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**THE IMPACT OF INFORMATION AND
COMMUNICATION TECHNOLOGY
(ICT) ON ECONOMIC WOMEN
EMPOWERMENT IN UPPER EGYPT BY
ENSURING E-LEARNING AND NGOs**

Ragia ElFiky
PhD researcher

Abstract:

In the digital era, Information and Communication Technology (ICT) has a significant role in our life. Especially E-learning has been a powerful tool transforming education and training and fostering the process of empowering women which is an important goal in achieving sustainable development world wide. The purpose of this study is to investigate to what extend ICT, as E-Learning, influence women empowerment economically and uncover the role of NGOs in supporting women empowerment and strength benefits of E-learning towards women empowerment in Upper Egypt. In conclusion, the study highlights the potentials of e-learning for empowering women emphasizing the importance of enhancing the activities of NGOs such as National Council of women to foster women empowerment and facilitate the role of E-Learning in developing women in Upper Egypt. the Egyptian government can reduce the bureaucratic process to ease and fasten the

implementation process. Further, the private sector can provide financial resources to help NGOs sustain their programs. The other potential solution is training for NGOs in capacity building to ensure effectiveness and sustainability. The research problem addressed is about the impact of e-learning on the women empowerment economically in Upper Egypt.

Keywords: *economic women empowerment, ICT, E-Learning, NGOs, Upper Egypt women, SDGs*

.1 Introduction

Global trade and commerce today have more opportunities thanks to the digital revolution and knowledge transfer (Mago et al., 2015). ICT is significantly assisting in making major changes in capital markets, development, e-commerce, e-education, and training, according to numerous reports from the UN. It is important to highlight that the use of ICT in education has given socially marginalized people—like young girls and women—many new options. The use of ICT by female entrepreneurs has been shown to have significant effects on the economic independence and empowerment of marginalized and rural Egyptian women. ICT has therefore made it possible for women to actively and productively participate in society. ICT is generally a valuable instrument for achieving the global Sustainable Development Goals (SDGs). It has made it possible for women, people with disabilities, and low-skilled individuals to enter the workforce. Women can become more independent, economically productive individuals who can hold intelligent conversations about their life when they are empowered.

A number of variables, such as improving work possibilities, overcoming poverty, and raising educational attainment, contribute to women's empowerment.



Figure 1: sustainable development goals SDGs

Through the development of skills that can improve the labor force and result in a reasonable participation rate, ICT may play a role in empowering women by boosting their engagement in the labor market. ICT fosters economic and social equality by generating employment possibilities and facilitating financial inclusion (ITU reports). The degree of empowerment can be greatly increased by financial liberty, and this ultimately contributes to gender equality through financial inclusion. Thus, the vast ICT network can help fulfill the Sustainable Development Goals 4 (education) and 5 (gender equality). The use of ICT for women's economic empowerment is the focus of numerous efforts that are essential to bringing the SDG promises to fruition.

1.2 Research Problem

The most effective way to help Egypt and the rest of the world reach the sustainable development objectives is through access to information and communication technology (ICT). With an emphasis on women in Upper

Egypt, ICT is a tool that may be able to reach out to them and meet their informational and knowledge needs. In light of this, the purpose of this article is to investigate the state of economic women's empowerment in Upper Egypt by utilizing ICT tools (E-Learning) supplied by non-governmental organizations. Women from Upper Egypt were interviewed and provided with a systematic questionnaire in order to gather data. The women's total level of cognitive awareness suggests that there are more changes among ICT-using women. E-learning is thereby empowering women in Upper Egypt.

1.3 Research Goals

1. To measure the impact of E-Learning on economic women empowerment in Upper Egypt
2. To understand the effect of NGO's activities on empowering women economically in Upper Egypt
3. To develop a set of recommendations for the decision makers and government officials to enhance their strategies, tactics and policies to empower women successfully in the society and achieve the fourth and fifth goals of SDG's which are quality education and gender equality.

1.4 Research Importance

1. The Importance of Women Empowerment in Egypt
2. The important impact that ICTs have had in Upper Egypt in reducing the gender gap in the workforce by means of NGOs and the economic empowerment of women.
3. The role of non-governmental organizations NGO's such as National Council of Women NCW to pave the road for women through introducing amendments to laws and legislations to empower women.

1.5 Previous Studies

1.5.1 E-learning

Technologies for information and communication (ICT) have brought about multifaceted improvements in every facet of life. ICT reduced information asymmetries, inequality, and poverty; it enhanced financial inclusion; it enhanced economic and development processes; it enhanced the quality of the environment; and it contributed to the empowerment of women (Tchamyou et al., 2019). According to research by Wyche & Olson (2018), ICT plays a big part in progress and women's empowerment. They also pointed out that adopting ICT can boost women's empowerment by enhancing production, consumption, and the use of both renewable and non-renewable energy sources. According to specialists from the United Nations Women, providing access to social services, career opportunities, financial resources, networking opportunities, education, and entrepreneurship can all contribute to women's empowerment (UN Women 2018).

Sharma (2018) highlights that e-learning, or online education, allows students to align their study schedules with their professional goals and lifestyles. Women can save time and enjoy convenience, flexibility, and a variety of learning styles by learning at their own speed. In 2008, Stahl and Bernd addressed the usage of ICT in underdeveloped nations. They demonstrated how ICT deployment may handle a wide range of challenges, with the most potent goal being the emancipation and empowerment of people, including women, with the intention of enhancing society. They specifically conducted a critical discourse study of the Egyptian ICT policy and noted that many African ICT policies can find inspiration in their paper.

