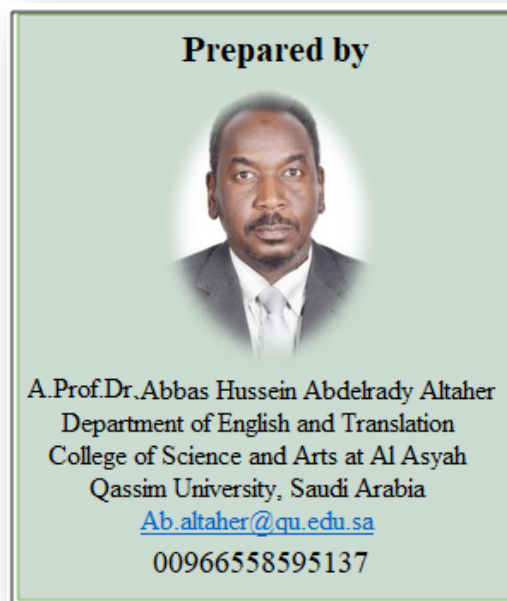
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## How learning attitudes influence students' academic motivation in ICT-integrated EFL learning practices



## **Abstract**

Motivation is one of the main factors that affect EFL learners' success and performance in the language learning environment. Following the global trend, the use of ICT in teaching-learning practices has become a popular way of English language learning due to the evolution of technology, which has increased interest in the subject of academic motivation. At the same time, students' learning attitudes in an EFL learning environment play a key role in enhancing their motivation to learn English. Thereby, the current study was conducted to explore the role of students' attitudes in promoting their academic motivation to learn in ICT-integrated EFL learning environments. To collect the data, questionnaires were used to guide the study. The collected data was then analyzed using various statistical tests. The results indicated that all the identified components of students learning attitudes, i.e., cognitive, behavioral, and emotional aspects contribute significantly to strengthening their academic motivation in ICT-integrated EFL learning environments. The implications of this study suggest that all aspects of the students learning attitudes should be taken into consideration while designing activities, curriculum, and policies for ICT-integrated EFL instructional practices to enhance their academic motivation to learn English.

**Keywords:** EFL learners; ICT-integrated learning; academic motivation; learning attitudes; self-determination theory; English learning

## **Introduction**

Students' academic motivation is widely acknowledged as a crucial factor in their learning effectiveness. Accordingly, a considerable proportion of educators believe that children with higher academic motivation are more likely to succeed in school (Wu, 2019). In any educational setting, teachers strive to increase students' academic satisfaction and motivation (Abdelrady & Akram, 2022).

Students' academic motivation has remained a mystery to many teachers, especially those who teach English as a foreign language (EFL) (Wang, 2022). According to Dornyei and Ushioda (2013), academic motivation refers to the students' beliefs, aspirations, and values that determine which academic or school-related activities they will pursue and remain engaged in.

It's the educators' job to foster academic motivation in preteens and adolescents and make sure educational institutions can meet their students' needs through the methods they use in the classroom (Ryan & Deci, 2020). It has been observed that students who devote more time and energy to their learning responsibilities tend to outpace their peers who do not devote enough time to their educational responsibilities in an English as a foreign language (EFL) learning environment, (Yu et al., 2019). According to Daggol (2020), it has been shown that students who actively participate in class activities and tasks are more likely to succeed in their classes.

In addition, many students look for different ways to learn English. Among these ways, following the global trend, the use of ICT in teaching-learning practices has become a popular way of English language learning due to the evolution of technology. Moreover, as a result of the technological advancements of the past few decades, ICT is becoming a crucial part of teaching and learning practices, which are becoming an essential part of our educational system. (Akram et al., 2021). Technology-based instructional methods not only contribute to innovation in pedagogical approaches (Al-Adwan et al., 2022), but also help improve students' academic satisfaction (Abdelrady & Akram, 2022) and enhance students' cognitive abilities (Akram et al., 2022), and improve academic performance (Cofini et al., 2022). Similarly, the Saudi Arabian Ministry of Education recommends that educational institutions maximize ICT use in order to meet international requirements (Saudi Arabia Ministry of Education, 2021). Al-Asmari & Khan (2014) assert that learning technologies have enabled all Saudi Arabian educational institutions to successfully integrate ICT in education. For increasing student engagement and learning outcomes at different educational levels, WhatsApp (Ali & Bin-Hady, 2019), Socrative (Alharbi & Meccawy, 2020), Gallery Run (Abdulaal, 2021), and Kahoot (Zhang & Yu, 2021) have emerged as effective applications.

In spite of this, it remains a challenge for EFL teachers to select, adapt and integrate technology into their teaching practices in a way that energizes students both in the short term and throughout their studies (Nugroho et al., 2021). In relation to barriers, low academic interest has emerged as one of the key issues with ICT-integrated teaching and learning practices (Atmojo & Nugroho, 2020). It has been shown that students are dissatisfied with their e-learning experience due to a number of academic (Akram & Yang, 2021), technological, and communication challenges, which make them unable to remain motivated in an EFL learning environment (Sepulveda-Escobar & Morrison, 2020). Clearly, academic motivation is an

important factor in determining the effectiveness of educational programs, allowing students to succeed in their studies (Ryan & Deci, 2020). Furthermore, it's a popular way to measure the effectiveness of computer-based learning (Gustiani, 2020). As a consequence, it is considered essential to identify the academic motivation of students to engage with their learning experiences in this context.

Students' academic motivation in computer-based learning practices has been shown to be influenced by a variety of factors, including teacher-related factors (Dwijuliani et al., 2021), contextual factors (Nguyen et al., 2022) , as well as individual student factors that influence motivation to study (Pawlak et al., 2021). Less research has been conducted on the influence of students' learning attitudes on their academic motivation in ICT-embedded EFL contexts.

At the same time, students' learning attitudes in an EFL classroom plays a key role in enhancing their motivation to learn English as a foreign language (Orfan, 2020) and have also been seen as a key factor that influences language learning outcomes (Visser, 2010).

Thereby, learning attitudes and academic motivation are seen as extremely significant and important determinants in language learning environments, and several studies on these emotional aspects and their influence on learning have been conducted. However, it has been difficult to determine how students' learning attitudes affect their academic motivation in ICT-integrated EFL learning contexts. This study attempted to fill these gaps by examining the following objectives.

- Examine students' academic motivation in ICT-integrated EFL classrooms.
- Explore the relationship between student attitudes and academic motivation to learn English in ICT-integrated EFL learning environments.

## **Theoretical Framework**

Following theories serve as the theoretical foundation to examine students' attitudes and academic motivation to learn English in ICT-integrated EFL learning environments.

## **Academic Motivation**

Fostering students' intrinsic motivation to learn is one of the most crucial foundations of effective teaching (Harandi, 2015). Learners who are driven to participate in and profit from their



educational experiences because of their own personal interests are deemed to have high levels of motivation (Rahm et al., 2021). According to the self-determination theory, students' levels of intrinsic motivation increase when their demands for competence, autonomy, and relatedness are met within a given learning activity or setting (Deci & Ryan, 1985), which was developed in the context of the self-determination theory. Being competent in one's activities and social relationships is what competence entails (Deci & Ryan, 2000), and students satisfy their competence need when they learn how to achieve goals (for example, through rules or feedback) (Baard et al., 2004). For instance, when students complete a task and receive favorable feedback on their performance, they satisfy their demand for competence while also increasing their intrinsic motivation. The term "autonomy" refers to the idea that one is the causative agent of one's own life, and students satisfy their need for autonomy need when they obtain more control over external academic circumstances. For instance, when students find themselves unable to deal with exam deadlines, it decreases their motivation upon unfulfilling the need of autonomy.

Lastly, the term "relatedness" refers to the emotional connections and group activities, and students satisfy their need for relatedness when they work together with their teachers and peers in a collaborative learning environment. For instance, when students get engaged with their teachers and peers in collaborative learning activities in the EFL classroom, it satisfies their demand for relatedness while also increasing their intrinsic motivation.

### **Attitudes**

Attitudes, according to Banaji and Heiphetz (2010), are the beliefs concerning the results or attributes of carrying out the conduct (behavioral beliefs), weighted by judgments of those outcomes or features, and shape the individual's attitude toward the behavior. Therefore, a positive attitude toward the activity can be expected from a person who strongly believes that the behavior will lead to the desired outcomes. On the other hand, a negative attitude will be held by a person who is firmly convinced that unfavorable, personally-valued consequences will follow from engaging in the conduct in question (Briñol & Petty, 2012). Language acquisition is a complex process that involves not only the intellectual but also the psychological and social perspectives, and it is mostly determined by the motivation and attitude of the learners toward the target language learning process (Padwick, 2010). It has been argued by Gardner and Lambert (1972) that your students' ability to master a second language is not just a function of

their innate intelligence or linguistic aptitude, but also of their perceptions and attitudes towards the language that they are trying to master. Furthermore, they suggested that the concept of attitude may contribute to the improvement of the language acquisition process by affecting the nature of students' behaviors and beliefs regarding the other language, as well as the culture and community of the other country. This will determine the students' propensity to learn that language. Additionally, the learning process not only entails cognitive aspects, but also social and psychological aspects as well. Thereby, the concept of attitude can be viewed from these three dimensions, i.e., behavioral, emotional, and cognitive aspects of attitude.

### **Cognitive Component**

The cognitive aspect of attitude deals with the learners' expectations of their own knowledge and comprehension during the language acquisition process. The cognitive mindset can be broken down into four stages: integrating the new information with one's existing body of knowledge; developing and testing this information; and finally, using it in a variety of contexts (Wenden, 1991).

### **Behavioral Component**

A person's behavior and reactions in specific situations constitute the behavioral aspect of attitude. It is important to note that successful language acquisition involves learners identifying with native speakers of the target language and acquiring or adopting specific behavior characteristics that set them apart from other members of the target language group (Wenden, 1991).

### **Emotional Component**

This component of attitude is concerned with the emotional factors that influence an individual's cognitive development. Attitude may assist students in conveying how they feel about certain objects or situations around them. It is well acknowledged that EFL learners' inner sentiments and emotions influence their perceptions and emotions about the target language (Choy & Troudi, 2006).

Using these three components to understand the students' learning attitudes in ICT-integrated EFL learning environment, the study measured their academic motivation with the help of these posited hypotheses:

- Cognitive component of attitude positively affects students' academic motivation to learn in an ICT-integrated EFL learning environment.
- Behavioral component of attitude positively affects students' academic motivation to learn in an ICT-integrated EFL learning environment.
- Emotional component of attitude positively affects students' academic motivation to learn in an ICT-integrated EFL learning environment.

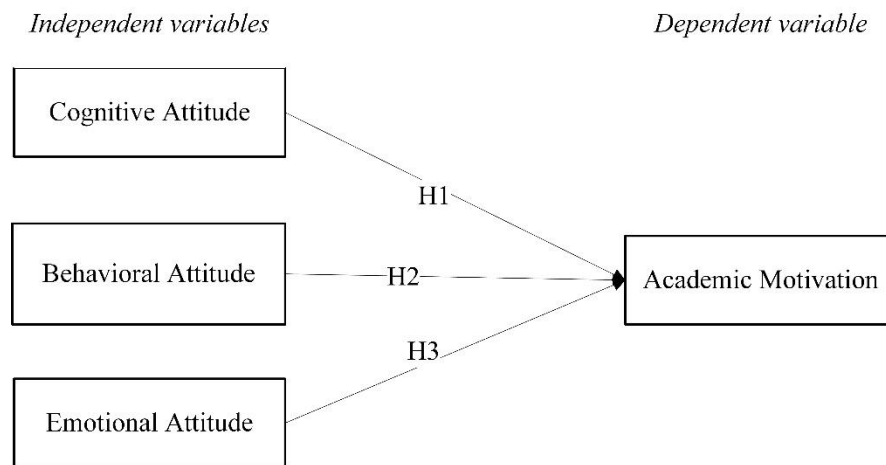


Figure 1. Research model

## Methodology

### Research design

This study used a quantitative design proceeded by surveys to investigate Saudi EFL students' attitudes and level of motivation toward English language learning in an ICT-integrated learning environment. Following the given resources and objectives of the study, a quantitative design was considered most appropriate because this approach allows a researcher to acquire accurate data by recruiting a wider group of participants in a short period, which also help in the generalization of results most advantageously (Gorman & Johnson, 2013).

### Participants

For the purpose of generalizing the results of this study, all secondary school students enrolled in different cities of Saudi Arabia were included in the study in order to increase the

generalizability of the findings. To collect data, the researcher distributed questionnaires to each school using targeted sampling and requested good cooperation from administrators. In order to collect data, 680 students were given questionnaires as part of the data collection process, but only 324 of them responded to the survey.

### **Instrumentation**

The information was acquired from the students using a questionnaire that included two scales: English language learning attitude (ELLA) and the Intrinsic Motivation Inventory scale (IMI).

Students' English language learning attitudes were measured using a scale, namely English language learning attitude (ELLA), established by Abidin et al. (2012) based on the mandated indicators of the attitude. A total of forty-five items were included in the ELLA scale, and they were assessed on a Likert scale of five points, from 'Strongly disagree' to 'Strongly agree'. A questionnaire of 11 items was adapted from McAuley et al (1989)'s Intrinsic Motivation Inventory scale (IMI), which was developed to identify the academic motivation of students, and was then adapted from the Intrinsic Motivation Inventory scale. On the (IMI) scale, the first point represents "Strongly disagree" and the fifth point represents "Strongly agree.".

### **Pilot Study and Reliability of the Instrument**

The face validity of the questionnaire was evaluated by a professor in the English department of the university; however, the professor's identity was concealed in order to protect their anonymity. After this, the pilot study was carried out with a total of fifty students, which opened the way for the dependability of the questionnaire. The reliability outcomes of the calculations of the pilot study with the help of the Cronbach Alpha Reliability Coefficient for each of the items are shown in table 1 below. Because all of the Cronbach Alpha coefficients (CAC) values for the items of the questionnaire were greater than 0.71, the results yielded significant results since all of the CAC values were greater than 0.71 on every item of the questionnaire., 2018).

Table 1. Questionnaire Reliability

| <b>Variables</b>                         | <b>No of Items</b> | <b>Standard alpha value</b> | <b>Current study alpha value</b> |
|--|--------------------|-----------------------------|----------------------------------|
| English language learning attitude scale | 45                 | .80                         | .81                              |
| Academic Motivation Scale                | 11                 | .79                         | .80                              |

## Data analysis

In order to investigate the proposed research hypotheses of the study, an inferential and descriptive statistical approach was used by applying the structural equation modeling (SEM) technique via smart PIs software. One of the advantages that structural equation modeling (SEM) provides is the opportunity to investigate several models, each of which may have a unique combination of variables at each level (Mueller & Hancock, 2018).

## Descriptive statistics and correlations

In order to examine the degree to which Saudi students remain motivated to learn in an ICT-integrated environment, we performed descriptive statistical tests, i.e., Mean and Standard deviation. The results showed a good prevalence, which indicates that EFL students had a moderate level of motivation to learn English, as the mean values were greater than 3, as shown in table 2 (George & Mallery, 2018). Regarding learning attitudes, all the domains of students' learning attitudes showed a positive attitude towards learning English in an ICT-integrated EFL environment, as the mean values of all the components of attitude were greater than 3. On comparison, the cognitive aspect of attitude showed the highest mean value, i.e. (M = 3.33), whereas the behavioral aspect of attitude yielded the least mean value, i.e. (M = 3.01).

Pearson's correlation analysis was used in order to determine the relationship between all variables. The results of the study revealed that student academic motivation was significantly correlated with all three domains of learning attitudes in ICT-integrated EFL environments (Conner & Johnson, 2017), where there was no evidence of multi-collinearity, as all correlation coefficient scores ( $r$ ) were within the specified threshold value range (Cleophas & Zwinderman, 2018). The highest relationship between academic motivation was found with the cognitive aspect of attitude ( $r = 0.62$ ,  $p < 0.01$ ), while it showed a minor correlation with the emotional component of attitude ( $r = 0.55$ ,  $p < 0.01$ ).

Furthermore, a discriminant validity test was conducted to examine how the study's constructs differed from each other, explaining significant scores, as yielded values were higher than the recommended value, i.e.,  $> 0.7$  (see bold inclined values in table 2) (Hair et al., 2017)

Table 2. Descriptive and discriminant validity statistics

|   |                     | Mean | SD   | 1     | 2           | 3           | 4           | 5           | 6           |
|---|---------------------|------|------|-------|-------------|-------------|-------------|-------------|-------------|
| 1 | Gender              | 1.92 | 0.9  | 1     |             |             |             |             |             |
| 2 | Age                 | 1.8  | 1.2  | 0.21  | <b>0.86</b> |             |             |             |             |
| 3 | Academic Motivation | 3.21 | 1.31 | 0.14* | 0.29*       | <b>0.84</b> |             |             |             |
| 4 | Cognitive attitude  | 3.33 | 1.02 | 0.07  | 0.10        | 0.62**      | <b>0.85</b> |             |             |
| 5 | Behavioral attitude | 3.01 | 1.14 | 0.13  | 0.08        | 0.59*       | 0.44**      | <b>0.82</b> |             |
| 6 | Emotional attitude  | 3.12 | 0.91 | 0.21* | 0.21*       | 0.55**      | 0.41**      | 0.36**      | <b>0.83</b> |

Significant at: \* $p < 0.05$ , \*\* $p < 0.01$ .

### Structural model assessment

A structural model approach was used to analyze the proposed research model. The results indicated that the degree to which EFL students remain motivated was significantly influenced by all of the three components of learning attitudes at the 0.05 level, with a significant variance, i.e. ( $R^2 = 0.51$ ), as shown in figure 2. In this regard, the findings support all the proposed hypotheses of the research model. By comparing the three components of learning attitudes, students' academic motivation was found to be highly influenced by the cognitive aspect of attitude ( $\beta = 0.46$ ,  $p < 0.01$ ), while showed least influenced by the emotional component of attitude ( $\beta = 0.21$ ,  $p < 0.01$ ).

