

WOMEN EMPOWERMENT IN DIGITAL ERA: REVIEW OF LITERATURE AND FUTURE RESEARCH DIRECTIONS

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Abstract

Women form almost half of the world's population and a substantial portion of the labour force. Digitalization has touched every aspect of the human world, with an emphasis on the empowerment of women. To fully engage women in economic life and achieve sustainable growth on a global scale, the empowerment of women is a vital objective. Women's integration and participation into sustainable development are viewed as beginning points for women's empowerment. This conceptual paper aims to review the literature pertaining to the empowerment of women in the digital age and to recommend future research directions by identifying research gaps. This article examines how the empowerment of women in the digital world contributes to sustainable economic growth. Systematic Literature Review (SLR) in the PRISMA framework has been conducted in order to perform the review. VOSviewer software has been used to perform keyword co-occurrence analysis. Articles have been obtained from the Scopus database to ensure the quality of the input. There is a dearth of studies on the relationship between women empowerment and digitization. Women's ability to participate in economic development has been hindered by their lack of knowledge and skills in digital technologies, which is a consequence of industry 4.0, the fourth industrial revolution. Four major research gaps namely knowledge gaps, empirical gaps, contextual gaps and methodological gaps, have been identified in this study and future research directions have been provided.

Keywords: Women Empowerment, Digitalization, Industry 4.0, Economic Development, Research Gaps

1.0 Introduction

Women account for approximately half of the world's population and labour force (Obayelu & Chime, 2020). Women's empowerment is crucial for accelerating economic expansion. Today, the economic empowerment of women is regarded as a prerequisite for a nation's progress; therefore, political theorists, social scientists, and reformers place a premium on this issue. Without women's development, economic growth cannot occur. For greater sustainability, women should be provided with technical knowledge, skill training, and marketing techniques when establishing a business. Women should be empowered primarily in the areas of education, employment, and economic and social participation. Without women's education, there will be no empowerment. Education is the primary means of empowering women (Arul Paramanandam & Packirisamy, 2015).

Information and communication technology (ICT) is a potent instrument and catalyst for economic development in underdeveloped regions. ICTs have played a significant role in the development of women and provided opportunities for their empowerment. Organisations view education as the key to empowerment, and they employ ICT to improve teaching and education (Kenkarasseril Joseph, 2013). Women possess enormous potential that can be utilised for the advancement of the nation. As the primary educator of their children, women must have a comprehensive comprehension of and proficiency with information and communication technology in order to perform their jobs effectively. This will have an impact on the next generation of intelligent and conscientious people. In the digital age, women must not only be able to participate as housewives, but also in family businesses and the workforce. Recent technological researches have placed a greater emphasis on the necessity of incorporating women into the digital space.

The aim of this conceptual paper is to evaluate the current research related to women empowerment and digitalization and identify some major research gaps related to the area providing future research directions.

2.0 Literature Review

2.1 Women Empowerment

The empowerment process involves four elements named cognitive, economic, political, and psychological elements. The cognitive element consists of women's knowledge and understanding of the causes of their subordinate situations. The economic element entails women's capacity to engage in a productive activity that affords them financial independence. The political element entails the capacity to analyze the encompassing environment in social and political terms. Finally, the psychological element consists of their emotions and confidence in their ability to effect change.

Giving women equal access to and control over economic properties, as well as autonomy in other aspects of their lives, is the process of empowering them economically. In order to help women through effective policy measures, it is crucial to understand the components and forces behind women's empowerment. In rural Nigeria, it has been determined that socioeconomic

conditions control the degree of women's empowerment. These include factors like the education level of women, awareness of rights, age, age of child, social networking, household size, employment, poverty status, access to productive assets, family type, family headship, husband's cooperation, income, gender of household head, wealth index, women's age, occupation, and marital status, among others.

According to the United Nations (2015), the realization of all human rights and opportunities for women is necessary for the achievement of full human potential and sustainable development. Globally, regionally, and domestically, it will work to reduce the gender gap and increase institutional provision for gender equality and women's empowerment. (Salia et al., 2017). Women's empowerment can be a crucial driver of macroeconomic growth and stability in the future (Khanna, 2023).

Being an entrepreneur is one of the numerous ways Women can gain economic independence and participate in the evolution of Jamaica's society and economy. Female labour force participation creates opportunities for more successful and productive female business ownership. The establishment of these channels will benefit both society as a whole and women in particular. A high rate of entrepreneurship allows an economy to expand its workforce and advance internationally (Adema et al., 2014). In this regard, increasing female entrepreneurial capacity is regarded as a crucial strategy for attaining diverse development objectives. In fact, they play a crucial role as women-owned enterprises advance along the growth spectrum. Public policy initiatives may be quite important in fostering a supportive situation.