In a nutshell, they said that massive sums of money are spent by governments and international organizations on initiatives meant to encourage the use of information and communication technology (ICT). The immediate goal of utilizing ICT in all disciplines is economic growth, but it also aims to provide jobs, welfare, and a better quality of life for all members of society by enabling them to lead fulfilling lives. Generally speaking, the goal of ICT in developing nations is societal empowerment. According to Stahl and Bernd, achieving objectives and goals was fraught with difficulties, including those related to skills, usage, and access, as well as the overall level of literacy and the congestion of the school system. But the use of technology in the classroom could take care of those challenges. In order to overcome the government has set up a Basic Skills Training Program which is available free of charge to every young Egyptian. Additionally, the government has initiated several programs in order to spread ICT around the country in a manner that will guarantee access to technology for everyone interested. International cooperation, for example with UK universities, will help enhance the quality of higher education.

1.5.2 Women Empowerment

The idea of women's empowerment dates back to the early feminist movements of the 19th century, as demonstrated by Reshi and Sudha (2022). • The earliest feminist movement concentrated on granting women's political rights, including the ability to vote. The third wave of feminism, which emerged in the 1990s, concentrated on the intersections of gender, race, and class as well as the diversity of women's experiences. The second wave of feminism, which emerged in the 1960s and 1970s, concentrated on women's social and economic rights, such as equal pay for equal work and access to education.

Over the past few decades, a great deal of research on women's empowerment has been done. The political, social, economic, and cultural facets of women's empowerment have all been examined in these works. Studies have indicated that when women hold political authority, they tend to give precedence to programs that assist other women, such education and healthcare. Additionally, women in leadership positions typically approach decision-making with a more inclusive and collaborative mindset. According to studies, empowering women to participate in the workforce and giving them equal access to economic opportunities can result in significant economic growth. Women in the workforce have a positive impact on their communities and families, as well as on health and educational outcomes.

An overview of women's empowerment, its historical growth, and its significance in accomplishing the Sustainable growth Goals (SDGs) is given by Reshi and Sudha (2022). This review identifies effective measures for women's empowerment and highlights the numerous obstacles to their empowerment. Women's empowerment, according to them, is the process of giving women the power to take charge of their life, make choices, and actively engage in all aspects of society. Women's empowerment encompasses their advancement in society, the economy, and politics. They also emphasize economic empowerment, which they describe as women's capacity to get resources and take part in financial decision-making. The capacity of women to engage in social, cultural, and community activities is known as social empowerment. The last aspect of political empowerment is women's participation in politics and decision-making. Hunt (2016) lists eight elements that contribute to women's economic empowerment. These elements include collective acts, leadership, policies and regulations, assets and funds, employment possibilities, education and training, and access to all of these things. Additionally, he looked into the

ways that e-learning and distance education help women advance their education, develop as leaders, increase their agency, and take part in group projects.

According to Rathi and Niyogi (2015), women's economic empowerment and contribution are crucial levers for advancing women's rights and autonomous decision-making. According to their definition, empowerment is a multifaceted expression that encompasses political, economic, social, physical, spiritual, mental, and psychological dimensions. It entails developing one's ability to make decisions, face obstacles head-on, evaluate difficult situations, and deal with life's challenges. Through their research, they were able to identify the psychological empowerment that ICT can provide for women, enabling them to feel more at ease in their workplaces through the provision of additional knowledge and skills. These levels of psychological comfort can be achieved at the organizational, personal, or social levels through the use of mobile phones, television, radio, and the Internet. In addition, ICT is significantly contributing to the shift in societal attitudes and perspectives regarding women.

1.5.3 Non-Governmental Organizations NGOs

According to Lewis and Themudo (2020), NGOs have gained recognition as important players in the development scene as a result of the 2004 tsunami disaster rehabilitation efforts in Sri Lanka, Thailand, India, and Indonesia. One of these two primary activities—providing basic services to those in need or planning public campaigns and policy advocacy—is typically what NGOs are most known for. NGOs, however, have also branched out into a wide range of other, more specialized tasks, including policy analysis, research and information providing, emergency response, democracy building, conflict mediation, human rights work, and cultural presentation.

According to Rathi and Niyogi (2015), the government has announced several policies that support women, and the role of ICT in providing security, awareness, knowledge, employment opportunities, confidence, and popularity for women is just one example of how NGOs are working for the betterment of women and providing them with training for self-independence. In accordance with NGO Law 149/2019, Egypt has extended the grace period for non-governmental organizations (NGOs) to get legal status within the nation. The Egyptian government enacted a bylaw a year earlier granting NGOs in Egypt the ability to comply with the new law, and as a result, the new law went into effect in January 2021. It did, however, prolong the grace period for one additional year, beginning on January 12, 2022.

According to Desai (2014), the term "NGOs" refers to independent, non-membership, institutionalized, permanent, or sometimes voluntary intermediary organizations that staff professionals or the educated elite and provide supportive services to grassroots organizations. Grassroots organizations (GROs) are membership groups that are issue-based and frequently transient. They may form around certain objectives and concerns and then dissolve after those issues have been resolved. Non-governmental organizations (NGOs) are becoming a significant and influential forum for civil society engagement in public affairs. In their book, Lewis and Themudo (2020) demonstrated that non-governmental organizations (NGOs) are commonly perceived as not-for-profit, "third sector" entities that focus on social justice and global poverty issues, primarily serving developing nations. While some associate non-governmental organizations (NGOs) with charitable ideas, others define them more politically as "civil society organizations," which are associations of organized citizens that are not affiliated with the corporate or governmental sectors. NGOs typically carry out their work by directly helping those in need or indirectly by forming alliances, advocating

for policies, and working on campaigns to bring about broader structural changes that will enhance the lives of those who are impoverished.