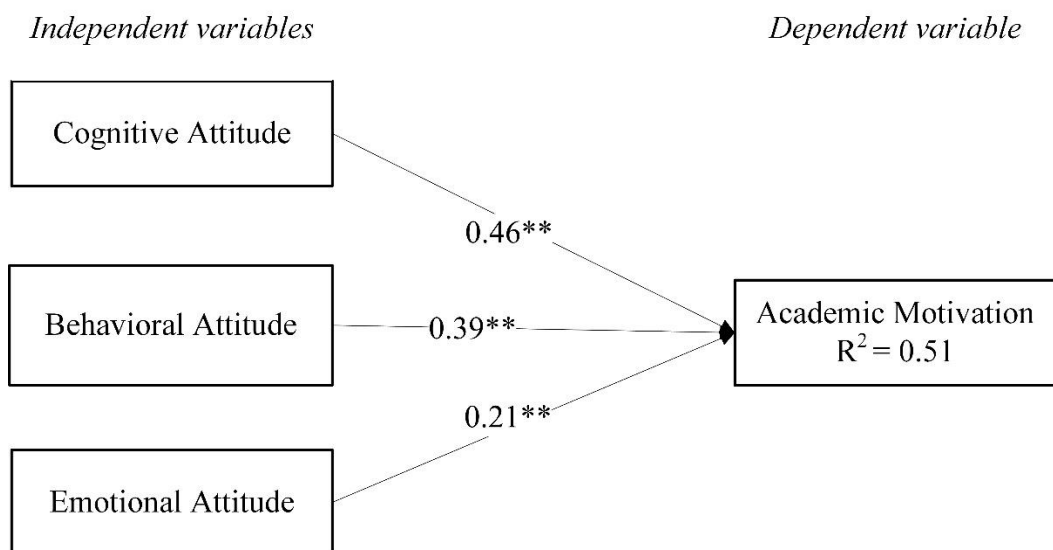


Figure 2. Structural model statistics



## Discussion

In today's EFL learning classroom, educational success highly depends upon learners' active engagement. In this regard, students' academic motivation plays a leading role in enhancing their active engagement, which enables them to accomplish their learning outcomes efficiently. Keeping this in mind, the current study attempted to achieve two distinct objectives simultaneously. Beginning with an examination of the level of students' learning attitudes and academic motivation to learn the English language in EFL learning environments, the study investigated the level of students' learning attitudes and academic motivation. Secondly, a four-factor hypothesized model was evaluated to explain the relationship between students' learning attitudes and their academic motivation to learn the English language and determine the most crucial aspects of the process and the most effective approach. Based on the findings of this study, statistical evidence can be generated to support the conceptualization of Saudi EFL secondary students' academic motivation mechanisms. The findings revealed a satisfactory level of academic motivation among students, which shows consistency with the findings of Jiang et al. (2018), who highlighted the role of expectation, task value, and cost in enhancing students' academic motivation.

Regarding learning attitudes, all the domains of the learning attitudes of students showed a positive attitude towards learning English. This finding coincides with the finding of Orfan (2020), where respondents of the study showed a positive learning attitude in all the components, i.e., cognitive, affective, and behavioral aspects of attitude towards learning English in an EFL learning environment. By contrast, this finding contradicts the findings of Abidin et al. (2012), who revealed a negative attitude of the participants towards learning English in all three components of attitude. It was also speculated that some students' negative reactions to their English classes stemmed from their teachers' reliance on outdated methods of teaching the language. Thereby, EFL teachers are advised to foster a favorable environment in their classrooms in order to foster positive attitudes among their pupils regarding language learning. They should also encourage pupils to study English by emphasizing its significance. This can be accomplished by utilizing the latest and interactive approaches and activities for teaching English, such as integration of game-based interactive platforms, i.e., the ClassPoint tech tool (Abdelrady & Akram, 2022). On the one hand, it would aid in capturing students' attention, while on the other, it would create positive attitudes among students about language learning.

In terms of relationship, the results indicated a significant influence of all three components of learning attitudes on the academic motivation of students in an EFL learning environment. This result is also aligned with the study of Pourfeiz (2016), who signified a reciprocal relationship between learning attitudes and academic motivation to learn English in light of the self-determination theory of motivation.

The level of academic motivation of students with respect to their three types of learning attitudes also varied in the present study. Correspondingly, their academic motivation was found to be highly influenced by the cognitive aspect of attitude. This result matches results of Abidin et al. (2012), where a cognitive aspect of attitude yielded the highest mean score of attitudes toward learning English. In addition to the cognitive aspect of attitude, the data also revealed that majority of the students find learning English interesting. Such finding shows consistency with the findings of Zulfikar et al. (2019), where pupils regarded learning English as an enjoyable activity as a reason to learn.

In terms of the least influencing factor, the academic motivation of students was found least influenced by the emotional aspect of attitude. This finding coincides with the finding of Orfan (2020), where Afghan undergraduate students' attitude toward learning English was showed least influenced by the emotional component of attitude. In addition to the emotional aspect of attitude, the data also demonstrated that most of the students do not find learning English enjoyable, and they prefer studying in their mother tongue. This finding shows how important it is to encourage students to take part in collaborative conversations and activities that help them learn the language well. This can help EFL students track and evaluate their progress in learning English.

## **Conclusion**

The learning attitude of students plays a leading role in strengthening their academic motivation to learn English efficiently. The sustainability in their learning attitudes is imperative to enable them to remain motivated to learn English in an EFL learning environment and acquire desired learning outcomes. Findings of the study also confirm that all the identified components of students learning attitudes, i.e., cognitive, behavioral, and emotional aspects contribute significantly to strengthening their academic motivation. It is, therefore, essential for concerned educational authorities to consider all aspects of the learning attitudes of students while

formulating an English curriculum and classroom activities in order to meet their needs and strengthen their academic motivation to learn English. Furthermore, EFL teachers' pedagogical competencies should be reinforced by taking into account all aspects of students' learning attitudes in order to increase their academic motivation to learn English.

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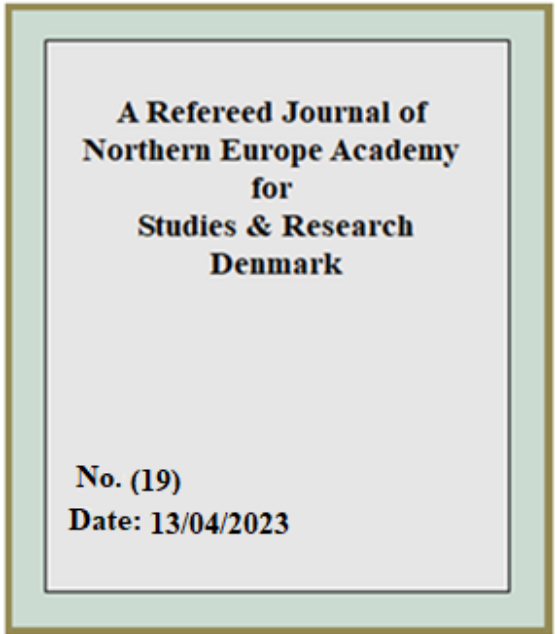
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### Iraq's food security between implementation reality and implementation constraints after 2003

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## **Abstract**

The problem of food security has worsened for many years, and has caused many challenges for many countries. Because of the inability of some States to secure food for their people, the problem of food security was one of the most serious problems in most political systems. Because these do not pose a challenge to the economic system, but to all the social, political and security systems of the State, The lack of adequate food for the population of any country leads to an actual crisis. security, political and food instability ". Iraq is one of the countries concerned with food security. Iraq's origin is an agricultural country, so it has all the possibilities and capabilities to reach self-sufficiency. But the wars that have been going through and the internal and external conflicts over three decades have made Iraq a scene of war and liquidation of the political wishes of both the great Powers and the regional States. Instead of being an arena for the development and development of the agricultural sector, Those conflicts generated a collapse in most infrastructure, leading to food security deficits. The research found weak competitiveness of agricultural crops in domestic markets versus imported agricultural commodities, as most national agricultural commodities are characterized by high prices due to high production costs and poor quality.

**Keywords:** Food security, self-sufficiency, food gap.

## **Introduction**

Food security is an important issue of great global concern that is growing day after day as a result of many of the factors surrounding food supply and demand. Food is no longer just economic, but is mixed and overlapped with political trends, strategies and international repercussions.

This global food security dilemma emerged in the early 1970s when the world was alerted to the risk of a growing gap between food demand and production rates. a gap that suffers primarily from the countries of the developing world, Among them are, of course, the Arab countries, and the issue of food security is in fact part of Arab national security, especially after the expansion of the concept of security and its transition from the traditional approach based on the military concept, which was viewed primarily from the perspective of national power by both decision makers and strategists to a broader concept to include the dimensions: economic, human political, and food.

Iraq is one of the developing countries that has been facing the food crisis and its problems since the early 1970s, despite enormous agricultural potential and resources, especially abundant water, fertile soil, vast plains, many manpower at that time, etc.

However, the mismanagement of these capabilities and resources has prevented its investment in achieving Iraq's lost food security, which is the basis of the research problem and the misinvestment of oil revenues in agricultural development and development, It has led rural

people to migrate to cities, leaving their fields and villages for jobs in the service sector and emerging light industries and the provision of services lost in the countryside such as schools, health centres, paved roads, quality housing and high and guaranteed income.

### **Research Problem: -**

The problem of research is determined by the existence of challenges in Iraq's food security structure in the absence of its basic components in the Iraqi economy.

### **Research Objective: -**

The research aims to focus on the causes of degradation in dietary requirements locally, and the causes of food security problems in Iraq by studying many internal, external and environmental factors.

### **Research hypothesis: -**

Iraq's food security faces great challenges. Its achievement requires the search for the best possible solutions to major internal, external and environmental problems and challenges through a strategic development vision that mobilizes all available capacities and capabilities.

### **Research methodology: -**

The study relied on combining the two extractive approaches with the descriptive analytical approach to the fact that the nutritional phenomenon required a description when studied, and to demonstrate the relative weight of the nutritional factor, as well as that some of the study's issues needed to be analysed.

## **1<sup>st</sup>. conceptual framework**

### **1. Food security concept and its determinants:**

There are many concepts that have addressed the issue of food security that vary according to the tendencies of their authors. Food security is a concept that helps to promote an integrated approach to solving food and nutrition problems.

However, the widely accepted definition at present, as it reflects the spirit of the concept, which was put forward by the World Bank in 1986: "Food security is the access of all people, at all times, to adequate food for an active and healthy life." (Mansour Al-Rawi, 1993:75) Its elements are essential: food abundance, food attainment capacity and therefore food security is the lack of food attainment capacity. They have put forward several versions of this concept, which differ slightly in interpretation, but there seems to be consensus on the basic principles of food security, and these principles, as embodied in the World Bank's definition, can distinguish as follows:

- Emphasize the collection of food, not its offer.
- Affirming the attainment of food by all people, including that the overall outlook is insufficient, and that the situation of vulnerable individuals and social groups is critical.
- The definition refers to the abundance of food, and the ability to obtain it.

However, this definition does not indicate how this food is obtained from national production, or through international exchange, nor does it take into account one country's level of economic development.

The definition shows that, in the International Foundation's approach to resisting the subjectivity of the concept of food security and pushing increasingly for the liberalization of international trade, this is the role now being played by the World Trade Organization (WTO) as a distortion of international trade. ( Daniel Mohsen,et al,2009:110)

The second definition of food security: the ability of the production apparatus to secure a basic food ration for the entire population, taking into account society's level of development. While developed countries consider that the amount of food produced exceeds the amount necessary to maintain existing habits and patterns, developing countries consider that: it is sufficient to provide food of all kinds, which is commensurate with their level of guaranteeing minimum survival. ( Muhammad Ali,1985:13)

At this level, food security relates to the level of economic development as a whole and the capacity of the national agricultural production apparatus, without forgetting the country's financial capacity to cover the deficit through import.

## **2. Food security indicators**

In addition to the concept of food security, several concepts have emerged that are linked to the issue of food security. ( Al-Quraishi,et al,1993: 20-34)

- Concept of self-sufficiency:

This concept consists of the situation in which food self-sufficiency is achieved locally, based on the community's ability to provide for the needs of all its inhabitants of goods and foodstuffs through national production, to the extent required, and of the different types of multi-source, and on the dates when such substances are required. Self-sufficiency is measurable by the ratio of domestic production to national consumption as follows:

Self-sufficiency = **National food production/available foodX100**

The concept of self-sufficiency can therefore be viewed as a narrower concept than food security, where the former seeks not to resort to the outside world. and attempting to abandon imports, while the second sought the State's ability to provide adequate food to its citizens through national production, or import, and there are examples of such cases as India and Indonesia and Saudi Arabia, where they have only produced nationally, especially in the grain field in the first case and Japan, For example, in the latter case, Norway has high food security, even though it has local food production. Thus, self-sufficiency is often not a guarantee of food security, more a political than an economic concept.

## **3. Food Gap Concept:**

is the difference between domestic production and net imports of various food commodities, the reasons for which are the result of higher demand growth rates than production rates, and the fact that consumption rate is about twice as high as production has resulted in a widening food gap,

decreased self-sufficiency rates and increased dependence on external markets to secure food needs.

Available for consumption = only domestic product + imports - exports

Food gap = available for consumption - domestic production. Or it = imports - exports

### **A. Agricultural economic efficiency.**

It is an indicator of the importance of agricultural activity's contribution to GDP, measured by the breakdown of agricultural output from GDP/employment in agriculture from total employment. The higher the share of agriculture's contribution to GDP, and the lower the proportion of agricultural employment in total labour, the higher the value of agricultural economic efficiency.

### **B. Food security determinants:**

The quantities and quality of food supply are affected by many determinants affecting the performance of the agricultural sector, including:

- Food demand is rising due to the rapid increase in the population in most countries, and is estimated to grow by 3% annually, which exceeds the growth rate of the world's population by 1% and the growth rate of the population of developed countries by 2%.
- Natural determinants (water, drought): The Arab country is characterized by scarcity, low rainfall and inadequate surface water resources, which have adversely affected the quantities and quality of groundwater resources in many Arab States.
- Economic policies: Since their liberalization, many developing countries, especially in the 1960s and 1970s, have adopted models of development that prioritize industry and urban populations, believing that industry is the sector that makes economic progress investment expenditures ", while agriculture was neglected within its domestic, or regional, framework in terms of both the proportion of investment expenditures allocated to it social services ", or in terms of pricing policies for agricultural and food goods, or in terms of the provision of social and economic services in rural areas.

## **2<sup>nd</sup>. The reality of Iraq's food security crisis**

This research focuses on analysing some of the manifestations of Iraq's food crisis, focusing on the low level of self-sufficiency, the size and development of the food gap and the volume of food aid, as well as the causes of the crisis by focusing on factors, nature and economic development options and their impact on the escalation of the crisis.

### **1. Iraq's food security reality**

Developing countries, including Iraq, were exporters of foodstuffs in the first half of the twentieth century, owing to the small size of the internal market and the colonial policy that depended on their colonies to meet their food needs. as well as the fact that most of these countries' inhabitants are rural people who provide their own food. But after the independence movements and freedom from colonial domination, significant economic structural changes have



occurred as a result of political, economic and social reasons, One of the most noteworthy is the farmer's freedom from disruption and to move towards city centres where there are jobs in trade and light industries and the availability of services as well as expulsion factors in rural Iraq, which were overburdened by the manifestations and factors of underdevelopment and service and cultural degradation, During the 1950s and 1960s, a large abandonment to the cities led to a large vacuum in the countryside, the source of food. food demand in cities has increased dramatically, giving rise to the food problem within its broad framework, so that the Iraqi State is losing its ability to produce the most important food commodities and is beginning to rely on the outside to meet its food needs, especially strategic ones, such as cereals.

The agricultural sector has been severely shaken by the Iraqi State's exposure to unstable security, political and economic conditions after 2003 due to the disruption of the US occupation forces which demolished the Iraqi State's fragility and did not destroy the former regime's security and intelligence structure which caused the occupying forces to make grave mistakes that were recognized by United States officials after 2005, since they did not plan well for the post-occupation or so-called reconstruction of Iraq (economic, political, development, etc.).

This exacerbated the problem of terrorism after the two Americans planned to confront terrorism in Iraq and nowhere else in the world. security conditions, paid for by the Iraqi people whose social and economic life had been affected in all its details The agricultural sector has been neglected because of the occupation's preoccupation with the implementation of its plans, Instead of importing fertilizers, pesticides, machinery, equipment and modern irrigation devices, the borders were opened wide to import food and agricultural goods from (vegetables, fruits, legumes, tuberculosis, etc.) are cheap prices and good quality compared to local goods that have lost value because of their production, storage, packaging and transportation process, as well as their high market price, as well as their poor quality due to their lack of disease control and poor quality seeds.

It should be noted that Iraqi society has negative dietary habits, most notably waste, mismanagement, excessive disposal of food. This is reflected in the fact that large quantities of food are damaged and diverted unfit for consumption. Excessive eating is not done on the basis of reasonable limits.

The depth of Iraq's food security problem is reflected in the difficulty of natural and human challenges facing the agricultural sector. under the difficult political, economic and social conditions of the Iraqi State, Economic shifts towards a market economy, and the State does not possess weapons on this path. This requires a carefully considered gradual transition so that agriculture and other economic sectors do not face external competition to prepare for and kill them in the absence of the protectionist role that a State in its most vulnerable situation should play.

In a report prepared by FAO and WFP in Iraq s Food Programme (WFP) Country Manager in Iraq (5) confirmed that Iraq has some 6.4 million Iraqis suffering from food insecurity and that some 930 thousand Iraqis face a very significant problem of food shortage, and this report confirms that last year's indicators are (2007) indicates an improvement in acute malnutrition rates and a slight change in chronic nutrition rates, but there are still stunting rates among

children in many areas of Iraq. The report also underscores the suffering of some 1.5 million migrants in Iraq's interior who are experiencing a real problem of food shortages and access.

## **2. Food security constraints in Iraq**

There are many factors and constraints that have contributed to the emergence of Iraq's food problem:

### **A. Climatic Conditions:**

In the light of global climate changes, Iraq's location in subtropical regions and in the warm temperate zone, Provide an opportunity for a large number of crop varieties if they have water. Because more than 75% of Iraq's area is desert and semi-desert areas and the remaining area is marginal or humid areas, The amount of rainfall ranges from 400 to 1000mm and most of this area is a suitable place for rainy agriculture in wet years. The rest of Iraq depends on irrigation for agriculture. The changes in the world's climate, caused by global warming, make climatic conditions a major challenge to Iraqi food security.

### **B. Desertification:**

Desertification emerged as a serious global problem in the 1960s and 1970s land and arable land, transformed into desertified and arid areas owing to irrational investment of land resources, Desertification is defined as the desert's susceptibility and desert and semi-desert conditions from stretching across its borders, sweeping green and fertile belts and transforming them into arid and megabudget.10 and defined by the United Nations as land degradation in arid, semi-arid and dry and semi-arid areas, Producers of various factors, including irresponsible and considered human activities (11) land ", desertification could be defined as any conversion of arable land to arable land or decrease in its productive capacity and degradation of arable land.

Ecosystems, as a result of human activities and natural factors that have led to soil drift and erosion, or as a result of soil salinization or the creep of dunes or the extension of desert conditions over wet and non-desert areas.

The total area of Iraq is estimated at 174,020,000 dunums, the area of water bodies 4404,000 dunums The area of arable land up to the fourth item is a problem about 26% of the total area of Iraq, distributed according to the type of soil and its suitability for agriculture as follows

- Storming class for agriculture 283,800 dunums constitutes 0.6% of the total arable area.
- The good variety of agriculture and its determinants are simple and its area is 17509892 and represents 38.7% of the total arable area.
- The average quality item and the determinants of the quality are severe and the area of 19455436 dunums constitutes 43% of the total arable area.
- The item with limited agriculture potential is 8008400 dunums and is 17.7%. ( Ministry of Planning)

Water scarcity.

Water is the source of life and the backbone of agricultural activity everywhere. Water is increasingly important and influential in desert and semi-desert areas, where rainfall is scarce, and where evaporation and plant disposal rates are high, making the quantity and quality of water available a factor in Iraq's agricultural production.