Female economic empowerment, respectable employment, and female entrepreneurship are interdependent. Because of active women's economic empowerment, increased Women entrepreneurship could benefit the economy and sustainable development. The eradication of poverty, the abolition of hunger, and the improvement of family health and well-being will all proceed more quickly with an inclusive attitude to women's employment and present economic prospects.(Saner & Yiu, 2019).

Microfinance for women has the potential to reduce poverty and boost enterprise growth. In Ghana, microfinance has a positive effect on the reduction of poverty and enhances the psychological and social empowerment of women by enhancing their sense of self-worth and confidence to participate actively in family and community decision-making. However, women's reliance on masculine family members hinders their capacity for entrepreneurship and hinders their ability to support their families and earn money (Salia et al., 2017).

Cooperatives offer them increased income and control over their assets. Additionally, cooperatives facilitate their participation in the social, economic, and political spheres. This is causing a transition in gender roles and responsibilities, which will ultimately lead to the empowerment of women in society (Barti, 2021).

2.2 Digitalization

Digitalization refers to the use of digital technologies and potentially digitized data to develop and extract value in unique ways (Gobble, 2018). Digitalization is frequently used as an imprecise term that, depending on the context, can refer to numerous distinct concepts such as the use of digital assets by organizations to improve performance and the consequences of these technologies on the way the world operates. This includes all digital communication technology, automation systems, and information storage devices. (Kuusisto, 2017).

Three industrial revolutions have occurred in the manufacturing sector, and the fourth industrial revolution, formally known as Industry 4.0 (I4.0), is presently occurring globally. I4.0 represents a fundamental shift in the way digitalisation is used to manage systems (Sparrow et al., 2021). The procedures of the uppermost producers in the world highlight the importance of humans in their production models. Digitalization conditions necessitated the separation of human and machine decision-making (Protasenko & Mygal, 2022).

2.3 Women Empowerment and Digitalization

The 2016 World Development Report by the World Bank indicates that new digital technologies may make it simpler for women to participate in the labour force and pursue self-employment. In their study, researchers discovered that the majority of women who possessed cell phones were unable to use them due to their lack of textual literacy (Ruksana & Ahmed, 2019). They were only able to use the technology to answer the phone by tapping the green button, reducing it to a tool for control and surveillance rather than empowerment. ICT (information and communication technology) is an effective instrument for promoting economic growth in underdeveloped regions. ICTs have considerably contributed to the empowerment and development of women (Kenkarasseril Joseph, 2013).

The phrase "digital divide" is more correctly characterized as a mix of "skill gaps" and "lack of physical access to ICT," with the two gaps reinforcing one other. Regardless of access and skill level, the fact that usage is based on time, opportunity, autonomy of use, and social support leads to the exclusion of women from the digital world. So, mere physical access is insufficient. The term "digital inclusion" must be defined as individuals who have the knowledge, capacity, and access to effectively engage, mobilise, and participate in society with ICTs (Ruksana & Ahmed, 2019). To eliminate the digital gender gap, harnessing the transformative power of ICTs necessitates the elimination of implicit and explicit barriers to women's and girls' access to equal education and digital training. Priority should also be given to initiatives that encourage women's "learnability," which includes analytical reasoning and creative problem-solving skills.

Rapid changes brought about by the Fourth Industrial Revolution necessitate the full participation of women. In order to access the labor market or business sector of the future, women must enhance their skills. Increasing numbers of wholly automated and digital jobs are now available to women. In the current era of work, occupations requiring physical exertion are being replaced by those requiring superior intelligence, foresight, and the capacity to comprehend technology. Women need technical expertise, as well as communication and leadership skills, to succeed in the 4.0 Industrial Revolution, especially when managing an

independent vocation or business. Women in emerging economies may find new jobs, work for themselves, and promote their social and personal progression through the digital platform (Dharmayanti et al., 2022). Due to a modified modern education system, digitalization has increased women's empowerment globally, in favour of the family, society, and nation. Digitalization has altered many facets of life, especially for women, including education, business, law, criminal control, marketing, and the health care system (Yadav, 2022).

Approximately 50% of the world's population are women and workforce, but earn 10 to 30 percent less than men. Despite their efforts and aids to the global economy, women manages less than one percent of all global assets . Half of the poor in emerging areas are women and girls, and little more than 50% in developed areas . Two-thirds of women in developing regions, however, are excluded from economic decision-making inside their own homes . Women are empowered and accelerate gender equality when they have equal access to financial and development possibilities, which results in sustainable development on a national and international level.(Obayelu & Chime, 2020).