Information and Communications Technology

Information and Communications Technology (ICT) is a broad term that encompasses all the devices, networking components, applications, and systems that enable digital interactions between individuals and organizations, including businesses, non-profit agencies, and governments. ICT serves as the infrastructure and essential components that facilitate modern computing. While ICT is sometimes used interchangeably with Information Technology (IT), it generally represents a more comprehensive collection of all components related to computer and digital technologies than IT alone. However, ICT extends beyond just a list of components. It also encompasses the practical application and utilization of these various technologies and components in real-world scenarios.

Online learning, as well as e-Learning, has a long history which goes back to the 1960s when many researchers began to consider the opportunities of using computers in education. At that time, educational materials were text-based, and students got access to the needed information with the help of computer terminals (Bezovski, Zlatko & Poorani, Subitcha, 2016). The first online learning courses were developed by universities and other educational institutions in the mid-1990s, the main aim of such courses was to provide exceptional educational opportunities to students who could not attend traditional classes. The wide use of learning management systems was in early 2000s, when systems like Blackboard and Moodle appeared in the market. LMSs allowed instructors to create online courses that could contain various multimedia elements, such as videos, images, and interactive simulations. They supported one or more courses online; these features made students more

interested and courses fully interactive, the current systems Blackboard are third generation already. Social media and mobile technologies broadened horizons earlier cdi explain. In 2010s social media, Twitter, Facebook, LinkedIn provided an opportunity to stay connected with students and help each other. People started using smartphones, and tablets to connect to the internet and study, and this has become very popular and it possible for students to access course materials and communicate with instructors from anywhere at any time (kiryan & Brush, 2023).

E-learning is an educational learning model where learners can access educational materials and have instructions online. This may be in the form of video lectures, courses, question and answer forums and so on (Jethro et al., 2012). E-learning is often used as a flexible alternative to traditional classroom-based learning, enabling learners to learn at their own pace and on their own schedule. E-learning has become increasingly popular in recent years due to the growth of the internet and the availability of high-speed connectivity. It is used in a wide range of settings, including K-12 education, higher education, corporate training, and professional development. E-learning has many advantages, including the ability to reach a global audience, reduce costs associated with traditional classroom-based learning, and provide access to specialized courses and expertise that may not be available locally (Ivowi, 2010).

However, e-learning also has its challenges, such as the need for self-discipline and motivation to complete courses, the potential for technical difficulties, and the lack of face-to-face interaction with instructors and peers. Despite these challenges, e-learning continues to grow in popularity and is expected to play an increasingly important role in education and training in the years to come (Shahmoradi, 2018).

2.3.1 Advantages of E-Learning

E-learning has many advantages over traditional classroom-based learning, e-learning has the potential to improve learning outcomes. For example, e-learning programs can use data analytics to track learner progress and provide personalized feedback, which can help learners stay motivated and engaged. E-learning programs can also incorporate interactive elements, such as simulations, games, and virtual reality experiences, which can help learners to develop practical skills and gain hands-on experience.

3.1 women empowerment

Sustainable development is defined by the World Commission on Environment and Development as development that satisfies current needs without limiting the potential of future generations to satiate their own needs. Three fundamental components must be balanced in order to attain sustainable development: social inclusion, economic growth, and environmental protection. The goal of sustainable development is to end poverty by promoting fair social development and inclusion, increasing opportunities for all, decreasing inequality, and raising the minimum standard of living. The UN General Assembly adopted the resolution "Transforming our world: the 2030 Agenda for Sustainable Development" on September 25, 2015, in New York. It outlines the post-2015 development agenda. The 2030 Agenda for Sustainable Development, sometimes referred to as "the 2030 Agenda" or "Agenda 2030," consists of 169 goals and 17 Sustainable Development Goals that went into force on January 1, 2016. Every Sustainable Development Goal (SDG) aims to eradicate a particular issue by 2030. The accomplishment of the Sustainable Development Goals (SDGs) and women's empowerment are closely related since women's empowerment is essential to achieving the SDGs. The Sustainable Development Goals, which cover 17 topics including ending poverty, protecting the environment, and guaranteeing peace and

prosperity for all, were formed by the UN through its members. One of the main objectives is gender equality, which can only be attained by giving women more influence. There are various SDGs that are positively impacted by women's empowerment, including Goal 1: No Poverty, Objective 2: Complete satiation, health, and welfare Objectives 4 through 7 are Affordable and Clean Energy, Goal 6 is Clean Water and Sanitation, Goal 5 is Gender Equality, and Objectives 8 and 10: Decent Work and Economic Growth and Reduced Inequalities Goals 16—peace, justice, and strong institutions—and 13—climate action. For example, providing women with employment and educational opportunities can aid in reducing poverty (SDG 1), fostering economic growth (SDG 8), and advancing gender equality (SDG 5). In addition to addressing climate change (SDG 13) and advancing sustainable resource use (SDG 12), women's involvement in decision-making processes can advance peace and justice (SDG 16). In general, the SDGs' accomplishment and the creation of a sustainable future for all depend heavily on the empowerment of women. To achieve this, it is necessary to address the underlying factors that contribute to gender disparity, such as discrimination, cultural standards, and social norms, and to advance women's access to economic, medical, and educational possibilities. Although women's empowerment is a positive and powerful start, what is the end result? The aim is to establish a just and equitable society where women may fully realize their potential and make significant contributions. In the end, female empowerment benefits women individually as well as their families, communities, and nations. This idea is frequently promoted through a number of tactics, including increased access to healthcare, economic possibilities, and education and training.

In summary, although there has been some progress, much work needs to be done before a truly equitable society can be established. Women confront a

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wide range of obstacles and difficulties, such as gender-based violence, various forms of discrimination, and unequal resource availability. Therefore, it is increasingly important to promote the empowerment of women in the societies.