The problem of future waters will be the greatest obstacle to Iraq's food security, decreasing its quantity and deteriorating its quality threaten a great risk that can only be avoided through the following actions:

- Coordination with neighbouring countries, especially Turkey, to ensure the flow of quantities required for Iraq's development in accordance with international law and the division of quotas between countries bordering the Djilal and Wafra rivers. Not only does it require further coordination with Turkey by bridging strong economic relations so that Turkey is supplied with cheap sources of oil and natural gas from which billions of cubic metres are breached and without benefit, To remove part of Turkey's pretexts in its desire to provide the electricity that causes reservation of river water in southeastern Turkey because Turkey does not rely heavily on water reserved for irrigation, It also has a huge surplus of water pouring into adjacent seas. Turkey's association with Turkey with economic relations and interests will not make it think of using water as a political weapon against Iraq.
- The waste of water used in agriculture due to practically primitive irrigation and transportation is more than 23.1 billion cubic meters (15), which requires the adoption of modern methods of irrigation and water transport to reduce water wastage, and these methods have important economic food returns, because the productivity of dunums, which adopt modern methods of irrigation, is higher than the productivity of dunums, which is watered by rudimentary methods of water waste. (16) In this regard, the State must take down all its weight and potential by supporting the private sector to manufacture spray irrigation and drip equipment, tools and pipes by supporting these industries and exempting them from taxes.
- Treatment and recycling of wastewater and agriculture in economic fields again in agriculture or watering of artificial plants to combat desertification... etc.

### **C. Low agricultural economic efficiency.**

It is an indicator of the importance of agricultural activity's contribution to GDP, measured by the breakdown of agricultural output from GDP/employment in agriculture from total employment.

The higher the share of agriculture's contribution to GDP, and the lower the proportion of agricultural employment in total labour, the higher the value of agricultural economic efficiency, unless it indicates Iraq's agricultural economic efficiency during the years 2004-2015, accounting for about 0.57 per cent in 2004. It rose slightly and reached about 1.14% in 2015. It continues to be an indicator of low agricultural economic efficiency.

Interestingly, Iraq's countryside has become a food consumer, and much of it is unable to meet its own basic and secondary food needs. as a result of the neglect of this vital sector, as well as the difficult natural and human conditions faced by the agricultural productive process s disadvantaged agricultural work at all stages of its production, as well as the flooding of the Iraqi market with various types of foreign food goods and goods.

The agricultural sector is an important productive sector that drives Iraq's economy as an important influence on income diversification and the provision of food commodities to the population, as well as the provision of raw materials to the industrial sector, as well as the inclusion of a large proportion of farmers and farmers in Iraq's population, which is one of the

main employment-generating sectors, Iraq's agricultural employment is estimated at about 20% of the total labour force .( Ministry of Planning and Development ,(2013-2017),:55)

Iraq's agricultural capacities and potential, if fully exploited, would be encouraged by the transformation of Iraq from a food-importing country into a source of food. It would promote the realization of the agricultural sector by means of production from a wide land, whether it be a dynamic or rainy, as well as by the presence of good quantities of water sources with other human and material potential:

**A. Natural resources.**

- Agricultural land: the arable area is estimated to be approximately (44.46) million dunums, of which no more than 1 million dunums is used (29.7%) of the arable area, i.e. (70.3%) of which is not independent, This gives the potential for widespread exploitation of plant production with a diverse crop composition that contributes significantly to the country's food security In addition to this large area, there is a variety of agricultural land. land ", there is clay, sandy and mixed land, as each type of land is suitable for specific and different varieties of agricultural crops. ( Ministry of Planning and Development ,(2010-2014),:54)
- Water resources: Good potential from Iraq's main water sources is the surface water of the Tigris and Euphrates rivers and their tributaries and its quantities are estimated at 35 billion cubic metres, of which (27.5) billion cubic meters, from the Tigris River and its tributaries and the rest (7.5) billion cubic meters, from the Euphrates River and groundwater and rainfall, on which most of the land in northern and north-eastern Iraq depends and groundwater is a source of wealth and natural aquifer that can be used for economic and human development.( Kazem:23)
- Climatic nature: Iraq has a varied climate throughout the year, making it suitable for the cultivation of various types of crops. Each region is characterized by the cultivation of certain types of agricultural crops according to the appropriate climatic conditions. The northern regions are characterized by the cultivation of grains, vegetables and fruits, while the central regions are characterized by the cultivation of the majority and variety of crops.( Ministry of Planning and Development ,(2010-2014):70)

**B. Human resources:** The labour force is one of the important components on which the agricultural sector relies as a factor of production, and Iraq's 2014 population is estimated to be around 36 million people make up 30% of Iraq's total population. In this regard,( Ministry of Planning,2015:5) it should be noted that a significant proportion of these resources amount to approximately (30%) of Iraq's population is not used to engage in agricultural activity in an efficient manner, with the need to develop and rehabilitate for developing and sustainable agricultural activity with efficient agricultural scientific capacities.( Arab Organization,2015:2)

**C. Livestock:** a major source of agricultural production along with the provision of raw materials to local industries Iraq possesses a large and varied herd of animal varieties, most notably cows, buffalo, sheep, goats and camels, which are an essential source of animal protein, as well as possibilities for the development of poultry and fish husbandry, the production of table eggs, Especially since the experience of previous decades, it has

achieved important results in the field of poultry breeding and egg production, There are also foundational pillars of the agricultural sector's legislation and regulations, which need to be developed and modernized to keep pace with a future comprehensive agricultural renaissance, in which the private sector is instrumental.

Table 1 shows some indicators of Iraq's agricultural sector. The agricultural sector accounts for a modest proportion of GDP, as they do not correspond to the strategic importance of this sector. Perhaps one of the main reasons for this decline is the agricultural sector's reliance on traditional methods, despite attempts in Iraq to introduce technology for this sector, it remains modest, particularly in the area of statistical techniques, improved seeds and chemical fertilizer.( Ministry of Planning, (2010-2014):70)

Table 1  
Some indicators of Iraq's agricultural sector for 2004-2015

| <b>Cultivated Area<br/>(Elf Dunum)</b> | <b>Agriculture<br/>Contribution<br/>%to GDP</b> | <b>Value of<br/>output in the<br/>agricultural<br/>sector<br/>million 1)<br/>(dinars</b> | <b>GDP<br/>Current Prices<br/>million 1)<br/>(dinars</b> | <b>Year</b> |
|--|---|--|--|-------------|
| <b>13643</b>                           | 10.9  | <b>4521</b>  | <b>41607.8</b>   | <b>2004</b> |
| <b>14701</b>                           | 13.7  | <b>5939.6</b>  | <b>43438.8</b>   | <b>2005</b> |
| <b>14059</b>                           | 12.9  | <b>6195.9</b>  | <b>47851.4</b>   | <b>2006</b> |
| <b>14249</b>                           | 9.2   | <b>4479.7</b>  | <b>48510.6</b>   | <b>2007</b> |
| <b>14237</b>                           | 7.5   | <b>3889</b>  | <b>51716.6</b>   | <b>2008</b> |
| <b>10517</b>                           | 7.3   | <b>4020.7</b>  | <b>54721.2</b>   | <b>2009</b> |
| <b>12043</b>                           | 7.0   | <b>4063.7</b>  | <b>57751.6</b>   | <b>2010</b> |
| <b>13023</b>                           | 7.4   | <b>4739.7</b>  | <b>63650.4</b>   | <b>2011</b> |
| <b>12746</b>                           | 6.9   | <b>4941.4</b>  | <b>71680.8</b>   | <b>2012</b> |
| <b>14055</b>                           | 6.6   | <b>5017.8</b>  | <b>75685.8</b>   | <b>2013</b> |
| <b>15526</b>                           | 6.9   | <b>5036.2</b>  | <b>72736.2</b>   | <b>2014</b> |
| <b>6255</b>                            | 6.8   | <b>4835.3</b>  | <b>70990.3</b>   | <b>2015</b> |

Sources:

- Ministry of Planning, Central Statistical Organization, National Accounts, for different years.
- Ministry of Agriculture, Department of Planning and Follow-up, Department of Agricultural Statistics, annual statistical data of agricultural activity for different years.

Agricultural production, which is the most important source of human food and plays a significant role in achieving self-sufficiency, can be identified through an account of developments in plant and animal production as follows:

1. **Plant production:** Plant production is of great economic importance and this importance is derived from the importance of agricultural crops included in plant production by contributing to the daily food ingredients available for consumption and production of Iraq's

most important plant-based crops can be reviewed through the table (2), which does not meet Iraq's need for these crops, shows that the overall reality of production of these crops remains volatile and below the required level. Despite Iraq's natural and human resources and potential, their levels are fluctuating.( Khalaf& et al, 2016:10)

Table 2  
Production of vegetable crops in Iraq for the period 2004-2015 (1,000 tons)

| oil crops | industrial crops | fodder crops | Tubers and bulbs | fruits      | vegetables  | legumes   | Grain crops |             |             | year                  |
|-----------|------------------|--------------|------------------|-------------|-------------|-----------|-------------|-------------|-------------|-----------------------|
|           |                  |              |                  |             |             |           | the rice    | barley      | wheat       |                       |
| <b>74</b> | <b>37</b>        | <b>---</b>   | <b>769</b>       | <b>1361</b> | <b>4099</b> | <b>45</b> | <b>250</b>  | <b>805</b>  | <b>1832</b> | <b>2004</b>           |
| 82        | 43               | 1789         | 1062             | <b>877</b>  | 4276        | 47        | <b>328</b>  | <b>754</b>  | <b>2228</b> | <b>2005</b>           |
| 69        | 38               | 1842         | 941              | <b>1211</b> | 4195        | 52        | <b>363</b>  | <b>919</b>  | <b>2286</b> | <b>2006</b>           |
| 57        | 29               | 1902         | 779              | <b>897</b>  | 3746        | 49        | <b>392</b>  | <b>748</b>  | <b>2203</b> | <b>2007</b>           |
| 34        | 12               | 1698         | 502              | <b>1004</b> | 3543        | 29        | <b>248</b>  | <b>404</b>  | <b>1255</b> | <b>2008</b>           |
| 29        | 24               | 1668         | 298              | <b>1045</b> | 3442        | 20        | <b>173</b>  | <b>502</b>  | <b>1700</b> | <b>2009</b>           |
| 31        | 45               | 1406         | 306              | <b>1128</b> | 3496        | 23        | <b>155</b>  | <b>1137</b> | <b>2749</b> | <b>2010</b>           |
| <b>38</b> | <b>45</b>        | 1747         | <b>662</b>       | <b>1185</b> | <b>3746</b> | <b>23</b> | <b>235</b>  | <b>820</b>  | <b>2809</b> | <b>2011</b>           |
| <b>21</b> | <b>37</b>        | 1611         | <b>722</b>       | <b>1287</b> | <b>3758</b> | <b>20</b> | <b>361</b>  | <b>832</b>  | <b>3062</b> | <b>2012</b>           |
| <b>17</b> | <b>36</b>        | <b>1872</b>  | <b>785</b>       | <b>1418</b> | <b>3736</b> | <b>23</b> | <b>452</b>  | <b>1003</b> | <b>4178</b> | <b>2013</b>           |
| <b>9</b>  | <b>10</b>        | <b>1987</b>  | <b>484</b>       | <b>1374</b> | <b>4099</b> | <b>14</b> | <b>403</b>  | <b>1278</b> | <b>5055</b> | <b>2014</b>           |
| <b>3</b>  | <b>12</b>        | <b>707</b>   | <b>187</b>       | <b>965</b>  | 4276        | <b>7</b>  | <b>109</b>  | <b>330</b>  | <b>2645</b> | <b>2015*</b>          |
| <b>39</b> | <b>31</b>        | <b>1519</b>  | <b>625</b>       | <b>1146</b> | 3868        | <b>29</b> | <b>289</b>  | <b>794</b>  | <b>2667</b> | <b>average period</b> |

Source: Ministry of Planning, Central Bureau of Statistics, Directorate of Agricultural Statistics, for different years. The governorates (Nineveh, Salah al-Din and Anbar) were not included for the year 2015 due to the ISIS invasion.

D. Livestock production: Livestock production is the second branch of agricultural production, as well as its importance in agricultural national income and plays a significant role in strengthening the Iraqi economy as a vital complement to plant production in achieving and providing population food by providing raw materials for manufacturing industries and livestock production in Iraq includes the production of white and red meat, table eggs, marine and river fishing, etc., and through consideration of the table (3) which reflects fluctuating production of white meat, fishing and eggs, averaging production during the study period (99.4), (55.6) and (878.4) respectively, and red meat production is on the rise, averaging 149.6 tons during the study period.( Ali, 2012:19)



Table 3

Iraq's production of red and white meat, table eggs and fish for the period 2004-2015

| Fishing<br>(1000 tons) | Eggs<br>(1 million<br>eggs) | White Meat<br>(1000 tons) | Red Meat<br>(1000 tons) | Year                      |
|------------------------|-----------------------------|---------------------------|-------------------------|---------------------------|
| <b>18.4</b>            | <b>964</b>                  | <b>64.7</b>               | <b>132</b>              | <b>2004</b>               |
| <b>34.7</b>            | <b>1034</b>                 | <b>94.3</b>               | <b>134</b>              | <b>2005</b>               |
| <b>56.8</b>            | <b>932</b>                  | <b>112.4</b>              | <b>136</b>              | <b>2006</b>               |
| <b>54.4</b>            | <b>808</b>                  | <b>94.7</b>               | <b>139</b>              | <b>2007</b>               |
| <b>47.9</b>            | <b>916</b>                  | <b>84.8</b>               | <b>150</b>              | <b>2008</b>               |
| <b>53.0</b>            | <b>705</b>                  | <b>87.1</b>               | <b>152</b>              | <b>2009</b>               |
| <b>55.9</b>            | <b>926</b>                  | <b>108.7</b>              | <b>155</b>              | <b>2010</b>               |
| <b>48.8</b>            | <b>1019</b>                 | <b>135.9</b>              | <b>158</b>              | <b>2011</b>               |
| <b>67.9</b>            | <b>1104</b>                 | <b>153.0</b>              | <b>161</b>              | <b>2012</b>               |
| <b>110.5</b>           | <b>1194</b>                 | <b>101.1</b>              | <b>163</b>              | <b>2013</b>               |
| <b>84.0</b>            | <b>374</b>                  | <b>70.2</b>               | <b>166</b>              | <b>2014</b>               |
| <b>34.7</b>            | <b>565</b>                  | <b>86.4</b>               | <b>---</b>              | <b>*2015</b>              |
| <b>55.6</b>            | <b>878.4</b>                | <b>99.4</b>               | <b>149.6</b>            | <b>Average<br/>period</b> |

Source: Ministry of Planning, Central Statistical Agency, Directorate of Agricultural Statistics, for various years.

\* The governorates (Nineveh, Salahuddin and Al-Anbar) were not included in 2015 due to the incursion.

Table 4 shows that Iraq remains below the level of self-sufficiency for strategic crops. (spelt, rice), legumes and fruits, also for animal production (red meat, white meat, fish, table egg) and that the decline in agricultural production in both vegetation and livestock, was clearly reflected in the inability of the agricultural sector to meet the population's food needs which requires the application of sound economic policies, the provision of more modern agricultural production requirements and the adaptation of scientific progress to serve the development and improvement of production, Raising the level of self-sufficiency, and obtaining at least self-sufficiency in agricultural products is of the utmost importance, helping to achieve food security, which is necessary to avoid any variable, externally or internally. This is in order to close the gap between available consumption and domestic production in order to achieve food security.

Table 4  
Self-sufficiency rate and food gap for some crops in Iraq for plant and animal production  
Period (2004-2015)

| Food Gap | Self-sustainment ratio | Available consumption | Local Food Production | Crops      |
|----------|------------------------|-----------------------|-----------------------|------------|
| 1153     | 70%                    | 3820                  | 2667                  | Spigot     |
| 301      | 48%                    | 590                   | 289                   | Rice       |
| 20       | %59                    | 49                    | 29                    | Legumes    |
| 324      | %77                    | 1470                  | 1146                  | Fruits     |
| 1        | %99                    | 150                   | 149                   | Red Meat   |
| 78       | %55                    | 177                   | 99                    | White Meat |
| 812      | %51                    | 1690                  | 878                   | Table eggs |

Sources: Prepared by researchers based on:

- Ministry of Planning, Central Bureau of Statistics, National Accounts, for different years.
- Arab Organization for Agricultural Development, Annual Book of Agricultural Statistics, for various years.
- Calculated according to the following equation ((self-sufficiency ratio =  $\frac{\text{domestic food production}}{\text{available consumption}} * 100$ )

((available consumption = domestic food production + net foreign trade (exports - imports))

Food Gap = Available for Consumption - Local Food Production

### Conclusions

1. Weak competitiveness of agricultural crops in domestic markets versus imported agricultural commodities. Most national agricultural commodities are characterized by high prices due to high production costs and poor quality.
2. Weak financial, technical, technological, informatics and marketing potential of the private agricultural sector, which constitutes the largest proportion of total agricultural activity.
3. A significant deficit in food security insurance as production remains below the level of self-sufficiency for strategic crops (wheat, rice) and also for livestock production.

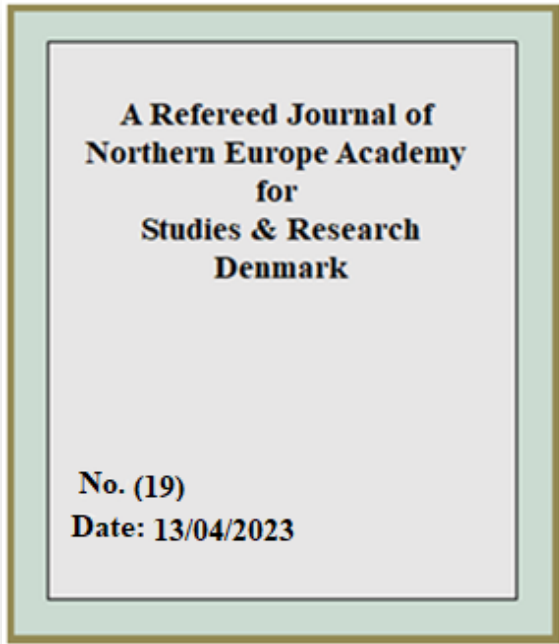
4. Iraq's reliance on foreign markets to supply most of its production inputs from agricultural machinery, pesticides, fertilizers and improved seeds, which are difficult to obtain due to financial and technical considerations and high prices, as well as the reluctance of international companies to export them to Iraq under the principle of protecting intellectual property rights.
5. A large proportion of agricultural land has been affected by the problem of salinization and sunken groundwater, particularly in the southern and central regions. Statistics indicate that 75% of traffic land suffers from salinity owing to poor operation and maintenance and the lack of an integrated miscellaneous system. This has had a negative impact on the quantity and quality of production.

### **Recommendations**

1. All available means should be undertaken to develop a strategic plan to introduce the elements of modern agriculture using mechanization, fertilizer, pesticides and modern irrigation methods in order to increase the productivity of dunums, and to work on vertical rather than horizontal expansion to reduce expenditures on the infrastructure of the added areas of agriculture.
2. The Ministries of Agriculture and Water Resources should provide a database on climatic conditions, water resources and desertification, food production and self-sufficiency ratios, and data on goods entering the country, quantities and quality. This information will make those responsible for food safety aware of the developments of this file, which is not accurate in the data available, making it difficult to diagnose the problem and its real dimensions.
3. Protection and support for the agricultural sector should be provided. Because high agricultural production costs raise the prices of domestic agricultural goods and commodities, making them unable to compete with foreign agricultural goods, support should be provided for all types of crops, especially those with ideal conditions. Support should be gradually reduced when the private sector is able to stand on its feet and produces good quality and low-priced agricultural goods and goods.
4. The need to practise sonic farming, especially in marginal areas where rainfall is scarce, because it reduces desertification, saves water and provides 50% of the peasant's efforts in traditional farming.

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## The impact of the stock market on supporting economic development (Iraq Model) for 2014-2021

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## **Abstract**

Financial markets are an important source of domestic and external finance as the instrument through which savings from surplus economic units are mobilized and directed towards underfunded economic activities, To play a role in stimulating the process of economic development as well as its contribution to various financial and economic functions. The premise of the research is that financial markets are the solid basis for supporting the development process of the national economy while discussing the problem of research that the Iraqi securities market suffers from a weakness in the circulation of its indices The research also aims to measure the relationship between the performance indicators of Iraq's stock market and the economic factors selected through two requirements, The first deals with the description of the measurement model of Iraq's stock market performance indicators the second is to measure and analyse the relationship between these indicators and the economic factors selected, The research found a correlation between GDP growth, trade volume index and market value in Iraq's stock market for 2014-2021, based on the methodology of descriptive and quantitative analysis of available market statistics and indicators and evaluation of results achieved through Eviews10 outputs.

**Keywords: Financial Markets, Iraq Stock Market, GDP, Economic Development**

## **Introduction**

Financial markets are at the forefront of politicians' and economists' interest in being closely linked to economic and social development, thus becoming central to financial intermediation through its savings mobilization and its role in optimal resource allocation. Capital markets have been established in many developing countries and existing markets have been supported and developed to keep pace with changes in international finances. Iraq is one of the developing countries that have sought to adopt capital markets as a tool dictated by economic conditions through their economic liberalization.

## **Research hypothesis**

Financial markets are the solid basis for supporting the development process of the national economy.

## **Research Objective**

The research aims to clarify how financial markets contribute to supporting Iraq's development process, enabling the economy to grow at rates that contribute to targeting GDP, gaining opportunities for prosperity and raising the level of development with a degree of desirable growth and use.

## **Research problem:**

The Iraqi securities market suffers from weak index trading and means must be found to make it efficient in financing the economy and its relevance to other financial means.



## **The temporal and spatial boundaries**

Search time limits for 2014-2021

## **Research methodology**

Research was based on the methodology of descriptive and quantitative analysis of available statistics and indicators on the market Evaluation of results achieved through Eviews 10 outputs

## **1<sup>st</sup>. Securities Markets and Economic Development**

### **1. Financial Market Concept**

The topic of stock markets has become a matter of great interest in both developed and developing countries because of the important role played by these markets in mobilizing national savings and channelling them into investment channels that support the national economy and thus increase economic growth rates, which in turn leads to the individual's development and well-being. ( Badr Ghaylan and Wham,2009:133)

The function of the Iraqi securities market is determined by the fact that it makes it possible to trade equity and bond equity and that it is necessary as a market to encourage and attract savings and is therefore an effective element and an essential source of new capital by which capital flows from major savings units to investment units. (Ziad Ramadan,2007:16)

From the previous presentation a distinction can be made between financial markets and development. For financial markets, they are defined as "structured markets and institutions dealing with long-term debt instruments, including stocks, government and private bonds, long-term loans, mortgages and savings deposits. In the context of the concept of financial markets, they include two concepts (broad and narrow concept of the capital market) as follows .( Medhat Al-Quraishi,2007:122)

- A. The broad concept encompasses the entire financial system consisting of commercial banks and other financial intermediaries, as well as short and long-term non-monetary and indirect financial transactions (bills of exchange, promissory notes and commercial contracts).
- B. The narrow concept of the capital market restricts to the regulated market of shares and bonds (exchange) in which the sale and purchase is dealt through the services of intermediaries and allowed to deal in the market and guarantors of underwriting, which is most commonly used.

They are rights arising from financial transactions between people, and these rights can be represented by securities called financial assets, which are documents or documents that demonstrate the holder's right to claim the value or returns of the issuer. The concept of development is the sustainable advancement of society as a whole and the social system towards a better human life (called the broad concept of development).

### **2. Components of the financial market**

The financial market consists of:

- A. Capital markets: -This market in which long-term financial investment instruments such as stocks and bonds are traded, its importance lies in encouraging capital investment and

providing long-term financing to projects that do not need a long time. The components of the capital market can be summarized as follows: -

- The primary market or the market for new issues, in which a direct relationship arises between the source of the security and the first book therein or between the borrower and the lender; This is a market where private savings are pooled into new investments that never existed before. The relationship in this market is translated by creating securities or financial obligations that were not in place or in circulation before they were created. In other words, the new issuance market serves as the wholesale market in which all issuances of securities created by businesses and government investment agencies that provide coverage, marketing, advice and other services to the issuers of these funds are sold. (Badr Ghaylan and Wham, 2009:134-135)
  - The secondary market and the trading market are the real market with the concept of the market, in which the values of the different investment instruments are determined naturally. Either it is organized, it takes the form of a stock exchange in which the conditions of membership and trading are determined by certain legal rules, or it is unregulated where it is traded between banks, brokers' offices and bankers.
  - Parallel Market, a third exchange to trade securities not listed on the secondary market for one reason or another.
- B. Monetary markets: Where debt instruments such as bonds, bonds, instruments or mortgages are traded, they are a contractual agreement between the borrower in which the holder of the instrument is paid a fixed and fixed amount in the duration of payment. (Raed Nasri Abu Moanes:9)

### C. Financial Market Jobs

The main objective of financial markets is to finance various economic activities, i.e. to provide the necessary financing needs of various economic agents at an appropriate cost. Financial markets are an engine of economic growth through their sources of financing for productive activity and the conversion of savings into investments, thereby increasing production and increasing GDP growth rates. To achieve these objectives, the market performs two main functions:

- Mobilizing investors' savings
- Optimal resource allocation

In performing the first job, financial markets provide attractive returns to investors by offering encouraging interest rates or offering guarantees about companies' shares, in addition to achieving transparency in transactions by obliging listed companies to provide periodic reports about their activities while ensuring that they combat the diversion of misinformation that could affect investor decisions. With regard to optimal resource allocation, efficient financial markets strive to channel investors' savings to productive enterprises to ensure that they contribute to economic growth.

There is no doubt that long-term economic growth depends heavily on the development of the financial system as a whole, whether it relates to the banking sector or capital markets,

for the financing they provide to different sectors of the economy. and if banks have formed and remain the basis of financing in many of the world's economies, Capital markets are doing the same job and have even outstripped many countries' funding capacities. capital markets ", however, it remains essential to integrate the banking sector with capital markets because expanding the financial sector to include, in addition to banks, capital markets, serves to achieve greater investment efficiency. (Ali Ahmed Bulbul & etc., 2004: 2)

D. The history of the emergence of financial markets in developing countries.

Other companies are spreading and the banking system has evolved with the establishment of central banks and commercial and specialized banks. Financial institutions and savings and insurance agencies have begun to expand and governments in these countries have issued securities to finance their needs, at which point they have adopted several programmes to develop their capital markets.

In the Arab States, in the recent backwardness of most of these countries, their monetary and financial markets have remained non-existent, underregulated or limited in size. Foreign banks have played a negative role in the development of Arab financial markets, focusing their role on servicing foreign trade with their foreign countries. (Badr Ghaylan and Wham,2009:137 -139)

E. Indicators of the degree of development of capital markets

The development of capital markets has been linked to the development of the economy as a whole. At one stage of economic development, commercial banks dominated the financial sector, and with economic development, financial intermediaries' specialization increased and equity and bond markets grew. To determine the extent of capital market development and link it to various economic indicators, economists relied on a set of indicators, the most important being the size of the stock market. (Exchange capitalization or market value of shares Market Capitalization and number of listed companies) and exchange liquidity (value of trading as a proportion of crude GDP, turnover and volatility in securities' returns) Such indicators would allow economists and policymakers to classify and compare their countries according to their level of exchange development. Given the importance of secondary market activity to ensure the continuity of the primary market, following the evolution of these indicators helps to correct the imbalances that may be involved in the secondary market. The most important indicators are presented below: -

- **Size indicators**

Market size is one of the most important indicators of the development of the stock exchange, and this index can be determined by either the market value rate relative to the crude domestic product, or by the number of companies listed on the exchange. In terms of market size as measured by the exchange capitalization rate, it is calculated by comparing the market value of shares credited to the exchange relative to the crude domestic product. This index allows to determine the extent to which the economy is affected by financing through capital markets. This percentage has not exceeded the end of the 1970s in many countries, but this indicator has seen a discrepancy between countries at the end of the century.

This is more than two times the crude domestic product of some countries, such as Hong Kong, Singapore and Malaysia, whereas the proportion is about one in America and Japan. This difference is explained by the degree to which the financial sector relies on banks or securities markets to finance economic operations. One of the deficiencies of this criterion is that it does not take into account certain non-listed stocks that are traded off the stock exchanges despite their role in the economy.

The second index to measure the size of the capital market is the number of listed companies. In highlighting this index, the number of listed companies tended to rise in general during the 1990s. According to the World Development Index (WDI) in 2001, the number of domestic companies listed on the stock exchanges was 25121 in 1990, jumping about 10 years later by 49612. The high number of companies listed on the exchanges is due to many factors, most notably the privatization of public companies and the facilitation of many States' stock exchange listing procedures. In addition, the number of foreign companies on domestic exchanges has steadily increased as a result of the recipient countries' improved investment environment and high profit opportunities. When relying on this indicator in determining market size, account must be taken of the degree to which listed companies contribute in terms of exchange-traded capital.

The division of the exchange's capitalization into a diverse number of companies is an important indicator for portfolio holders of the diversification of risks that it gives them in the situation prevailing in the United States exchanges, Japan, Canada and the United Kingdom, where the market value of the exchange is concentrated on a large number of companies. Conversely, some multinational companies dominate the stock exchanges of Switzerland and the Netherlands, meaning that the exchange's activity is concentrated in a specific number of companies, and the degree of concentration of the market value of the exchange is determined by calculating this value for the 10 most active stock companies on the exchange and comparing it with the total market value of the exchange.

#### - **Liquidity indicators**

Exchange liquidity expresses the ease of trading securities on sale or purchase. It is an important indicator of investor lure to engage on the stock exchange and allows the liquidity of the exchange to reduce risk and achieve greater attractiveness for funds as it gives savers the opportunity to collect their assets from securities quickly and sell them at appropriate prices whenever necessary, as if they were willing to recover their savings or change their portfolio components. In the event of liquidity of the exchange, companies can raise their capital through new issuances to exceed the long deadlines required for productive investments, reflecting positively the optimal allocation of resources. The provision of information and widespread savings awareness in advanced and emerging financial markets contributed to the rise in the value of the world's equity trading. The high number of listed companies and the diversification of their investment instruments have also affected high trading values. Among the indicators that help calculate liquidity can be focused on the trading rate index that determines the role of the exchange in the economy as a whole and the turnover index that determines the degree of trading activity in the exchange.

For the trading rate, it reflects the value of traded securities (volume) during a given period as a proportion of crude GDP, i.e. the share of listed companies in the country's outputs, i.e. market liquidity in the economy. The trade rate indicator complements the market value index. The results of both indicators need to be taken into account in order for the analysis to be more accurate. The size of the exchange may be significant as a result of the number of listed companies or because of the high market value of the exchange. The initial impression if the sizing index is applied individually in this case is that the stock exchange in question is characterized by activity. But deepening the analysis by taking into account the trading index may lead to the conclusion that this index is low, which means that the weight of the exchange in the economy of the country concerned is low. Consequently, there is a lack of exchange activity, which contradicts the first result.

Turnover measures the value of traded papers as a proportion of the exchange's market value, and the high rate indicates lower transaction costs. This indicator, in turn, complements the market value rate, as the large and stagnant stock exchange indicates that although market value has risen, its turnover is low. This index also complements the trading rate relative to crude GDP, because the turnover is linked to the size of the exchange and the trading rate is linked to the size of the economy as a whole. A small stock exchange with high liquidity expresses its high turnover despite the low trading rate.

Indicators of capital market development are particularly important if they are linked to indicators of the development of the banking sector, and therefore the extent to which a country's economy is affected by different financing methods and the impact of each method on economic growth can be determined. (Sami Mubarak: 5-7)

## **2<sup>nd</sup>. Impact of Iraq's Stock Exchange on Supporting Economic Development for 2014-2021**

Stock markets provide sound channels and incomes for individuals, especially small investors, and are a key tool for promoting States' economic development and achieving, inter alia, the benefits of tenure, ownership, utilization and appropriate investment return. It is also an incentive for companies whose shares are listed in these markets to follow up on changes in their share prices and drive them to improve their performance and increase profitability, leading to improved share prices and financing economic development by helping Governments borrow from the public for development projects and accelerating their economic growth rates.

### **1. The historical development of Iraq's stock market.**

In 1921, Iraq witnessed the first steps in the development of a securities market, where the first joint stock company was established in 1936. (Trade Exchange Act) No. 65 of 1936 establishing a commodity exchange and, in the absence of a stock exchange at that time, shares were traded by some shareholding companies directly between the seller and the buyer and thus registered with the company concerned. In 1955, it was concentrated on Al-Samawal Street, Baghdad. In 1975, the Industrial Bank established an office for the sale and purchase of shares within its administrative organ. This continued until the passage of Baghdad Stock Exchange Law No. 24 of 1991, which regulated stock trading in the financial market. In order to regulate equity trading in the financial market and encourage the mobilization of national savings, it has also expanded the trading of shares of shareholding companies among citizens, and has included the market

(99) Joint Stock Company in 2000, including (34) Industrial Company, (34) Service Company, (21) Agricultural Company and (10) Banking Companies, Industrial Companies were at the forefront of the companies trading their shares in the market. However, the market suffered a severe setback due to political conditions, including the blockade and the decline in the exchange rate of Iraqi dinars. (Badr Ghaylan and Wham,2009:149 -151)

On 24 June 2014, the Iraqi Stock Exchange officially returned to operation (as a securities exchange) which is an administratively and financially autonomous self-regulated institution that does not target profit owned by members, its dealings with non-traders are not contrary to the Provisional Law (and permanent upon approval) and the rules of procedure of the Iraq Securities Market and instructions issued by the Authority and is subject to the Securities Authority<sup>1</sup>, and the Iraqi Stock Exchange has a technically modern trading system All stocks can be traded electronically despite retaining the trading platform of brokerages wishing to use them, Government papers are traded in a separate system operated by the Central Bank of Iraq.( Sahar Nasr:53-55)

Iraq's Stock Exchange aims to: -

1. Organize and train its members and listed companies in the market.
2. Promoting investors' interests with a safe, effective, competitive and transparent free market.
3. Regulate and simplify securities transactions fairly, effectively and systematically, including clearing and reconciling transactions.
4. Regulate the dealings of its members with all its funds related to the purchase and sale of securities and determine the rights and obligations of the parties and the means to protect their legitimate interests.
5. Developing Iraq's financial market to serve the national economy and help companies build capital for investment.
6. Sensitize Iraqi and non-Iraqi investors on opportunities to invest in the market.
7. Communicate with stock markets in the Arab world and international markets with a view to developing the market<sup>2</sup>.

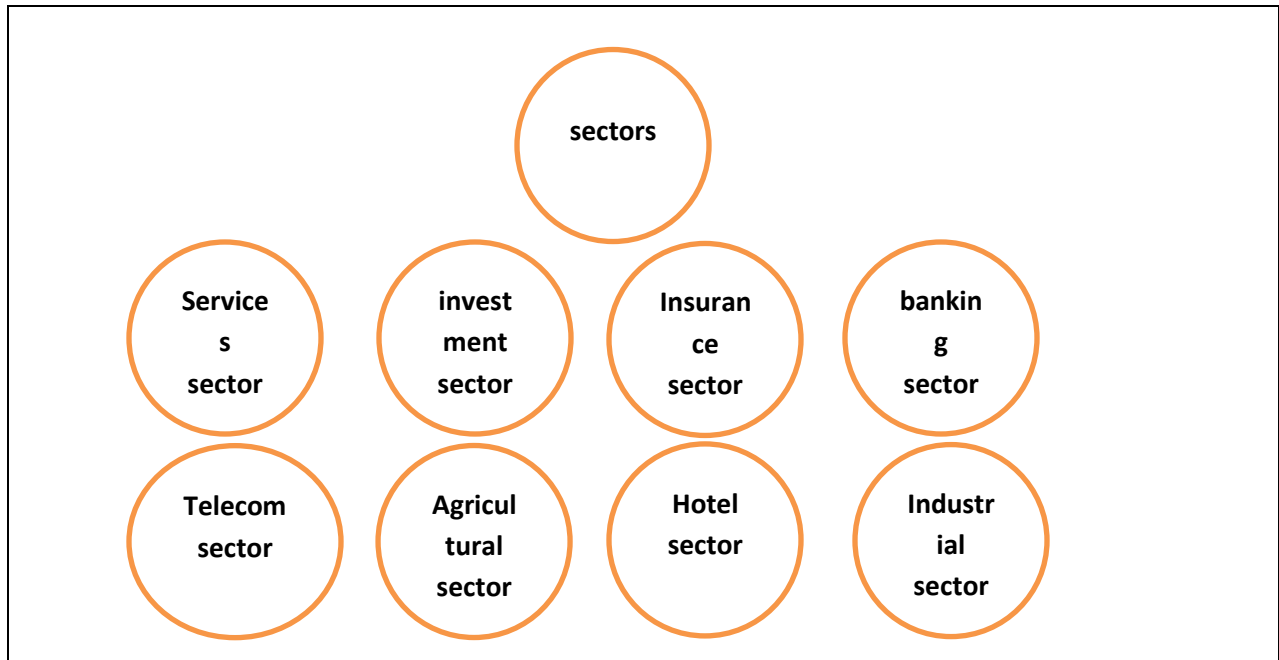
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<sup>1</sup> The annual report of the Iraqi Stock Exchange 2021, pp. 5-7.

<sup>2</sup> The annual report of the Iraqi Stock Exchange 2021, previous source, p. 8.



**The sectors listed in the Iraq Stock Exchange until 2021 are as follows:**



The drawing was prepared by the researcher based on the Iraq Stock Exchange 2021 report.

## **2. Measuring the relationship between Iraq's stock market performance indicators and GDP for 2014-2021**

The stock market performance indicators of independent variables are: -

- The general stock price index (ISX60) is expressed in variable (P)

The Domestic Stock Price Index in Iraq has been used to measure the overall performance of the Iraqi securities market, which reflects the overall level of equity prices of companies listed on the regular market.

- Market value (M.C)

This index represents the total market value of the shares of companies listed on the Iraqi Stock Exchange, reflecting the liquidity and activity of the stock market.