Source: World economic forum, Global gender gap index 2023

Figure 6

Figure (6) illustrates that Egypt is ranking 134th in gender gap index with 62.6% parity. The 2021 editions (63.9%) and the 2017 editions (60.8%) are getting closer to parity. On the other hand, since the 2022 edition, subindex parity has increased by 1.7 percentage points to 42% due to a 6.8 percentage-point increase in the share of women in senior officer positions (share 12.4%) and a 4.3 percentage-point increase in the share of women in technical positions (share 35.1%). Furthermore, there is a 17.5% parity on political

empowerment with 27.5% of women serving as lawmakers and 18.8% as ministers.

3.2.2 Women in Economy

Among the strategies for promoting economic opportunities for women access to finance is essential a sit is one of the major challenges women face while trying to pursue economic opportunities. The government and the organizations can ensure such support is provided in form of offering credit and microfinance to women and promoting financial literacy and entrepreneurship for women. Most women work in the informal sector, with little or no legal protections or benefits. Participation in the formal economy offers women legal and social rights and benefits, such as employment regulations and labor laws, and social benefits like health care and pensions. Gender-based discrimination limits women's access to economic activities, including work and education.

The government and organization can work towards reducing the gender-based discrimination and promoting economic equality by promoting gender discrimination free employment and education. The economic reports have shown that women entrepreneurs drive economic growth and job creation. The government should facilitate in helping women through training and support services for women entrepreneurs offering business incubators and mentorship programs. Technology access to the digital economy can enable women's economic participation by giving them access to mobile phones and the internet, this should be addressed on how they can explore and utilize the opportunities to achieve economic growth. Furthermore, cultural and social norms constrain women's access to economic opportunities and discourage their participation in the labor force or entrepreneurship. Therefore, the general awareness campaigns that sensitize people will help countries to achieve

economic opportunity pursuance. Additionally, women face significant barriers to economic participation due to responsibilities for child and family care. With respect to this, affordable childcare and family-friendly policies such as paid leave and flexible work arrangements safeguard women in their economic participation.

In general, achieving economic opportunity for women requires a comprehensive approach to address various barriers that hinder women from achieving economic pursuit. Through promoting gender equality by ensuring most of the barriers are addressed the economy will be more inclusive and fairer, which will enable women to get access to the factors that will allow them to achieve the economic pursuit.

In 2020, women's unemployment rate was 17.7%, decreasing from 24% in 2014. While Women's employment rate is 11.8% and Women constitute 16.8% of the labor force in 2020 and in the field of ICTs, the percentage of Professional & administrative workers is 14% for women (2018/2019), while 29% of the graduates of higher education in the field of ICT are women (2018). The participation of women in the telecommunications and information sectors increased between the years 2018-2019 from 12.2% to 32.7%. the Percentage of women Egyptian Stock Exchange (EGX) coded investors is 29% (end of Feb. 2021) and the percentage of financial inclusion in mid 2021 increased above 50% where account ownership by women increased to 47.5% versus 27% in 2017 as published by WB FINDEX. While the percentage is 62% of beneficiaries of microcredit loans are women (till 2020) and 46% of the beneficiaries of Micro, Small, and Medium Enterprises Development Agency (MSMEDA) projects are women (till end 2020). The percentage of women working in government and public sector is 30.9% in 2020 and 50.4% of women in administrative positions, outperforming the global average of 32% in 2021.

On March 2020, the Number of women trained in the business & marketing sector was 30,400 women and the number of women with transaction account on the supply side doubled from 2017 to mid-2021 (up from 7.1 million in 2017 to 15 million in mid-2021).

The Nasser Bank provided a total amount of 278.4 million EGP as soft loans reaching a number of 32,386 beneficiaries, this included “Mastoura Loans Program” with a total amount of 31.2 million EGP reaching 1,713 women beneficiaries (2019/2020). - Nasser Bank also launched the loans program entitled “My Nursery - Hadanty”, with a five-year installments period for the establishment and development of nurseries (2020). 346 million EGP was total amount provided by Nasser Bank to fund new small business, reaching a total number of 71,431 beneficiaries (2019/2020). Apart from enacting various laws aimed at promoting economic empowerment of women, such as the Investment Law (Law No. 17/2017, Article 2) that guarantees equal investment opportunities for women, the Inheritance Law was modified (Law No. 219/2017) to enforce more severe penalties for individuals who refuse to give inheritance to anyone who is legally entitled to it. Additionally, the Unified Tax Law No. 91/2005, as revised by Law No. 11/2013, recognizes women as the primary breadwinners. Additionally, benefits for working moms are provided, such as four months of maternity leave instead of the three months specified in the 2016 Amendment to the Civil Service Law. Financially, new rules pertaining to the creation of savings group accounts were released for mobile payments and Financial Regulatory Authority issued Decrees No. 123 and No. 124, 2019 stating that at least one woman should be represented on boards of financial companies.

3.3.1 Women Empowerment Initiatives

47.9% of women use computers and 46.6% of women use the internet, while 95.5% of women use phones. So The Ministry of Communications and Information Technology worked on the following initiatives to support women in ICT: The ministry designed:

Girls Can Code Initiative which aims at promoting girls' participation in technology sector in Egypt. It held training workshops on coding and programming including mentorship and networking.

Women's Technology Incubation Program which aims at supporting women entrepreneurs in technology space in Egypt. It holds training workshops on entrepreneurship, access to finance, and marketing including mentorship and networking. The program is done in collaboration with National Council for Women.

Women in ICT Scholarship Program. The role of the project is to award scholarships for women to access BSC and MSC in ICT.

Women in Technology Forum. The ministry organizes Women in Technology Forum on a yearly basis. The role of the program is to bring female leaders in technology in Egypt to discuss challenges and the ongoing in the sector. The forum is done in collaboration with several private sectors and non-governmental organizations. The above-referenced programs aim at promoting women participation and leadership in technology in Egypt. Through training, mentorship, networking, and scholarships, women can acquire the required knowledge and connections to succeed in technology and support Egyptian economic growth.

NGOs, to increase awareness of good jobs for women within university and companies all around the world. Finally, the strategy which named the National Strategy for Women's Empowerment. The strategy includes several initiatives to promote women's education.

Overall, the described initiatives introduced by the Ministry of Education have the potential to empower women and increase the quality of education outcomes among the girls and women in Egypt. Through education accessibility improvements, scholarships, and financial aid, gender-sensitive learning activities that encourage girls and women to master the knowledge and skills in their fields will contribute towards Egyptian economic development. Additionally, they will aid in promoting women equality by allowing them to take leadership positions in various sectors.

3.4.2 Empowering Women in Upper Egypt

NGOs have implemented several initiatives to tackle the challenges that face women in Upper Egypt and promote their empowerment. Some of the initiatives are discussed below: The National Council of Women:

The National Council for Women is a government agency that was founded in 2000 with the purpose of safeguarding women's rights and gender equality in Egypt. The council has introduced several initiatives designed to promote women's empowerment in Upper Egypt, such as the Safe Cities Initiative, which aims to curb gender-based violence in public spaces.

The Girl's Education Initiative – This initiative has been implemented in collaboration with the help of various NGOs and it is intended to increase access to education for girls in Upper Egypt. This includes offering financial relief to families to alleviate the burden of paying school fees, enhancing school repair, and educator and director training to teach girls' educational policymaking.

Women's Economic Empowerment Program – This program is implemented in collaboration with various NGOs and aims to train and support female entrepreneurs in Upper Egypt. It also includes entrepreneurship

training, access to financial coaching and marketing, and business startup preparation as well as mentoring and opportunities for discussion.

Women's Literacy Initiative – A parallel many NGO initiative is intended to boost literacy among Upper Egyptian girls. Women who have not received a formal teaching mixture that has arisen from the primary class and women who left class at a young age will be able to take tutorials.

4.3.4 NGO'S and governmental sector cooperation

Based on the above model, in Egypt, woman's and girl's status can be achieved through successful partnerships between NGOs and government as follow.” There have been, indeed, several successful partnerships between NGOs and the government in Egypt to promote women's empowerment economically”: Social Fund for Development is an Egyptian governmental entity that provides funding and technical supports for NGOs to implement programs and initiatives to promote economic development and reduce poverty in Egypt. Furthermore, the SFD has dozens of successful partnerships to implement programs and initiatives to empower woman and improve gender equality; one of these successful programs is “Women's Economic Empowerment”. In addition, there is a partnership between NGOs and government in Egypt such as NGOs and the government can complement each other to implement effective programs and initiatives.

Activities of the Women Business Development Center (WBDC) within National Council for Women NCW ,which aiming to implement programs and initiatives to empower woman and increase its roles in all the sectors of life, with different partnerships, such as: “The Secret of the Craft” program to broadcast episodes on the official social media channels of showcasing the Egyptian traditional crafts, the “Financial Education for Women” program

which aims to educate women with the financial services available at the national level, the “Get Ahead” program aiming to encourage the establishment of women's small and micro projects, the " e-marketing program", “Al Masrya” is the Egyptian initiative to enhance marketing services for women owners of small projects and handicrafts, "Addaha W2doud" to develop handicrafts at the National level, the "Career guidance program" in which 10 awareness videos were launched on career guidance, "Kowety Fee Herfety" platform where women entrepreneurs meet women with skills and crafts, “Ibdaa Min Masr store” on Jumia website to display women's products, "Community Kitchen" initiative within the framework of the project "Leadership, Empowerment, Access and Protection (LEAP)" program, where a kitchen was equipped at the NCW's Giza branch with the necessary equipment and devices to become a distinguished cooking techniques training place for women, 5 production training workshops were established in the governorates: “Giza, Minya, Gharbia and Qena”. Finally, “Fekretek” platform for qualifying the winning women's/girls' innovative projects that achieve one of the SDGs. Participation in local exhibitions that are held periodically and networking graduates of the craft workshops with marketing opportunities and giveaways.

6.2.1 Age

Table 6.1 and Figure 8 show that the sample was distributed among various age categories where the relatively highest age category (47%) who are 36 to 50 years old, followed by those between 50 to 60 years old, then those in the age of 18 to 25 years old and over 60 (5%). The age distribution indicates that most of the sample were in the age of 36 to 50 years (47%).

	N	Percent
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age	18-25	92	20.3
	36-50	212	47.0
	50-60	134	29.7
	over 60	12	2.5
	Total	450	100.0

Table 6.1 Sample studied by age

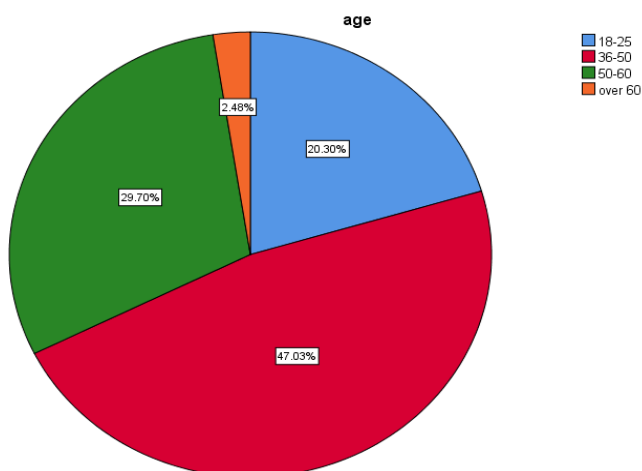


Figure 8 Sample studied by age (pie chart)

6.2.2 Education Level

Table 6.2 and Figure 9 show that the sample was distributed as per education level as follows: majority holds bachelor's degree or equivalent (42.1%), followed by those who holds General secondary certificate or equivalent degree (28.7%), then master's degree holders (11.4%) and the remaining percentage of 5% represented those who had Less than high school diploma. This education distribution reflects a highly educated female and male in Upper Egypt.