- Trading Volume (V)

This index reflects the total value of local stocks traded or exchanged in the financial market within one year. The volume index is also used to measure market liquidity.

Affiliate Variable

- Gross domestic product (G)

### **I. ESTIMATE THE RELATIONSHIP BETWEEN IRAQ'S STOCK MARKET GENERAL INDEX AND GDP**

More than one formula (linear and non-linear) has been used to estimate the relationship between the Egypt Stock Exchange General Index and the economic factors selected, and using the multiple linear regression method (micro-square-OLS method) (the non-linear model has been shown to be the best estimated models representing the studied relationship, the results of the estimate are: -

$$\begin{aligned} \ln gdp &= 3.41 - 1.2 \ln p + 1.4 \ln M.C. + 1.96 \ln v \\ t &= (0.94) \quad (-3.45) \quad (4.12) \\ S.E.E &= 0.171 \quad R^2 = 0.97 \quad R^2 = 0.96 \end{aligned}$$

$$F = 158.177 \quad D.W = 1.9$$

(% 1) \* between test)) the morale of the estimated parameters at a morale level (% 1) \*\*.

In standard terms, second-tier tests relevant to the standard have shown that the model is without standard problems, such as self-correlation. (Problem Autocorrelation) and the problem of multiple linear association (Problem Multicollinearity) show test (D.W) The calculated value of the model in the acceptance area falls at a moral level (% 1) \*\*\* indicating that there is no self-correlation problem between random residues in the time chain used.

With regard to economic analysis, the economic growth estimate indicated a correlation between GDP and GDP. (G) and market value index (M.C) reflecting variable (G) parameter Flexibility of the GDP index relative to the market value variable, as market value changes by (% 1) GDP changes by 1.41% in the same direction, assuming other factors are stable. An increase in the level of economic activity means an increase in the number of equity issuers, as well as a rise in the level of corporate profits, thereby increasing the percentage of dividends will be reflected in increased investor demand for equities and thus higher prices.

With regard to economic analysis, the estimate of economic activity indicates a correlation between GDP and GDP. (G) and trading volume index (V) reflect variable parameter (v) Flexibility of the resulting variable relative to the volume index, as the volume index changes by (% 1) leads to a change in GDP of (1.96%) in the same direction, assuming the stability of other factors.

A number of economists explain the correlation between economic growth and the high volume index of certain securities (especially stocks), on the basis that GDP growth will have a positive impact on equity demand, as increasing the real incomes of individuals helps them save more money, leading them to invest this surplus Cash (savings) in the purchase of shares, thereby increasing the quantities traded thereof.

On the other hand, fluctuations in economic activity can affect the activity of financial markets. If companies' activities translate into profits or losses, securities values translate the difference between sales prices and cost prices. Thus, the market value of projects restricted in the stock market is also influenced by the soundness of the financial and economic position of these projects.

The estimate also indicates an inverse relationship between GDP (G) and Market Price Index (p) reflects index parameter (p) Flexibility of the resulting variable relative to the market price

\* F value)) tabular at a level of morale (% 1) and a degree of freedom (13-1) equal to (9.07).

\*\* The value of (t) tabular at a level of morale (1%) and the degree of freedom (13) equal to 2.16).

\*\*\* Value (D.W) tabular at a morale level (% 1) and degree of freedom (-2 15) is: (dL = 0.7, du = 1.25)

index, as the market price index changes by (% 1) leads to a change in GDP of (-1.2%) and reversing the trend, assuming the stability of other factors<sup>1</sup>.

This can be justified by the fact that Iraq's stock market is ineffective or inefficient (In Inefficient Market) Therefore, it is unlikely that economic growth will respond to expectations for equity prices, as well as the low investment awareness of most Iraqi securities market operators, so that securities are dealt with on sale and purchase based on the forecast element, without resorting to technical analysis methods or access to economic data and reports on economic growth rates.

### **Conclusions**

1. The ability of financial markets to provide and recycle an appropriate amount of funds to achieve the liquidity needed for society, and support investments with different timelines.
2. Providing motivation and vital motivation to investors' audiences by achieving the fair price of securities traded on the stock market and protecting mutual parties.
3. The more effective the stock markets are able to achieve their vital mission of supporting and consolidating the State's economic stability by helping to increase production levels in the economy by financing investment opportunities that lead to higher levels of production and thus higher levels of operation or employment and thus achieving better levels of income at both the individual and national levels.
4. The benchmark analysis established a correlation between gross domestic product (GDP), market value and trading volume index in the stock market for the period in question. This confirms the validity of the research hypothesis.
5. The benchmark analysis demonstrated a reverse relationship between GDP and the market price index.

### **Recommendations**

1. Raising public awareness of the importance of dealing in stock markets and transforming them into active investors in the national economy.
2. Create an economic, political, social and cultural environment to mobilize savings.
3. Developing the financial sector as a whole to keep abreast of international developments.
4. Support legislative and regulatory reforms and make them more attractive to investors, such as providing incentives for providers to deal in the financial market.
5. It requires the development of investment in economic sectors to increase their contribution to GDP.

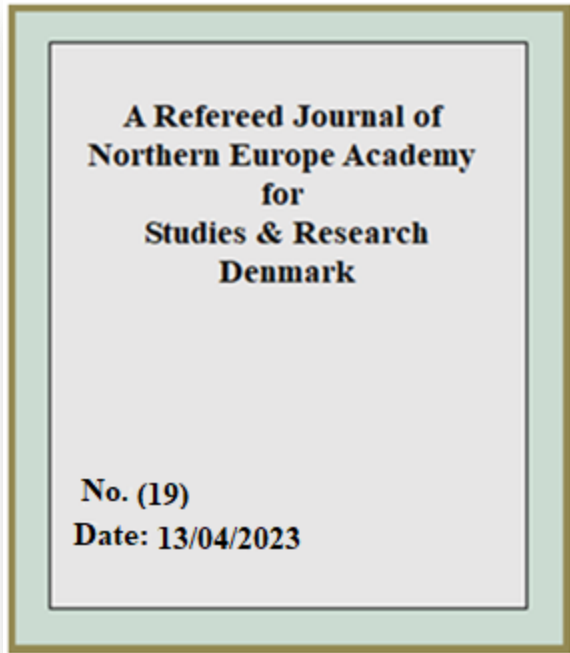
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<sup>1</sup> Market efficiency means the extent to which information is fully and quickly reflected in the market prices of the security (shares), whether that information is in the financial statements or in the information published in the media, or in the historical record = of the share price in the past days, weeks and years, or in analyzes and reports expressing The effects of the general economic situation on the performance of the establishment. For more information on the concept of market efficiency and its types, see:

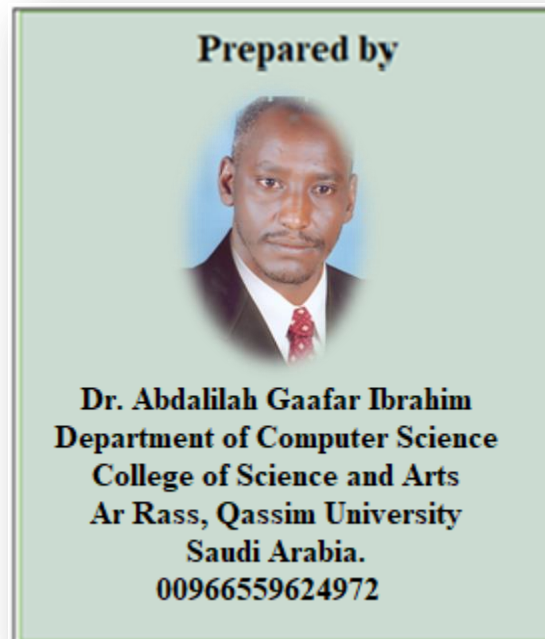
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## **Remote control of smart home via the Internet of Things using an Android app.**



## Abstract

Remote Control for the Smart House project aims to make life easier and more flexible for people with physical limitations, such as the elderly, by providing a remote controller for some of the house's equipment in the form of an Android application. Bluetooth serves as the connection point between the application and these devices; therefore, they must be within the same range. The "Smart House" application allows users to turn lights on and off, adjust their brightness, and change their color. This functionality is one of the many capabilities that are available in the application. In addition, it offers a protection system against fires by detecting gas leaks and providing an alarm for those leaks. A security system, consisting of a door with a password, is one of its features. And a great deal more in just a single application. To construct and develop the application, An Android Studio platform was utilized. In addition, the Arduino Software IDE was used to program the components (home devices).

**Keywords**— Smart House; Remote Control; Automation System; The internet of Things; Smart Home Applications; House Controller Computer vision.

### I. INTRODUCTION

Technology is one of the things that makes the modern world so fascinating, incredible, and exciting to look forward to. When it comes to something as significant as the Smart House (remotely controllable), it attracts all attention, and many considerations can operate the house from a far distance. It is the case when it comes to the Smart House. The Internet of Things (IoT) has rapidly expanded its global reach. It is a system of interconnected electronic devices that can be controlled, monitored, and managed remotely from anywhere in the world using the internet. The concept of IoT has advanced significantly during the past several years. (Debnath, B.; Dey, R.; Roy, S,2019)

Kevin Ashton introduced the idea that would later become known as the IoT at one of his lectures in 1999 (IRMA, 2017). It means members of the following internet generation that enable devices, household appliances, sensors, actuators, and other types of things to connect. Any item can acquire "intelligent" capabilities. The IoT also enables users to exercise control over an object even when they are not physically present at the location where the device is located. With the help of the IoT, controlling equipment conveniently from a distance or up close is now conceivable. Several industries, including cloud computing and smart homes, are currently using it (Spadacini, M.; Savazzi, S.; Nicoli, M.2014;Al Razib, M.; Javeed, D.; Khan, M.T.; Alkanhel, R.; Muthanna,2022). There is far too much connectivity between the Internet of Things and the smart home remote. Actuators and sensors make up the wireless bright house of the network, which can link or exchange resources. The most important technology that may be used in home design and construction is this one. A "smart house" is a concept that aims to encompass the home and is a part of the IoT paradigm (Murthy, A.; Irshad, M.; Noman, S.M.; Tang, X.; Hu, B.; Chen, S.; Khader, G.2022; S. Khunchai and C. Thongchaisuratkrul,2019; L. -D. Liao et al,2019). Consumers can remotely monitor and manage their household appliances by connecting that equipment to the internet. A substantial technological advance has been made with this. Today's market is filled with a wide variety of intelligent gadgets, such as voice-activated light switches that can be controlled from a smartphone (Anandhavalli, D.; Mubina, N.S.; Bharath, P.2015;Baraka, K.; Ghobril, M.; Malek, S.; Kanj, R.; Kayssi, A.2013; R. Kaur, P. Vats, M. Mandot, S. S. Biswas and R. Garg,2021). The intelligent system aims to improve our lives by automating home appliances that we can control with our phones. Table 1 shows the proposals of this research for the virtual devices that we use daily in our lives:



Table 1. Suggested devices and their functions

| Device         | Function                        | Device                 | Function                       |
|----------------|---------------------------------|------------------------|--------------------------------|
| LED Lights     | Switched-on/Off                 | Fan                    | Switched-on/Off                |
|                | Control, the brightness         |                        | Control the speed              |
|                | Change the color                | Garage                 | Open and Close                 |
| Open and Close | Up and Down                     |                        |                                |
| Door           | Secure the door with a password | Pool water temperature | Measure, the water temperature |
| Fire Alarm     | Detect the fire                 |                        |                                |

The problem with research lies in the fact that most homes use an old-fashioned electrical system, which has issues and difficulties in controlling, managing, and interacting with commands. Additionally, for people who have health problems, it will be difficult for them to turn the device on or off. As a result, a lot of people have to go back home to turn off the electrical device because they forgot to turn it off before they left. Therefore, doing so is a poor use of one's time. When you want to turn on or off your light or open your door, you must use an app on your phone. This is because Remote Control for Smart House application solves the problems that have existed in traditional systems and transfer them to a new technique known as the Smart System. The Smart System interacts with devices and your phone through wireless technology known as Bluetooth. In addition, it alters how we live so that it will become more effective and comfortable while simultaneously reducing the amount of energy consumed. The application is intended to assist users in their day-to-day activities and make their lives easier, particularly those of older adults. Additionally, it's becoming more crucial than ever to protect the environment and keep homes safe, thus remote control offers the following advantages:

1. An intuitive interface for a wide variety of home appliances and electronics.
2. Use the Bluetooth connection to access and control devices in the house from anywhere or outside.
3. Decrease the amount of electricity you use.
4. Provides a high level of security for the home by attaching a password to the front door.
5. Raise the price that the house can be sold on the market.
6. With a single touch, take command of the entire home.

This paper follows: Section 2 and covers related work. Section 3 summarizes the research methods. Section 4 presents the model. Section 5 discusses the results. Section 6 conclusion.

## II. RELATED WORKS

First, let's ask, "What makes the house smart?" Is it the way it's built, that it's good for the environment, or that it's in a good spot? If none of those things happen, then the smartness of the house comes from how appliances work together to make the whole place made of technology. Also, what is the history of Smart Houses from the beginning to the present? This section talks about that.

Smart House, at first, was just an idea, but then it developed and expanded through time. Before the concept of Smart House, the house appliances start showing. Between, (1901-1920) house appliances were invented. At that time, it was an outstanding achievement (Mustafa, D. E. M.2022; Katre, S. R., & Rojatkar, D. V. 2017; Ray, A. K., & Bagwari, A.2017) for some of these appliances: in 1907, the first residential vacuum cleaner that was practical, and in 1913, the first home refrigerator(Great achievements, "Household Appliances Timeline".2022) Until nowadays, these house appliances are still invented and developed the existing ones. In (1966), ECHO IV was the first device created with the idea of home automation in mind. It

needed lots of room to operate, 3kw (3000 watts) of power, and plenty of technical know-how to use. (Smart Home Technology in 1966.2022;Seo, E., & Yang, W. 2023) Home automation is now more user-friendly and simpler than it formerly was. The popularity of smart homes, or home automation, started to rise in the early 2000s. As a result, new technology started to appear. All of a sudden, consumers could now afford smart homes as a feasible choice. Home networking, domestic technology, and other devices started to appear in stores. (Seo, E., & Yang, W. 2023). Smart houses today's evolved more than when they first started, so they are not limited to one or two, or even three appliances in the home. We talk about the entire house becoming smart. Also, most of their concepts are about security and saving energy and money. Lately has been added to the intelligent house the idea of remote control from a smartphone. Therefore, it makes it much easier and more flexible. For the future, about making the entire house made of a big screen, you can change the colour of the walls as you want or as your mood, or make your room like you are in the middle of the woods or a garden instead wallpapers(Jadon, Shivani and Choudhary, Arnav and Saini, Himanshu and Dua, Utkarsh and Sharma, Nikhil and Kaushik, Ila,2020). Also, the intelligent kitchen can make your breakfast when you wake up or are out at work and want your dinner ready when you come back, so it's a big help.

Some of the works linked to the proposed work or existing ones have an idea that is either identical to or comparable to the proposed work. It has been put in tabular form (Tables 2,3, and 4) to facilitate comparison. The tables contain the name of the application, the developer, a brief description of the application, and finally, its disadvantages.

Table 2. My Home Plus Application

|               |   |
|---------------|---|
| Application   | My Home Plus  |
| Developer     | VicinnoSoft LLC.  |
| Description   | You can manage every aspect of your home using MYHome Plus. The Nest Thermostat, Nest Protect, Nest Cam, WeMo Switch, WeMo Insight, WeMo Light Switch, and WeMo Motion are just a few examples of accessories that are compatible with Apple HomeKit. To control various items, you are no longer required to switch apps. Extra hardware is not required(myHome Plus Discription.2020) |
| Disadvantages | Some of WeMo and Nest's devices are hard to control and don't have enough features, which is a waste of money. They are also not easy to use, and customer service doesn't respond quickly.   |

Table 3. Vivint Smart Home Application

|               |   |
|---------------|---|
| Application   | Vivint Smart Home   |
| Developer     | Vivint, Inc.  |
| Description   | With Vivint's Smart Home system, you can control doorbell cameras, security cameras, smart thermostats, door/window sensors, smoke detectors, and more from a single app. (Vivint Smart Home Discription.2022)  |
| Disadvantages | John Carlsen writes about Vivint Smart Home in Top Ten Reviews, "It is not compatible with more advanced home automation hardware. For instance, it cannot operate your home entertainment system or automatically open and close window curtains. (Vivint Smart Protect & Control Review.2022) |

Table 4. L.G. Smart ThinQ Application

|             |  |
|-------------|--|
| Application | L.G. Smart ThinQ   |
| Developer   | L.G. Electronics, Inc  |
| Description | The LG Smart ThinQ Application will connect all of your smart home appliances, such as |

|               |  |
|---------------|--|
|               | your refrigerator, washer, dryer, oven, robot vacuum, hairstyle, etc., to provide you a "better life with IoT. (LG Smart ThinQ Discription.2022) |
| Disadvantages | There were problems when the app and devices first tried to connect. (50 Beast Smart Home Apps.2022)   |

Many systems for intelligent things have been devised and implemented in related works, ranging from simple to complex. Simple home automation is a system that manages everyday items like a fan or light. However, a complex system is one that manages bulky objects, like automatic intelligent doors. The core capabilities of home automation are not sufficiently addressed by several currently available approaches. The majority of home control systems do not give a user-friendly interface. In the current technological era, there is a need for an effective home control system that addresses the issues above. (Mahmood, Y., Kama, N., Azmi, A., & Ya'acob, S. 2020)

### III. METHODOLOGY

The protocol used for controlling the house is a Bluetooth protocol, which allows the application to send commands (signals) to devices on the same range. Our application (an Android Application) uses the Android Studio program (Java language). It is possible to analyse, describe, and design the system with the assistance of UML Diagrams. In addition, it improves one's overall comprehension of the system in all aspects.

#### A. Use-case diagram

How users interact with the system is shown in a well-known use-case diagram. (Figure 1) displays the use-case diagram for the Smart House system. This Diagram represents the range of activities the user can perform with the system.

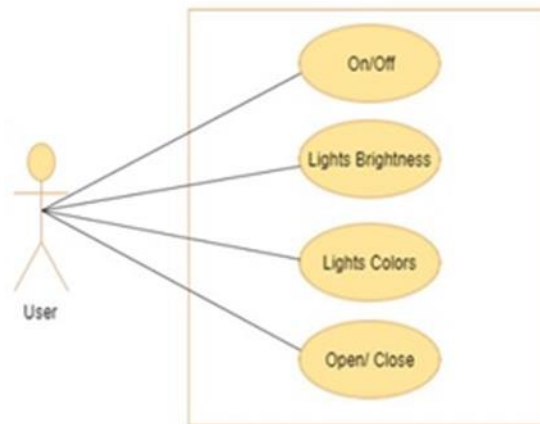


Fig 1. Use-case diagram.

#### B. Activity diagram

The mobile application's flow and the actions that users take within it are described in the activity diagram. The user's activity diagram within the mobile app is shown in (Figure 2). To demonstrate what the user can do with the house lights, the app opens with the home page before moving on to the first-floor page and the lights page.