		N	Percent
Education	Less than high school diploma	23	5.0
	General secondary certificate or equivalent	129	28.7
	Bachelor's degree or equivalent	189	42.1
	Master's degree and above	109	24.3
	Total	450	100.0

Table 6.2 Sample studied by education level.

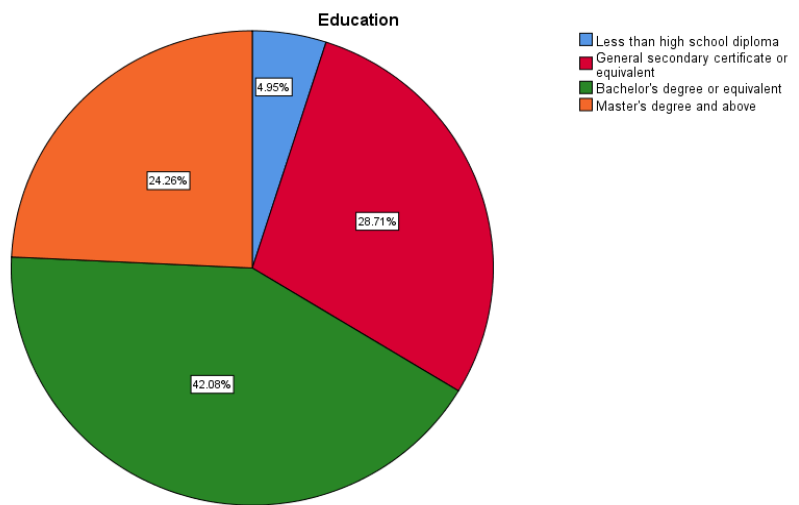


Figure 9 Sample studied by education level.

6.2.6 governance distribution

Table 6.6 and Figure 13 shows that the sample are randomly collected from 14 Egyptian governances, the high number is collected from Assiut (23.3%), Qena (21.3%) and Aswan (7.9%).

		N	Percent
Governance	Giza	26	5.9
	assiut	105	23.3
	bani sauif	4	1.0

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aswan	35	7.9
Qena	96	21.3
menya	24	5.4
sohag	42	9.4
Luxor	13	3.0
Fayoum	9	2.0
Total	450	100.0

Table 6.6 Sample studied by governance distribution

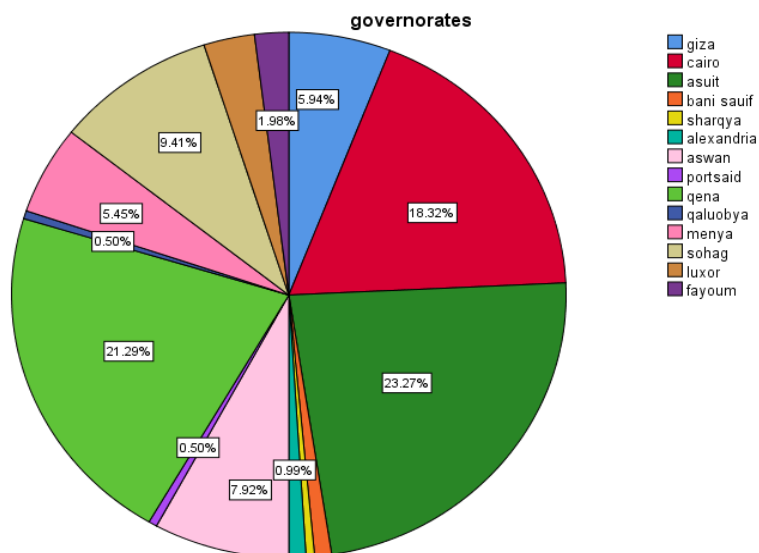
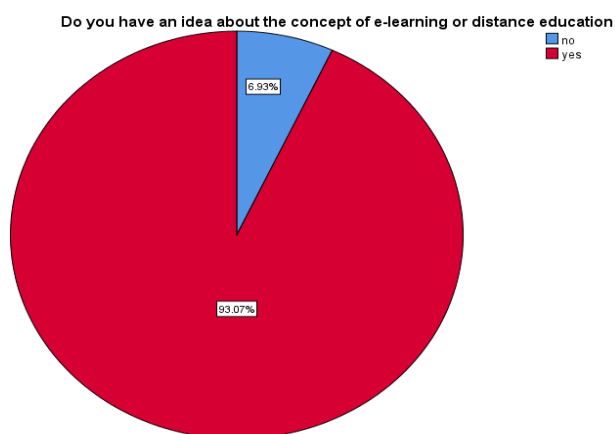


Figure 13 Sample studied by governance distribution

6.2.7 General Information

Regarding to the idea about the concept of E-learning, 93.07% of the



respond
ents
have an
idea

about the concept of e-learning or distance education. Then, for participation in lectures, training, or education online, 81.68% of the respondents have participated participation in lectures, training, or education online. This is followed by 78.21% of the respondents participated in training courses in the field of e-learning or distance education.

Figure 14 Do you have an idea about the concept of e-learning or distance education?