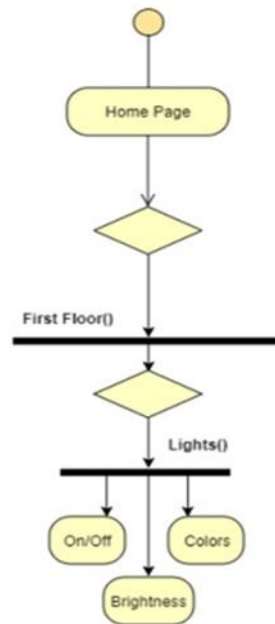


Fig 2. Activity diagram.

### C. Sequence diagram

The sequence diagram is one of the most popular interaction diagrams. A sequence diagram demonstrates how different objects interact to form a behavior. Figure 3. shows a flowchart of the commands that users submit to gadgets. The system verifies the device or appliance's status, starting with the first user to ship orders. The machine or device then transmits its position back to the system for display to users.

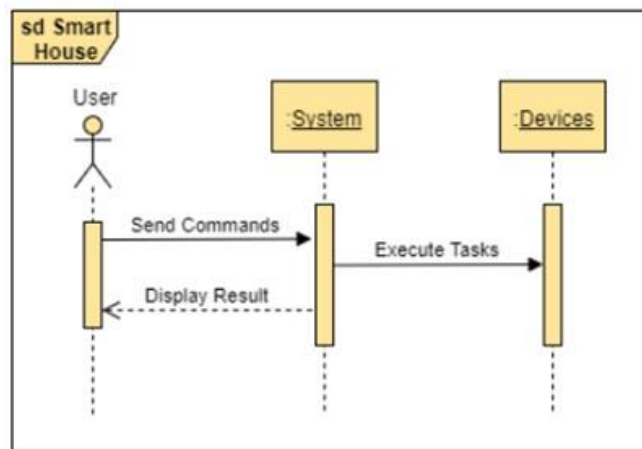


Fig 3. Sequence diagram.

### D. Class diagram

The link between objects, classes, attributes, and operations is shown in the class diagram to illustrate the system's structure. The class diagram for the intelligent home system and the connections between kinds are shown in Figure 4. To describe the relationship between the User class and the device's class, the term "association" is used. The device categorizes its parts as sensors, indicating that it cannot function without them.

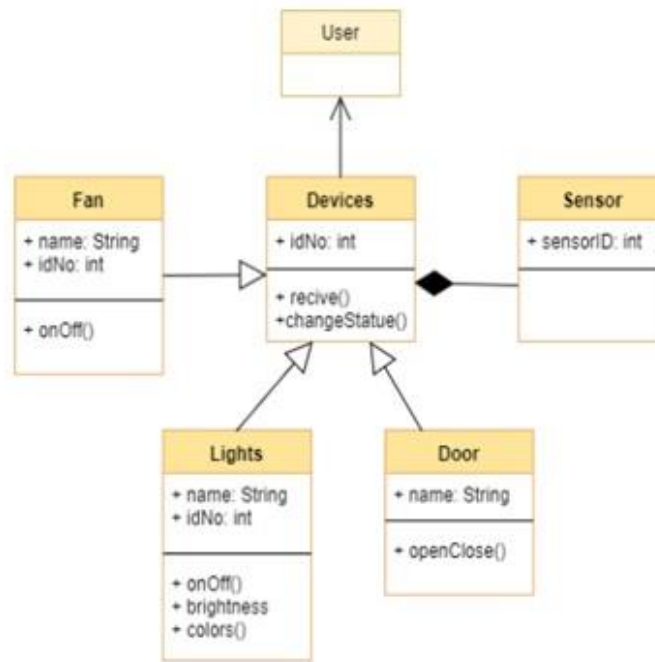
















Fig 4. Class diagram.

#### IV. THE PHYSICAL COMPONENTS

The proposed method offers inexpensive and efficient monitoring using IoT-based devices. (Adiono, T., Fuada, S., Anindya, S. F., Purwanda, I. G., & Fathany, M. Y. 2019) The components of a smart home are shown in Table 5.



Table 5 Show the hardware Components

| Component Picture   | Component Name | Component Picture   | Component Name                 | Component Picture  | Component Name                  |
|---|----------------|---|--------------------------------|--|---------------------------------|
|  | Arduino UNO    |  | Breadboard                     |  | Gas sensor                      |
|  | fan            |  | Digital temperature sensor     |  | LCD screen                      |
|  | Motion sensor  |  | Piezoelectric sounder (Buzzer) |  | Humidity and temperature sensor |

|   |               |   |                  |  |          |
|---|---------------|---|------------------|--|----------|
|  | Stepper motor |  | Bluetooth module |  | Resistor |
|  | LED lights    |  | Keypad           |  |          |

There are a variety of protocols for home automation, which may be broken down into wired and wireless categories. A protocol can be considered a language that enables different devices to communicate. Table 5 shows the protocols used in remote control for an intelligent house application.

Table 6. protocol wireless connection

| Protocol   | Reasons for choosing   |
|--|--|
|   | Because it is quick, dependable, and long-range, the Wi-Fi protocol makes it possible to communicate with devices located at a great distance. |
|  | The Bluetooth feature, standard on most modern gadgets, allows for cordless phone pairing, although its range is limited.                      |

## V. RESULTS AND DISCUSSION

The house model consists of four parts: the first floor, the second floor, the garage, and the garden.

### A. Experimental Validation

Figure 5 show application colors. For the application colors, they are:

- Maverick - #CAB7C0
- Beauty Bush - #E5B9B8
- Sweet Pink - #EC9F9C
- Hop bush - #C46E9A
- Lipstick - #993366
- Night Shads - #A04953



Fig 5. Application Colors

On the home page, the five main pages and an "About Us" page are in the title bar figure 6 show home page



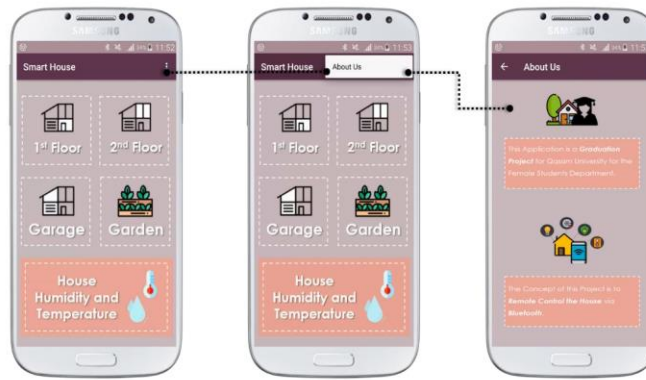


Fig 6. Homepage

The First Floor and Second Floor pages, has a Lights and Fan sub-pages. figure 7 show first floor page.



Fig 7. First Floor page

The Garden page has a Lights, Door, and Pool sub-pages figure 8 show garden page

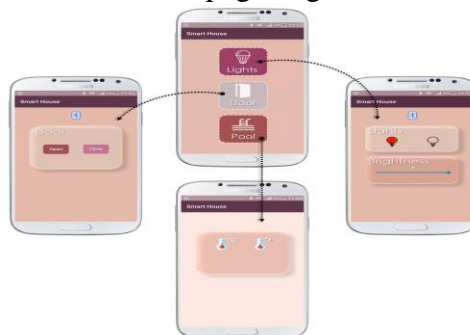


Fig 8. Garden page

To make an android application, it has used the Android Studio Program (version 3.1.4). Also, good knowledge in Java programming language.

### B. Android Studio Program:

It's an integrated development environment (IDE) for Google's Android operating system, built on JetBrains IntelliJ IDEA software and designed specifically for Android development. (P. U. Okorie, A. Abdu Ibraim and D. Auwal.2020) Android Studio supports three programming languages: Java, C++, and Kotlin. One of its features it can work in any OS such as Windows and Mac OS. To make the application communicate with the Arduino UNO board, it has used the Arduino IDE (version 1.8.7).

### C. Arduino IDE Program:

Its an open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. It runs on Windows, Mac OS X, and Linux. The environment is written in Java and based on Processing and other open-source software. (Create UI test with Espresso Recorder.2022)

### D. some codes sample of the application

Table 7. show application codes sample

| Description  | Code   |
|--|--|
| Code to control the brightness of the first floor lights.                | <pre> brightness.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener() { @Override public void onProgressChanged(SearchBar seekBar, int progress, boolean fromUser) { current= progress + min; textView.setText("" + current); if (current == 1){ bluetooth.send(FIRST1, true); } else if (current == 2){ bluetooth.send(SECOND1, true); } else if (current == 3){ bluetooth.send(THIRD1, true); } else if (current == 4){ bluetooth.send(FOURTH1, true); } } @Override public void onStartTrackingTouch(SearchBar seekBar) { } @Override public void onStopTrackingTouch(SearchBar seekBar) { } }); </pre> |
| Code to open the fan on the First Floor with Toast appears when it open. | <pre> fan_on.setOnClickListener(new View.OnClickListener() { @Override public void onClick(View v) { bluetooth.send(ON, true); Toast.makeText(getApplicationContext(), "Fan On", Toast.LENGTH_SHORT).show(); } }); </pre>  |

Table 7 application codes sample

Table 8 show some codes sample of the Arduino UNO

Table 8 Arduino UNO Codes Sample

| Description   | Code   |   |
|---|--|---|
|   | Void Setup()   | Void Loop()   |
| <p><b>Gas sensor:</b><br/>If the smoke reaches the threshold value the buzzer sound work.</p>   | <pre>pinMode(buzzer, OUTPUT); pinMode(smoke, INPUT);</pre>     | <pre>int gasSensor = analogRead(smoke); if (gasSensor &gt; sensorThres) { tone(buzzer, 1000, 200); } else { noTone(buzzer); } delay(100); }</pre>   |
| <p><b>Stepper motor:</b><br/>If the letter 'p' entered, it will send a command to open the door through the motor. And if the letter 'c' entered, it will send a command to close the door.</p> | <pre>stepper.setSpeed(500);</pre>                              | <pre>int value = Serial.read(); if (value == 'p') { int val= 2400; stepper.step(val); } else if (value == 'c') { int val2= -2400; stepper.step(val2); }</pre>   |
| <p><b>4-pin LED light:</b><br/>The RGB color used to show more colors. Here the letter 'w' for white color and 'g' for green color.</p>   | <pre>pinMode(redPin, OUTPUT); pinMode(greenPin, OUTPUT);</pre> | <pre>int value = Serial.read(); if (value == 'w') { setColor(255,255,255); delay(1000); } else if (value == 'g') { setColor(0,255,0); delay(1000); }</pre>  |
| <p><b>Temperature and humidity:</b><br/>If '-' sign entered, it will send a command to show the humidity. And if '+' sign entered, it will send a command to show the temperature.</p>          | <pre>DHT11.attach(3);</pre>                                    | <pre>int value = Serial.read(); if (value == '-') { int chk = DHT11.read(); switch (chk) { case 0: Serial.println(DHT11.humidity, DEC); break; } } else if (value == '+') { int chk = DHT11.read(); switch (chk) { case 0: Serial.println(DHT11.temperature, DEC); break; } }</pre> |

**E. In this paper, a lot of hardware had used.**

PC.

Android Phone: Samsung Galaxy S4.

Arduino UNO: contains (Bluetooth, Stepper Motor, Gas Sensor, Buzzer, LED Lights, Fan, Water Temperature, Humidity and Temperature sensor, Keypad, LCD Screen, and Motion Sensor).

Wires.

There are several types of testing, the application was tested in two types of Testing:

Table 9 Explanation Testing the System/Application on two different devices (Android Phone):

Table 9. Device Testing

| Device (Android Phone) | Version | Results   |
|------------------------|---------|---|
| Galaxy S4              | 5.0.1   | The buttons fit perfectly with the size of the screen. It also works with no error. |
| OnePlus 3T             | 8.0.0   | The buttons are small since the screen is big. It works with no error.              |

Testing the UI with Espresso Test Recorder:

Espresso Test Recorder is a tool lets you create UI tests for your app without writing any test code. By recording a test scenario, you can record your interactions with a device and add assertions to verify UI elements in particular snapshots of your app. Espresso Test Recorder then takes the saved recording and automatically generates a corresponding UI test that you can run to test your app. (. (Create UI test with Espresso Recorder.2022)

To make Espresso Test Recorder in Android Studio from the toolbar:  
Run > Record Espresso Test. As shown in Figure 9.

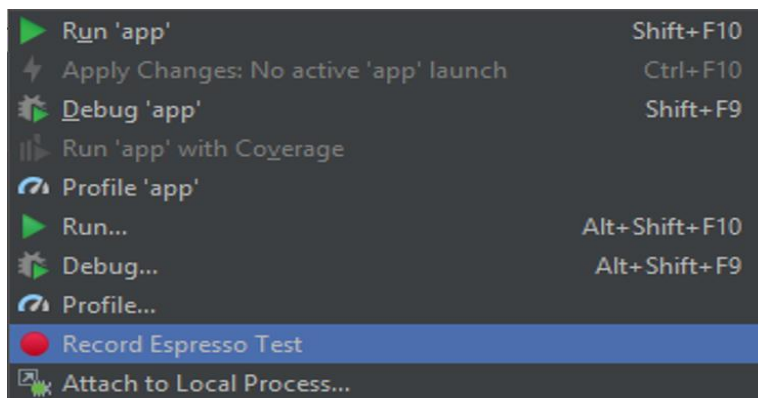


Fig 9. Record Espresso Test

Figure 10 show the Lights on the First Floor testing.

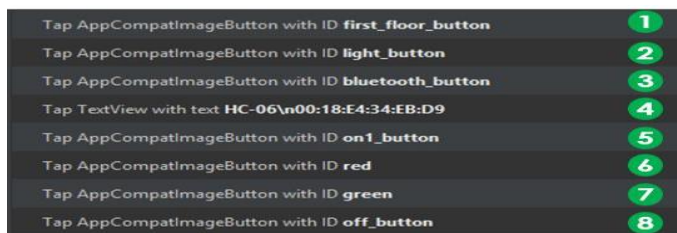


Fig 10. First Floor Lights Testing

Table 10 Explanation of Figure 10

| 1                         | 2                     | 3                          | 4                     | 5               | 6                 | 7                   | 8                |
|---------------------------|-----------------------|----------------------------|-----------------------|-----------------|-------------------|---------------------|------------------|
| Open the First Floor page | Open the Lights page. | Press on Bluetooth Button. | Select the Bluetooth. | Open the Light. | Select color Red. | Select color Green. | Close the Light. |

Figure 11 show Testing the Fan in First Floor:

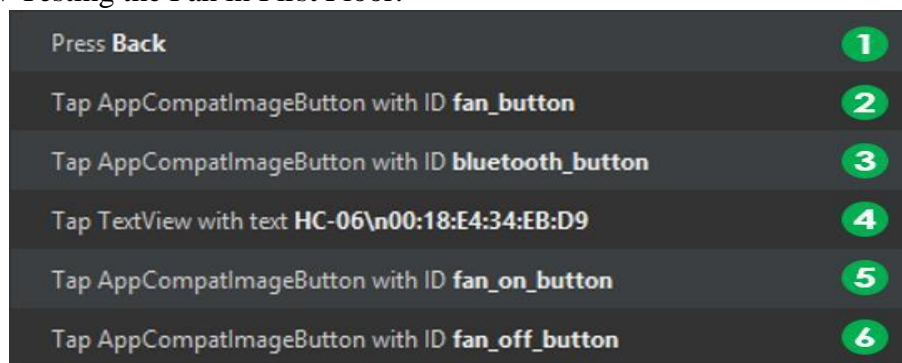


Fig 11. First Floor Fan Testing

Table 11 show the Explanation of Figure 11

Table 11. Explanation of Figure 11

| 1                      | 2                  | 3                          | 4                     | 5             | 6              |
|------------------------|--------------------|----------------------------|-----------------------|---------------|----------------|
| Back from Lights page. | Open the Fan page. | Press on Bluetooth Button. | Select the Bluetooth. | Open the Fan. | Close the Fan. |

## VI. CONCLUSION

Remote Control for Smart House seeks to help people, especially persons who are physically disabled, by giving them a remote controller for some devices in the house. Therefore, it will be a good choice for people interested in security, comfort, flexibility, and saving energy. The aim of this project; is to offer an easy-to-use application with a simple graphical user interface as a remote controller, serving LED lights, fans, garage, and doors, including multiple functions for each of them. It also offers a reading for the humidity and temperature of the house and a reading water temperature for the indoor pool.

## VII. FUTURE WORK

Using Wi-Fi for wide range instead of Bluetooth.

Add new devices to the application.

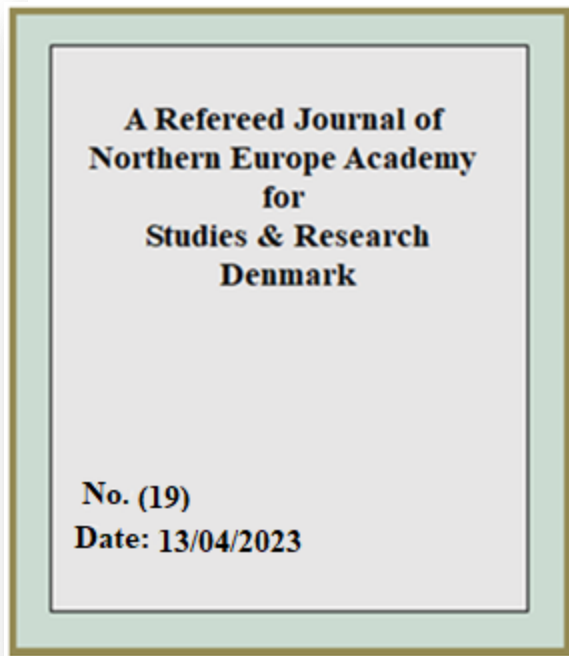
Use the application on a real house instead of house model.

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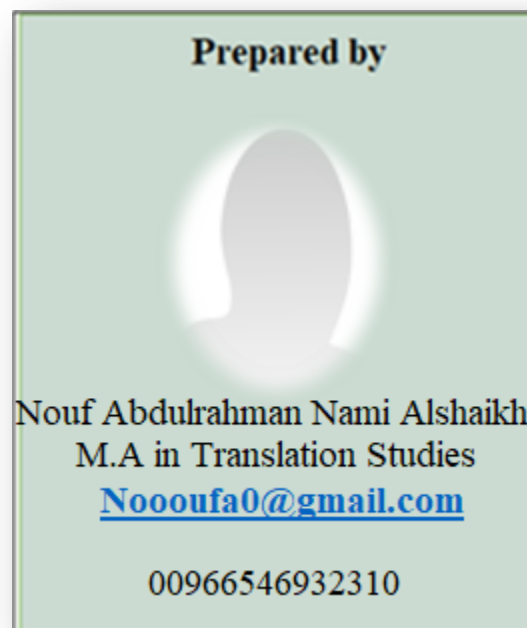
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**The Impact of Computer-Assisted Translation (CAT) on  
Translation Quality: A Comparison with A corpus of Saudi  
Translators' Generated Texts**



## Abstract

Computer-Assisted Translation (CAT) has emerged as an essential component of translation practice due to the developments in technology in recent years. However, CAT tools were always compared with human translation regarding the quality of the output. This research seeks to examine the impact of CAT tools on the quality of translation output compared with human translation in terms of three important aspects: grammaticality, lexical ambiguity, and meaning soundness. The researcher used descriptive analytical approaches to analyze a corpus consisting of (15) texts to be translated from English into Arabic. The research participants consisted of (40) Saudi female translation students who study in the eighth level at the College of Languages and Translation at King Saud University in Riyadh city. For data collection, (20) students were asked to translate the texts using Wordfast software and the other (20) students were asked to translate the same texts manually. The researcher used a translation Quality Assessment Model (QAM) to evaluate the quality of the passages translated by the translators. The quality of the translation in each version was judged by indicating the number of errors in both CAT-based and manually translated texts. The results show that the students who translated manually committed fewer errors than the students who translated by CAT tools. In the two kinds of translations, the higher errors were in grammaticality, lexical ambiguity, and meaning soundness, respectively. The researcher recommended using CAT translation in association with human translation.