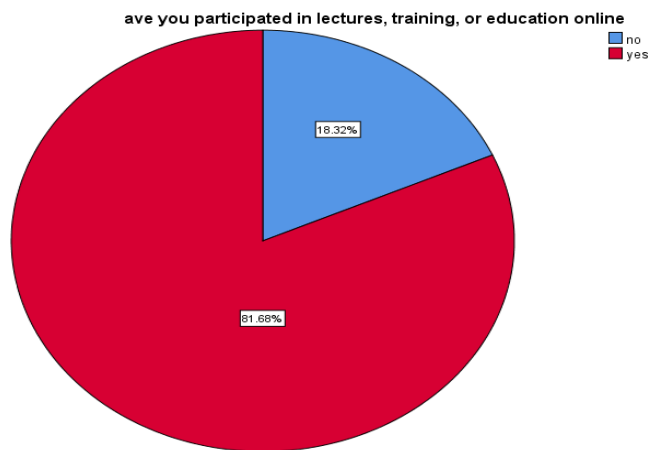


Figure 15 Have you participated in lectures, training, or education online?

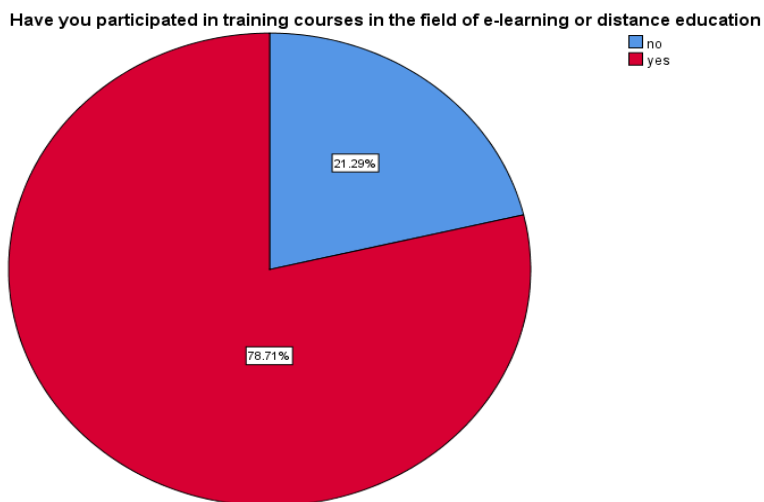


Figure 16 Have participated in training courses in the field of e-learning?

6.3. Sample Perception

Percentages, mean and standard deviation were used to describe the sample perception. a 5-point scale was used. The mean values on the 5-point scale can be interpreted as follows (research calculations):

Mean value is a descriptive measure that summarizes the sample responses in one point. The mean value in Table 6.3.1 ranged from 1.60 to 2.11. The sample perceived at the relatively lowest mean value (1.60) the E-Learning item “e-learning allows freedom to learn anytime and anywhere”, while they perceived at the relatively highest mean value (2.11) E-Learning item “Training programs become easier and clearer with e-learning”.

	Strongly Agree		Agree		Neutral		disagree		Strongly disagree		Summary statistics	
	N	%	N	%	N	%	N	%	N	%	M	Std. De.
Do you think that distance education or e-learning is necessary to increase training and learning opportunities	207	46%	203	45%	36	7.9%	4	1%	0	0	1.638	.67145
Do you need equipment and devices to help you use e-learning systems	194	43.1%	207	46%	47	10.4 %	2	0.5 %	0	0%	1.683	.67552
Are you satisfied with the training you received through e-learning	14	27.7%	223	49.5 %	97	20.8 %	9	2%	0	0% %	1.970	.75251
Does e-learning help in acquiring new knowledge and skill	176	39.1%	230	51.0	40	8.9%	4	1%	0	0%	1.717	.66511
Training programs become easier and clearer with e-learning	96	21.3%	225	50%	109	24.3 %	20	4.5 %	0	0%	2.118	.78907
e-learning allows freedom to learn anytime and anywhere	223	49.5%	187	41.6 %	36	7.9%	4	1%	0	0%	1.604	.67771

learning helps in developing thinking, problem-solving skills, and ease of access to resources and information	162	36.1%	212	47%	65	14.4 %	9	2%	2	0.5 %	1.836	.77783
Creating a distance learning program creates an educational environment that keeps up with the requirements of the technological age	194	43.1%	198	44.1 %	52	11.4 %	4	1%	2	0.5 %	1.717	.74285

Table 6.3.1 Sample perception of E-Learning

N: number/count, M: mean value, SD: standard deviation value

Mean value is a descriptive measure that summarizes the sample responses in one point. The mean value in Table 6.3.2 ranged from 1.70 to 1.97. The sample perceived at the relatively lowest mean value (1.70) the Economic Empowerment item “Distance training and e-learning have a positive impact on women empowerment”, while they perceived at the relatively highest mean value (1.97) Economic Empowerment item “Distance training and e-learning had a positive impact on some of your economic decisions, such as starting a private business or rethinking managing household financial resources.”.

	Strongly Agree		Agree		neutral		disagree		Strongly Disagree		Summary statistics	
	N	%	N	%	N	%	N	%	N	%	M	Std. De.
Distance training and e-learning had a positive impact on some of your economic decisions, such as starting a private business or rethinking managing household financial resources.	116	25.7%	112	24.9%	67	14.9%	18	4%	0	0	1.9703	.75251
Distance training and e-learning have a positive impact on women	196	43.6%	201	44.6%	42	9.4%	11	2.5 %	0	0%	1.7079	.73899
Distance training or e-learning helps to communicate more and learn about success stories in the field of entrepreneurship, small and micro-projects.	171	38.1%	232	51.5%	38	8.4	7	1.5 %	2	0.5%	1.7475	.71280

Table 6.3.2 Sample perception of Economic Empowerment

N: number/count, M: mean value, L: level of agreement, SD: standard deviation value
Mean value is a descriptive measure that summarizes the sample responses in one point. The mean value in Table 6.3.9 ranged from 1.92 to 20.03. The sample perceived at the relatively lowest mean value (1.92) E-Learning and Non-Governmental Organizations item “Some programs offered by NGOs rely on providing training programs through e-learning and the internet to raise awareness and train women” while they perceived at the relatively highest mean value (2.03) E-Learning and Non-Governmental Organizations item “NGOs provide training opportunities, lectures, and videos for women in various fields through the internet, which women in Upper Egypt benefit from.”

	Strongly Agree		Agree		neutral		disagree		Strongly disagree		Summary statistics	
	N	%	N	%	N	%	N	%	N	%	M	Std. De.
Some programs offered by NGOs rely on providing training programs through e-learning and the internet to raise awareness and train women.	109	24.3%	269	59.9%	67	14.9%	5	1%	0	0%	1.9257	.65368
non-governmental organizations provide training opportunities, lectures, and videos for women in various fields through the internet, which women in Upper Egypt benefit from.	109	24.3%	225	50%	105	23.3%	11	2.5%	0	0%	2.0396	.75864

Table 6.3.9 Sample perception of E-Learning and NGOs

N: number/count, M: mean value, L: level of agreement, SD: standard deviation value

6.4 Results of Reliability Analysis

In this section, the relationship between E-learning, an independent variable, and Empowering women economically as a dependent variable, will be evaluated. Furthermore, the controlling effect of NGOs on the relationship between E-learning and Empowering women will be investigated.

Cronbach's alpha was used to determine the reliability level before examining the direct and indirect (moderation) relationships between the researched variables using inferential analytical regression analysis. The normality assumption was then evaluated, along with outliers.

6.5 Regression Analysis

table 6.5.3 which assess the relationship between the e-learning and economic empowerment controlling by NGOs. The regression model estimated had R-square value equal to 68% out of 100%, which indicates that the independent variables explain 68% of the total variation in Economic empowerment being a dependent variable. This explanation level is considered high when compared to 50% being half of the explanation level. Adequacy test was found to be statistically significant at 1% significance level (F value = 86.147, p-value < 0.000) which indicates that the overall adequacy of the regression model is verified. Thus, the regression analysis is better to describe the relationship from for example the mean values.

Table 6.5.3 shows that there was a statistically significant positive effect of E-learning and NGOs on Economic Empowerment (regression coefficients $\beta = 0.797$ and $.471$ respectively, p-value < 0.000) at 1% significance level. Thus, it is concluded with a 99% confidence level that when E-learning and NGOs increase by one percent, it is expected that Economic Empowerment will improve by 79 % and 41% on average, respectively.

Dependent variable	Independent variables	Coefficient	t-value	p-value
Economic Empowerment	(Constant)	-7.014	-5.389	.000
	E-Learning	.797	9.119	.000
	NGOs	.471	5.616	.000
R-Square	0.681			
F-test	86.147***			

Table 6.5.3 Regression analysis (Economic empowerment is the dependent variable)

6.6 Interpretations and Discussions of Key Findings

Findings based on the statistical analysis performed which were presented in earlier sections provides insights based on the sample' perception.

E-learning was found to have a strong positive correlation with all the different types of women empowerments. This supports the research hypothesis (H) which states that: there is a significant relation between E-learning and economic women empowerment. Also, We can find that the NGOs has the great impact in controlling the relationship between economic empowerment and E-learning and illustrates that NGOs play a very significant role in investigating the relationship between the E-learning and economic women empowerment

6.7 Summary of Research Results

Significant majorities of Egyptian women have been benefiting from e-learning by accessing educational opportunities and acquiring skills and knowledge. E-learning is a significant tool to overturning barriers traditionally facing women in education due to its characteristics such as flexibility, accessability, and cost-efficiency. This paper concluded by answering the research questions with proper and relevant information findings. The first question is about the impact of e-learning on economic women empowerment with the existing of activities of NGOs, the analysis of data showed that there is a significant impact of e-learning on women empowerment economically which provides great opportunities a secure alternative. Learning can take place in the safety of their homes and foster the cultural shift by accessing technology and internet and benefit from educational and training initiatives. In addition, another question is about the effect of NGOs' activities to strength the relation between e-learning and economic women empowerment, the analysis of data showed that non-governmental organizations (NGOs) paved

the road for thousands of women to develop themselves and provide them with a powerful knowledge level hence empowering them in multiple fields they have selected.

6.8 Study's Recommendations

focusing on the role of NGOs' activities and its vital impact on empowering women using the recent technology and training women in Upper Egypt via internet. This study, which included 400 females from Upper Egypt, used surveys and statistical analysis to evaluate the effectiveness of e-learning. The goal was to determine the impact of e-learning on economic women's empowerment and to examine factors influencing engagement with e-learning platforms regarding the opportunities and challenges of e-learning for women in Upper Egypt. The findings show that e-learning is well-received, and there are strong connections between it and the economic empowerment of women. This study recommends enhancing digital literacy, support the activities of NGOs to enable women to enter and join distance training programs to develop their skills and encourage entrepreneurial opportunities. There are several challenges that NGOs in Egypt face in empowering women and promoting gender equality. Firstly, limited resources and the capability of NGOs where most NGOs in Egypt are small and with limited resources to support a big number of women. This limits their reach to a big number of women and limits the resources that they can offer to support women empowerment. Secondly, legal and regulatory are barriers faced by NGOs in Egypt as they operate within the constraint of the relevant frameworks. Some of the legal constraints facing NGOs may include the source of funding and set of bureaucratic processes that make the implementation of programs slow. Other challenges include cultural barriers as there are women who do not have a positive attitude towards the empowerment of women. This has a negative impact on the ability of NGOs to reach to many women as they are discouraged from joining the programs or utilizing the resources provided.

Finally, sustainability, many NGOs in Egypt cannot sustain the programs, and this limits their potential to reach many women.

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