**Keywords:** Computer-Assisted Translation (CAT), Human Translation, Machine Translation (MT), Saudi Translators, Translation Quality.

## Introduction

The utilization of Computer-Assisted Translation (CAT) tools has increased in recent years due to advances in technology and translation software. Translators and language teachers have found it difficult to disregard the use of CAT tools in translation due to their merits which mainly revolve around the speed of translation, the volume of translated materials, and the quality of translation (Lee, 2022).

With the major advancement in technologies, CAT tools have become a fundamental component of the translation profession (Sin-Wai, 2015). CAT tools are currently used by translators due to major factors which include speedy translation, high-quality translation, and enhanced productivity (House, 2017; Garcia, 2015). Due to the notion that CAT tools help facilitate and manage translation projects, CAT tools have gained extensive popularity. However, the usability of CAT tools among Arab translations is still understudied (Alotaibi, 2020).

CAT Tools have dramatically changed the way translators work and manage translation projects today (Bundgaard et al., 2016). It breaks down large multilingual documents into sections (phrases and paragraphs) that are stored in a database (Koehn, 2016). This is called translation memory which means previously translated material can be reused at any time. Nowadays, it is becoming more and more common for organizations and translators to use computer-aided translation tools to speed up their work and increase their productivity (Zhou & Ma, 2021).

The main obstacles to computer translation remain, as they always have been, linguistic rather than computational (Li & Daihong, 2022). These are problems of lexical ambiguity, grammatical complexity, vocabulary differences between languages, concise ellipses, and incorrect constructs (Lee, 2022). As a result, computer-assisted translation should expect and should continue to rely heavily on advances in linguistic research, particularly those branches that show high degrees of formalization (Garcia, 2015).

Computer-assisted translation has been always compared with human translation (House, 2017). Some researchers (e.g., Tsai, 2022; Lee, 2020) reported that while CAT tools are better in terms of speed and productivity, they are less in accuracy and equivalence selection compared with human translation. On the other hand, human translation was shown to be better in the grammatical and lexical aspects of translation and in the translation of collocations and idiomatic expressions (Sin-Wai, 2015).

In any translation, whether human or computer-based, the meaning of the text in the source (original) language must be fully transferred to its equivalent meaning in the target language translation (Tsai, 2022). While this seems obvious on the surface, it is often more complex. Translation is not just about replacing word for word. The human translator must interpret and analyze all the elements within the text and understand how each word can affect the context of the text. This requires extensive experience in grammar, syntax (sentence structures), semantics (meanings), etc., in both source and target languages, as well as expertise in the field of text (Pietrzak & Kornacki, 2020).

Whereas computer-based translation does have some challenges, if implemented correctly, its users will be able to realize the benefits of economies of scale when translating in areas that computer-based translation is suitable for (House, 2017). While computer-based translation is always placed in a challenge with human translation, this research attempts to compare the quality of translated texts by both CAT tools and human translation in order to see which kind of translation outperforms the other and what aspects of quality must be considered when selecting one kind of translation over the other.

### **Statement of the Problem**

Translation has witnessed since its beginnings, especially in the current era, great developments affecting the way it works and conditions have changed in the world of translation, making it different from what it used to be (Pietrzak & Kornacki, 2020). Computer translation is a tool that is characterized by high efficiency and performance, speed of work, and strong memory, as well as the ability to meet the huge, massive, and accelerating demand for translating practical documents (Tsai, 2022).

Despite the usefulness of CAT tools in translation, many researchers such as House (2017), Garcia (2015), and Bundgaard (2016) reported that CAT translation has flaws in terms of accuracy and in the translation of specific linguistic notions such collocations and idioms compared with human translation. Also, CAT tools are still inefficient in translating texts from complicated languages such as the Arabic language (Mahdi et al., 2022).

In this regard, computer-assisted translation suffers from many problems, especially with regard to the Arabic language (Samman, 2022). There is no computerized Arabic dictionary that

serves the Arabic language in computer-assisted translation with other languages as well as a lack of Arabic texts translated into other languages which can be used as a linguistic repertoire that serves machine translation (Alshaikh, 2022). According to Abufardeh & Magel (2008), the translation of the Arabic language has lagged behind the advances in technology-based translations. Several studies (e.g., Alkhatnai, 2017; Fakhry Tharwa, 2019; Ababneh, 2019) reported that Arabic translators have reluctance to use CAT tools due to the complications that these tools have when training Arabic texts. The Arabic language has unique phonological, phonetic, morphological, and syntactic characteristics that make it complicated for language processing (Fatani, 2009).

In the Saudi context, varying perspectives about the effectiveness of CAT tools were revealed by different studies. For example, Mahdi et al (2022) reported that CAT tools were used by Saudi students to translate collocations and that CAT tools were effective in translating difficult collocations. But Alanazi (2019) reported that Arabic translators face difficulties in the usage of CAT tools in translating Arabic texts due to the phonetic, morphological, syntactic, and lexical differences between English and Arabic languages. Samman (2022) concluded that while Machine Translation Post-Editing (MTPE) assisted students to be away from deletion and technical errors, the volume of errors that relate to grammar, accuracy, and comprehension was higher in Arabic-translated texts.

Like other Arab translators, Saudi translators face difficulties in using CAT tools in translating, especially Arabic texts. Many researchers (e.g., Al-jars, 2017; Alotaibi, 2014; Thawabteh & Territories, 2013; Fatani, 2009) revealed that Saudi translators face the problem of finding the proper equivalents when translating from Arabic to English and vice versa and that most of the Saudi translators are not aware of the capabilities of CAT tools. On the other hand, various studies (e.g., Alkhatnai, 2017; Fakhry Tharwa, 2019; Ababneh, 2019) concluded that there is no sufficient emphasis on the translation practice, the integration of technology into translation instruction, and training the Saudi translators on CAT tools in Saudi universities that offer translation courses.

In light of the above arguments, the current research seeks to examine the effect of CAT tools on the quality of the translation of Saudi translation students in order to elicit the quality aspects of CAT tools compared with the students' human translation and to demonstrate how CAT tools can be best utilized to deliver the optimum outcomes.

### **Research Questions**

This research seeks to answer the following questions:

1. What is the difference between computer-assisted translation and human translation in terms of the grammaticality of the translated texts?
2. What is the difference between computer-assisted translation and human translation in terms of the lexical ambiguity of the translated texts?
3. What is the difference between computer-assisted translation and human translation in terms of the meaning soundness of the translated texts?

### **Research Significance**

The integration of technology into translation practice has become a vital prerequisite in the world of translation. This research is beneficial in delivering new insights into the capabilities of CAT tools in terms of translation quality and the degree that such tools can be dependable. On the other hand, this research provides comparable insights about CAT tools and human translation and determines the aspects in which the CAT tools outperform human translation and vice versa.

Furthermore, this research has much to do with the training of Arab translators in general and the Saudi translators. The research literature showed that there is a gap between the status quo of the translators' training and the requirements of the translation job market and the flaws in Arabic translation via CAT tools that require human intervention. So, the integration of technology into the translators' training is a promising means to close this gap, especially if this is well introduced into the curricula (Lee, 2022; Koehn, 2016). In the current job market, bilinguals who are robust in using CAT tools are preferred for jobs over graduates who lack knowledge in this area.

Lastly, the lack of Saudi studies on CAT tools' usability among Saudi translators is an extra motivator to explore such an area. The findings of this study shall give important implications for the study materials employed in translation classes and the technological skills that should be integrated and utilized in the translators' training programs.

### **Literature Review**

The emergence of computer-assisted translation tools goes back to the global openness that allowed all countries to communicate together and the increased demand for translators and the realization of the importance of their work (House, 2017). It is also said that the idea stemmed from the Cold War between the United States of America and Russia, in order to understand the meaning of words and read them more quickly, as both countries worked on experiments for automatic translation in specialized centers for translation. Since then, Warren Weaver coined the term "Machine Translation" in his note foretelling the existence of translation software in the future (Tsai, 2022).

Indeed, it wasn't long until an American company called "Alpent" invented the first automated translation support system. In the mid and late eighties in Germany, Jochen Hummel and Iko Knyphausen released the "Trados" software. Computer-assisted translation has reached its present form (Pietrzak & Kornacki, 2020).

Translation using translation tools is a complete system that is downloaded to the computer (software) and has a database of terms and translations (loaded translation memory) that the translator himself enters at the beginning and then adds and enriches it every time he translates a new file (Sin-wai, 2015). The software then uses this automatically updated memory to filter the best translation of the text based on the memory it has (Zhou & Ma, 2021).

Computer-assisted translation tools differ from machine translation as they help the human translator do their work more quickly and manage their translation projects as compared to machine translation in which the computer does the translation job as in any well-known translation service such as Google Translator or software (Li & Daihong, 2022).



CAT tools usually contain a translation memory that stores previous sources and target translations for easy reference while working. Terminology grammar is also an integral part of translation tools, giving translators the ability to develop their bilingual skills in their subject areas (Lee, 2020).

There are many advantages of translation with the help of CAT Tools that all revolve around providing the best translation experience, a faster way to translate large and similar files, and ensuring translation quality based on certified translation memory (House, 2017). The reason for this increase, and perhaps the most important feature of computer-assisted translation software is that it maintains a comprehensive database of all foreign vocabulary and sentences and their translations previously chosen by the translator (Garcia, 2015). This data is called translation memory. This memory relies on a simple idea which is that most of what people speak is a repetition of a limited number of vocabulary and linguistic structures. If the software memorizes every sentence chosen by the translator with its foreign origin, it reduces the workload to a large extent, as well as being able to unify the vocabulary and formulas in which it is written. (Koehn, 2016),

Some of the professional CAT programs include excellent features such as assessment of translation quality and grammatical errors, instant access to glossaries and dictionaries to check the meanings of vocabulary, and access to a giant database of translation memories that have been used by hundreds or thousands of translators before, making translation faster and easier (House, 2017).

CAT tools have sparked a growing debate in the literature about their impact on foreign language learning with supporting views for CAT tools and fear of inaccurate translations (Pietrzak & Kornacki, 2020). Nonetheless, as Lee (2020) claims, technological advancements have enabled online translators to improve the output text's grammatical and lexical accuracy. Lee (2020) believes that online translators can be beneficial for language learning when instructors are aware of their limitations and learners are given adequate instruction. According to Doherty (2016), many students use online translators in their written production assignments because of the tools' accessibility, the speed with which the translations are provided, the variety of languages included, and the translations' accuracy.

Both human and computer-based translation have their share of challenges (Lee, 2020). For example, two translators will not produce identical translations of the same text in the same two languages, and it may take several rounds of revision to meet client requirements (Garcia, 2015). CAT tools have difficulties translating the contextual and cultural elements of the text, and their quality depends on the type of system and how it is trained, but they are very effective for certain types of content and use cases, which include, for example, mechanical content related to car users, repetitive text, structured language, and many more (Koehn, 2016).

Some studies, on the other hand, have advised against using these online tools, citing issues with idiomatic expressions (Luton, 2003), lexical and structural ambiguity (Somers, 2011), excessive reliance on CAT tools by lower proficiency learners (Naghdipour, 2022), and learners consulting CAT tools when teachers do not require it (Vardaro et al., 2019). The ambiguity in the linguistic output provided by CAT tools, which can impact the quality of the text, is a frequently

reported issue (Bowker, 2019). It is argued that this ambiguity is not adequately addressed by lower proficiency learners who may not recognize when a translation is incorrect (O'Brien et al., 2017).

Many previous studies have revealed valuable insights about the usability of CAT tools in translation quality and in delivering considerable translation output. Such studies were conducted in various contexts and yielded varying results based on the level of technology used and the skills associated with the use of such tools. For example, Lee (2022) discussed the quality of machine translation outputs by using Google Translate from Korean to the English language for EFL students. Also, the factors within the source text that influence the quality of machine-translation output. The corpus of the study consisted of (104) texts translated by the students and evaluated by five trained assessors. The context, grammar, mechanics, and vocabulary were the areas to be assessed by the evaluators. The findings demonstrated that the texts translated by machine translation were better than the texts translated manually by the students. However, both the areas of punctuation and the complexity of sentences were shown as the most complex areas in the source text. Moreover, no impacts were noted in the areas of grammatical accuracy, lexical accuracy, contextual understanding, and lexical diversity.

Also, Cancino & Panes (2021) investigate the influence of Google Translate on the quality of writing made by Chilean EFL secondary students. (61) students were divided into two groups: a group with access to Google Translate and a group without access to Google Translate. The quality of writing was evaluated based on accuracy, syntactic complexity, and T-unit length. The findings demonstrated that the group that has access to Google Translate was better in accuracy and syntactic complexity compared with the group with no access to Google Translate. The study stressed the need to train all the students on how to utilize Google Translate.

El-Garawany (2021) examined the effect of using the computer-assisted translation tool Wordfast Anywhere on the development of translation skills in English as a foreign language among students of the English Department. The sample of the study consisted of 48 students from the second year in the Department of English at the Faculty of Education, Sadat City University, Egypt, where they were divided into two groups: an experimental group (n = 24) and a control group (n = 24)). The researcher used the translation skills test in English as a foreign language as a pre-test. The experimental intervention took seven weeks, as the experimental group was taught using the Wordfast Anywhere computer-assisted translation tool, while the control group was taught in the usual way. The results of the study showed that the students of the experimental group showed a statistically significant progress in translation skills in English as a foreign language. The researcher concluded that the use of the computer-assisted translation tool Wordfast Anywhere has a statistically significant effect on the development of translation skills in English as a foreign language among students of the English Department.

In Saudi Arabia, some recent studies explored the use of CAT tools by Saudi translators. For example, Alshaikh (2022) examined the translation difficulties experienced by Saudi translation students in the college, especially while translating legal texts. The findings of the study showed that Saudi translation students use CAT tools, Google Translation, and machine translation while translating legal texts.

Khatim & Sir (2022) examined the usage of CAT tools by Saudi students at Majmaah university. Using the interview with (25) undergraduate students from the English language and translation department, the study investigated the merits of using CAT tools in translation and the impact of CAT tools on the quality and productivity of translation. The findings showed that the students have positive attitudes towards computer-assisted translation. Also, it is shown that the students face challenges while translating by CAT tools such as the translation of collocations, the translation of words that have cultural connotations, and the translation of lexical and syntactic ambiguities.

Mahdi et al (2022) investigated the impacts of employing mobile translation applications in order to translate collocations. Using the experimental design on 47 EFL students at the University of Bisha in Saudi Arabia. The experimental group students utilized a mobile App (Reverso) while the control group students used paper-based dictionaries only. It was shown that the translation application was better in translating fixed and medium-strength collocations compared with weak collections from Arabic to English and vice versa.

Alrajhi (2022) examined and compared the quality of Google-translated texts across four writing genres with student-translated texts by Saudi EFL college students. It was shown that the texts translated by Google Translate were better than the texts translated by the students in each of the narrative and descriptive writing. Also, it was shown that the texts translated by Google are better in style, content, and literacy, especially in persuasive, expository, and descriptive writing. On the other hand, Google Translate was favored by the students in terms of grammatical accuracy, quality in general, and lexical alternatives provision.

The above literature shows that CAT tools are evidenced for their effectiveness in translation and in the quality of translation. However, the effectiveness of CAT tools was a point of debate, especially when it relates to the aspects of accuracy, equivalence, and lexical selections. Also, the useability of CAT tools was challenged by the complicated nature of the Arabic language and the skills of the Arabic students. In Saudi Arabia, the use of CAT tools by Saudi translators is still an understudied area and it is still comparable with human translation. So, the current study aims to explore the impact of CAT tools on the quality of translation output in comparison with human translation or the students' generated translation by Saudi university translation students.

### **3. Methodology**

#### **3.1. Research Design**

The current study uses the descriptive analytical approach. This approach is used in this research to identify the impact of CAT tools on translation output. The descriptive and analytical approach tries to describe and analyze the quality of CAT tools and human translation.

#### **3.2. Participants & Corpus**

This research comprised (40) Saudi female translation students who study in the eighth level at the College of Languages and Translation at King Saud University in Riyadh city, Saudi Arabia. These students studied CAT tools as part of their Translation & Technology course. They were

given classes on the most important CAT tools such as Trados, Wordfast, and memoQ. They studied these CAT tools for at least one semester.

In this research, (20) students were given (15) texts to translate them from English into Arabic language using Wordfast software. The other (20) students are given the same texts to translate them manually without using any CAT tools. The texts were approximately of a similar length (200 – 250 words). Also, these texts were taken from the students’ materials that study come across in their translation classes. The selected texts were the texts that were not translated before by the students. All the students’ first language is Arabic and their level in the English language ranges from upper intermediate to advanced. The students were given (3) days to translate the texts and to return them by e-mail.

### 3.3. Instrumentation

To collect data, the researchers used the Translation Quality Assessment (TQA) model. The researcher used a translation quality assessment model to evaluate the quality of the passages translated by the translators. The researcher benefited from the TQA model introduced by Garcia (2015) and House (2017). Below is the TQA model used in this study.

Table 1

*Translation Quality Assessment (TQA) Model*

| S. | Category          | Sub-category               |
|----|-------------------|----------------------------|
| 1  | Grammaticality    | Subject-verb agreement     |
|    |                   | Tense selection            |
|    |                   | Sentence structure         |
|    |                   | Word order                 |
|    |                   | Punctuation rules          |
| 2  | Lexical Ambiguity | Word spelling              |
|    |                   | Word choice/register       |
|    |                   | Equivalency                |
| 3  | Meaning soundness | Comprehensibility          |
|    |                   | Appropriateness to context |
|    |                   | Chain of thought           |

The researcher evaluated the CAT-based texts and the manually translated texts as per the above TQA model. The quality of the translation in each version was judged by indicating the number of errors in each of the above sub-categories in both CAT-based texts and the manually translated texts.

The researcher submitted the TQA model and the translated passages to a group of experts to judge the validity of the research tools. More than half of the experts judged the research tools as being essential to the research goals, and then the research tools are considered valid. In order to achieve reliability in this research, the researcher provided a detailed account of the data collection process and the procedures of the study. This is to replicate the findings of the study under comparable conditions.

### 7.3. Data Analysis

The researcher used the CAT-translated texts in order to benchmark them with the human-translated texts. Each category and sub-category in the TQA model was assessed and the number of errors was calculated in each category for the two types of translation. The research explained each category and cited examples from the students' translations. Frequency and percentage were used as the basic statistical tools to count the Frequency and percentage of each item in the TQA model.

#### 4. Results & Discussion

The below part shows the results of the study obtained through the TQA sheet. Table 2 shows the results of the study as below:

Table 2

*The Volume of Errors in Each of CAT & Human Translation*

| Category          | Sub-category               | CAT Tools Translation |             | Human Translation |             |
|-------------------|----------------------------|-----------------------|-------------|-------------------|-------------|
|                   |                            | F                     | %           | F                 | %           |
| Grammaticality    | Subject-verb agreement     | 39                    | 17%         | 4                 | 16%         |
|                   | Tense selection            | 8                     | 3.5%        | 6                 | 24%         |
|                   | Sentence structure         | 45                    | 19.6%       | 3                 | 12%         |
|                   | Word order                 | 17                    | 7.4%        | 2                 | 8%          |
|                   | Punctuation rules          | 33                    | 14.4%       | 1                 | 4%          |
| Lexical Ambiguity | Word spelling              | 42                    | 18%         | 3                 | 12%         |
|                   | Word choice/register       | 4                     | 1.7%        | 0                 | 0%          |
|                   | Equivalency                | 12                    | 5.2%        | 2                 | 8%          |
| Meaning soundness | Comprehensibility          | 13                    | 5.6%        | 3                 | 12%         |
|                   | Appropriateness to context | 6                     | 2.6%        | 0                 | 0%          |
|                   | Chain of thought           | 10                    | 4.3%        | 1                 | 4%          |
| <b>Total</b>      |                            | <b>229</b>            | <b>100%</b> | <b>25</b>         | <b>100%</b> |

The above findings show the frequency and percentage of each item in the sheet for both the CAT translation and the human translation. The corpus of the study comprised passages translated by CAT tools (15 translations) and passages translated manually (15 translations).

The above table shows that there are differences between the CAT translation and the human translation in the categories and sub-categories of the TQA sheet used to collect data.

Generally, the results showed that the errors of the CAT translation are higher than the errors of the human translation and this indicates that the quality of human translation is highly better and comparable with the CAT translation. It is shown that (229) errors exist in the CAT translation and (25) errors in the human translation.

In terms of *grammaticality*, the results in table 2 revealed that the most common errors made by the participants who translated by CAT tools were *sentence structure* (45 errors), followed by *subject-verb agreement* (39 errors), and *punctuation errors* (33 errors), then *word order* (17 errors), and *tense selection* (8 errors).



On the other hand, the most common errors made by the participants who translated manually were *tense selection* (6 errors), *subject-verb agreement* (4 errors), *sentence structure* (3 errors), *word order* (2 errors), and *punctuation errors* (1 errors).

In terms of *lexical ambiguity*, the results in the table 2 revealed that the most common errors made by the participants who translated by CAT tools were *word spelling* (42 errors), *equivalency* (12 errors), and *word choice/register* (4 errors). On the other hand, the most common errors made by the participants who translated manually were *word spelling* (3 errors), *equivalency* (2 errors), and *word choice/register* (0 errors).

In terms of *meaning soundness*, the results in the table 2 revealed that the most common errors made by the participants who translated by CAT tools were *comprehensibility* (13 errors), *chain of thought* (10 errors), and *appropriateness to context* (6 errors). On the other hand, the most common errors made by the participants who translated manually were *comprehensibility* (3 errors), *chain of thought* (1 error), and *appropriateness to context* (0 error).

The findings of the study showed that the CAT tools are comparable with the human translation in terms of grammaticality, lexical ambiguity, and meaning soundness. Although CAT tools give a quick output, but the quality of the CAT-based output is less than the human translation output.

Apart from the efficiency of CAT tools, the most important characteristic of a CAT system is its speed. This finding corresponds with the results of Guerberof (2009) and Garcia (2007) who showed that computer-assisted translation is advantageous for the speed of translation, generating a larger volume of translated material, and saving the translator's time.

The findings of this study revealed that the use of CAT tools is in quest of reducing translation time and improvement of translation skills. This finding is supported by Ababneh (2019) and O' Brien et al (2017) who concluded that CAT tools were better associated with translation productivity.

Furthermore, it is shown that CAT is questionable due to their effect on the quality of the translated text. This finding is supported by Alanazi (2019) and Alotaibi (2020). According to House (2017), the quality of translated text is measured by the number of errors made by CAT and the degree of accuracy of the translated material.

It has been shown that CAT tools are better than purely manual translation in terms of speed and time. However, CAT tools were associated with problems such as installation problems, segmentation, and memory (Doherty, 2016). Furthermore, the price and availability were shown to be important factors discouraging the use of CAT tools (Fatani, 2009). CAT tools have become an indispensable and useful aid in the translator's life and work. These translation systems and programs definitely save time, cost and increase the quality and efficiency of translation. It is clear that CAT tools have a great impact on contemporary translation quality. In addition to the development of computer-assisted technology, the quality of translation has been still progressing.

The above findings correspond with Lee (2022) who showed that the advantages of CAT translation are the production of translation in a limited period of time and the translation of large amounts of material. Also, Mahdi et al (2022) showed that CAT translation has some



disadvantages such as poor quality, the need for revision, and no cultural implication. Also, compared with human translation, CAT translation was better in speed and time, but it was less in quality and accuracy (Ababneh, 2019). The study recommended the use of computer-based translation in association with human translation.

## **5. Conclusion & Recommendations**

The above findings show that the translation students who translated manually committed less errors than the students who translated by CAT tools. In the two kinds of translations, the higher errors were in grammaticality, lexical ambiguity, and meaning soundness, respectively. Although CAT tools outperformed manual translation in terms of speed and volume of translation, human translation outperformed CAT tools in some important linguistic respects.

Such findings imply that translators should benefit from both CAT tools and depend on human translation at the same time. Universities should give specialized training courses for translators on CAT tools so that the translators overcome the problems they face while translating a wide range of text types. If the translators consider buying CAT programs, they should focus on the following features: excellent terminology management, fast database searching, flexibility, robustness (not easy to crash), user-friendliness, and wide support of file formats.

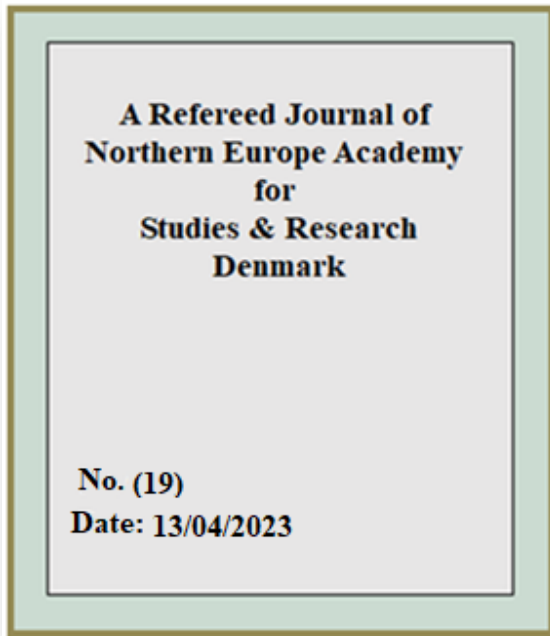
The translators should have the ability to deal with computer technologies and translational tools which are likely to increase their translational productivity, speed up their translation output and help them produce a better translation quality.

Using CAT translation in association with human translation becomes essential in certain types of translations, especially literary texts and texts that have many collocations and idioms. Human translation is indispensable for the consideration of quality and accuracy. Also, translation students should be trained to use CAT translation tools and to learn how to choose the CAT tool that fits their targets. Finally, translation students should assess the quality of translation based on many standards that include accuracy, style, clarity, and error counting.

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## Measuring and analyzing the financial, economic and social feasibility of the refractory materials factory in Baghdad

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## Abstract

The study aims to measure and analyze the financial, economic and social feasibility indicators for operating the refractory materials factory in Baghdad during the period 2024/2033.

The results of measuring each of the financial feasibility indicators (simple rate of return, payback period, financial profit, dinar return rate, Costs of Production unit, gross profit margin, Rate of capital turnover, rate of return on invested capital, Break-even point), and economic feasibility indicators showed (Net Present Value, Present Value of Revenue / Costs, Internal Rate of Return), as well as Social Feasibility Indicators (Value Added, Employment Cost, Utilization of Foreign Exchange), Commercial Profitability and Significant Economic and Social Benefits Resulting from Operating the Said Factory, Which Encourages and Enhances the Initiation Process In its operation being of great financial, economic and social feasibility.

**key words :** Project evaluation      Economic feasibility      Refractories Factory

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## **Factors affecting the performance of the Sudanese balance of payments During the period (2000-2015)**

**Prepared**



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## Abstract

The study dealt with the factors affecting the Sudanese balance of payments during the period and the reasons for the failure of the policies that were adopted in order to (2015 – 2000) restore balance to it. The study also showed the most important factors that affected the balance of payments during that period. The study hypothesises through the study model using (Eviews statistical analysis program). The study reached several result, including that the monetary economic variables represented in the money supply, exchange rate, inflation and foreign debt have a significant impact on the balance of payments during the study period.

The study recommended that appropriate economic policies be taken to address imbalances in the balance of payments and work to achieve low inflation rates and exchange rate stability to improve the balance of payments situation.

## key words

Balance of payments, inflation, exchange rate, external debt, economic policies

## References

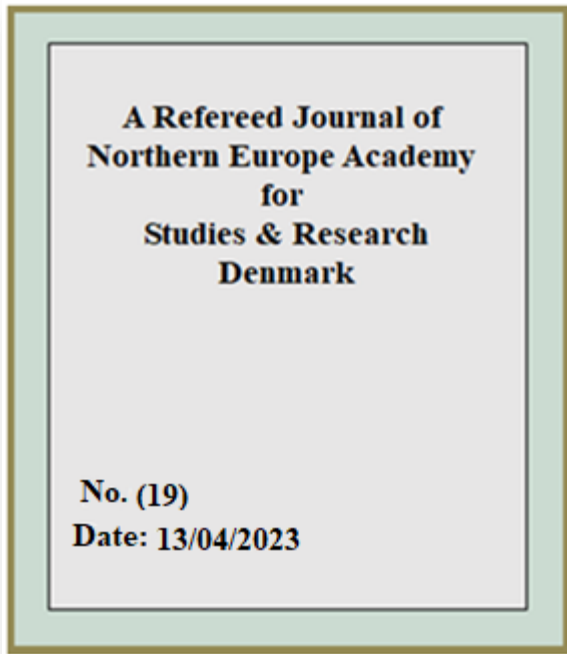
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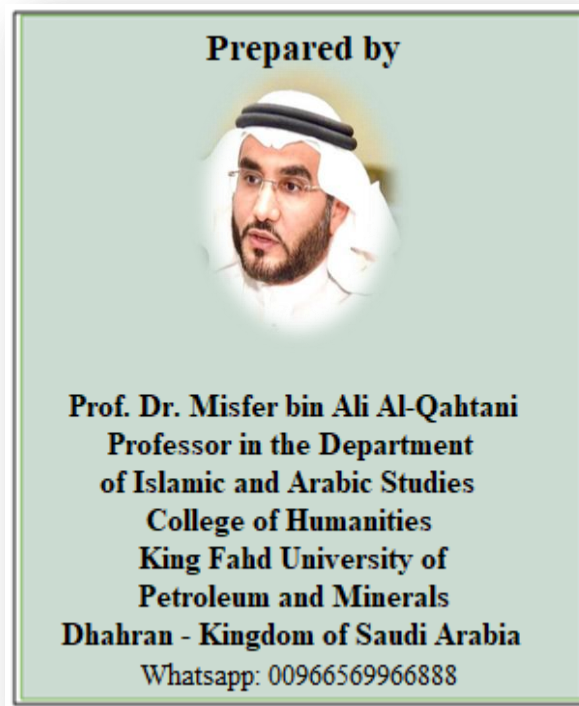
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## **An approach between religious sociology and the science of the Maqasid of Sharia**



## Abstract

The subject of religious sociology is one of the important topics in the study of religious phenomena, and an attempt to uncover the reasons behind those transformations taking place in our contemporary societies, and this topic, despite its importance, is far from dealing with researchers and their religious and social approaches, and the contemplation of social transformations in our current societies clearly notes the great interaction between religion and social phenomena, and we study these phenomena; With many names.

I do not think anyone can deny that the products of modernity, the manifold technology in the joints of life, the addiction of society to social networking sites, and its submission to all political and economic developments and their effects on it, have contributed significantly to major social and religious changes in short-term times, which would not have happened without these intense and charming data.

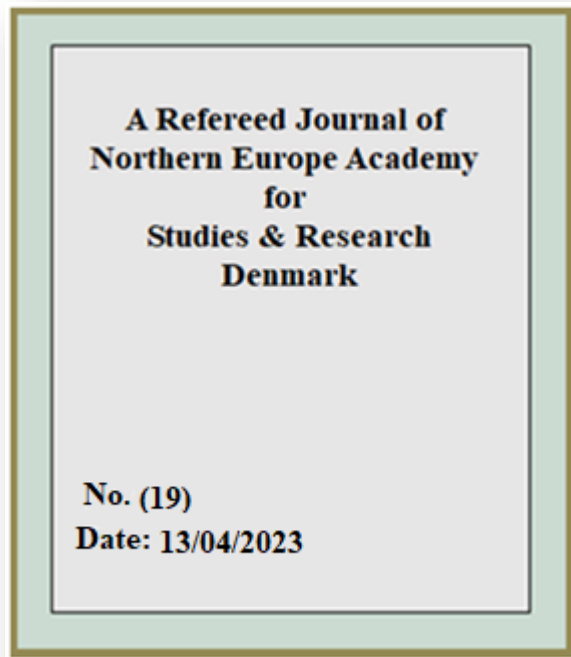
**Keywords:** religious sociology, Maqasid al-Shari'a, Arab society, power, religion.

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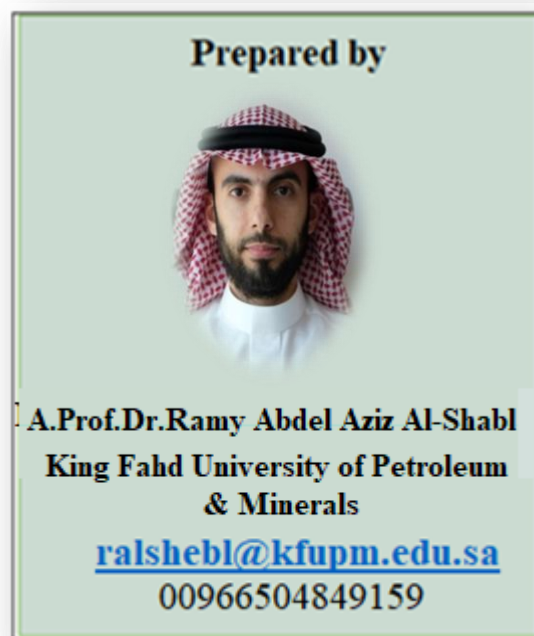
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**Approaches to legal interpretation in the Anglo-Saxon judiciary  
( America as a model )**



## **Abstract**

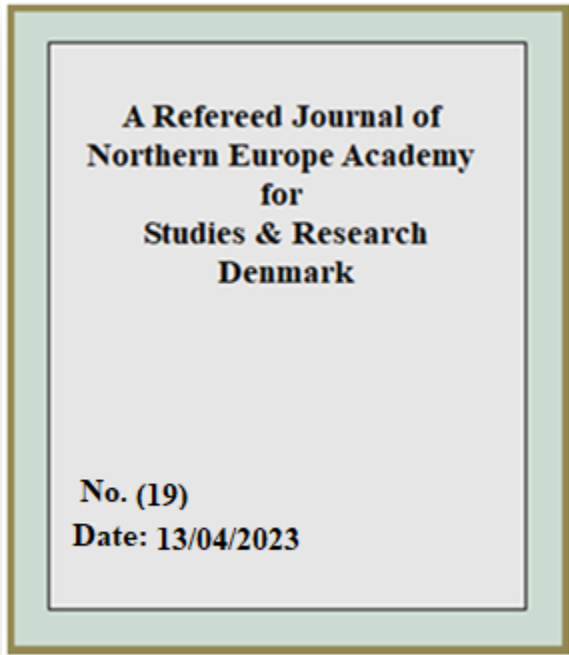
Courts differ in their interpretation according to their methodology, between textual and intentional approaches. We find a prevailing trend in the courts, which is the literal interpretation of the text, which glorifies the legal text and seeks to dismantle, analyze and define it to match the fact before the court, even if the result will lead to hardship, apparent injustice. Courts argue that this is the enacted law by the authority body and shall prevail no matter what will be the consequences, and thus, courts shall not go beyond their authority by interpreting the text in a way that leads to a new law. This approach was historically the main stream in American and British courts. Another textual direction takes into account the context and the way the courts work when applying that text. In the other hand, we find a completely different approach that has become the norm in the past fifty years. It is the intentional approach, which seeks to deduce the intention of the legislator, by trying to follow the spirit of the law. This research seeks to shed light on these approaches, discover the mechanisms, and balance them in what is closer to justice .

### **Keywords:**

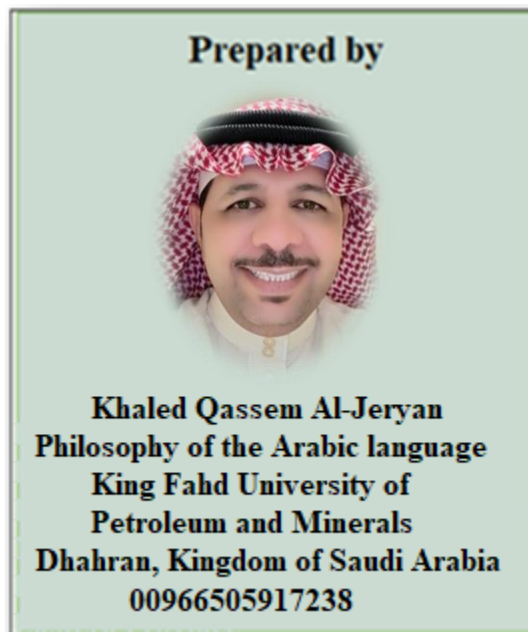
Legal Interpretation Approaches, Legal Interpretation, Textual Interpretation, Intentional Interpretation

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**The lexical linguistic indication of deriving the verb from the digit seven In light of semantic theory field**



## Abstract

The research demonstrates the importance of the science of etymology, which is the pride of Arabic, and that it is one of the most important features of the Arabic language to develop the language and increase verbal wealth, and clarifies the meanings of derived words. The research also presents a new vision about deriving the verb from the number in general, and from the number seven in particular, showing the features that characterized this number, I mean the number seven over the rest of the numbers. The researcher tries to shed light on the semantics of the verbs derived from the number seven, and explains how the Arabs used them in their linguistic contexts and the significance of each context.

The researcher was able to benefit from the theory of semantic fields and employ it in the research to bring it closer to the readers and researchers on the one hand, and to clarify the meanings of the verbs derived from the number seven on the other hand.

**Key words:** Derivatives, Syntax sphere, number seven, verb.



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