Without women's advancement, economic development is impossible. When starting their own businesses, women should receive technical training, skill development, and marketing strategies for increased sustainability. Micro- and small-sized enterprises are recognised as long-term economic growth drivers that contribute to economic development. Women's economic empowerment is the objective of microfinance initiatives.

To create a good society, it is essential to empower women, and a stable society depends on empowered women. Women's ideas and values help to create good families, good societies, and eventually good nations. (Arul Paramanandam & Packirisamy, 2015).

3.0 Methodology

Systematic Literature Review has been conducted according to the method explained in Dogra & Priyashantha (2023). Using Scopus database and the key words "Women Empowerment" and "Digitalization", a Systematic Literature Review was conducted. Key word co-occurrence analysis was used with the VOSviewer software (Version 1.6.19) to visualize the relationship between keywords. Abstracts of the journal articles were studied against the relevance to the research topic and studies from all disciplines were included in the literature search. Also, the studies written in English have been selected for this conceptual study. Quality and eligibility of the studies were assessed by going through the selected journal articles. The review protocol and article selection flow diagram are as follows.

Article selection method	PRISMA guidelines
Search strings	Women Empowerment, Digitalization
Inclusion criteria	1. Year range: All

	2. Subject area: All
	3. Language of article: English
	4. Keywords: Women Empowerment, Digitalization
	5. Source type: Academic Journals
	6. Type of Study: Literature Review
	7. Methodological quality: Articles that followed the quantitative/qualitative methodology
Databases	Scopus
Analysis Method	Keyword Co-occurrence Analysis,
Reporting structure	PRISMA guidelines
Search strategies	*Digitalization* AND *Women Empowerment*

Table 1. Review Protocol

Source: Authors developed based on PRISMA guidelines

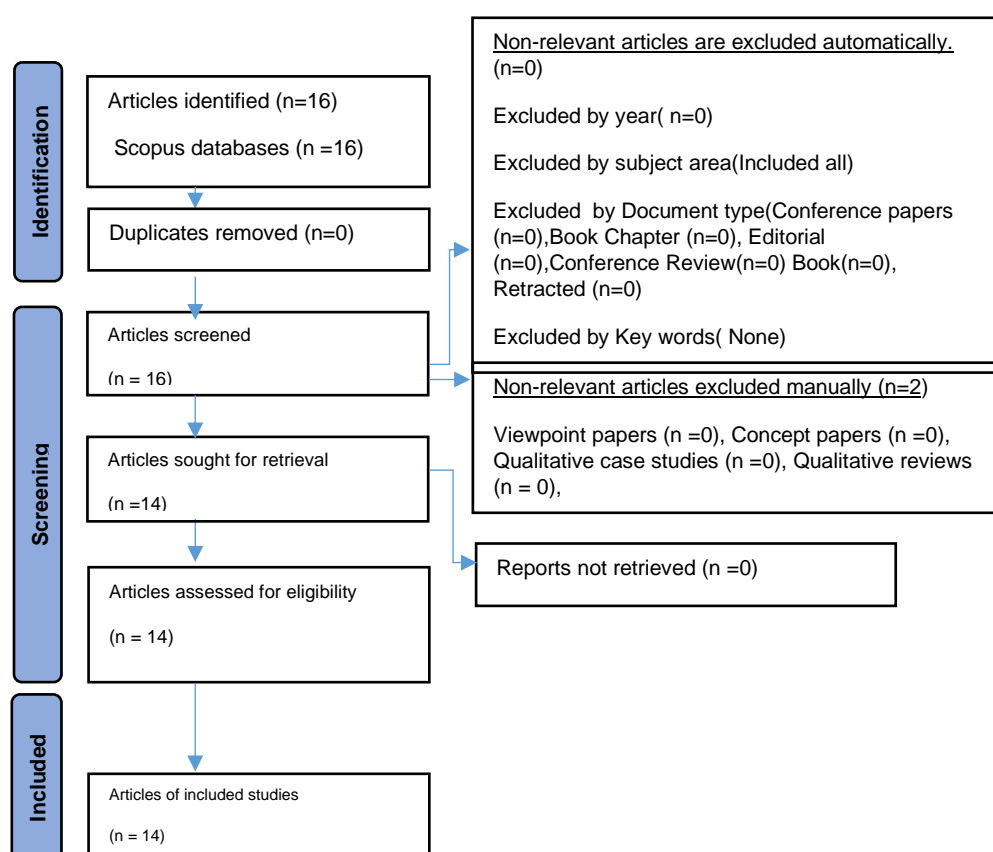


Figure 01. PRISMA Article Selection Flow Diagram

Source: Authors developed based on PRISMA Guidelines

4.0 Data Analysis and Results

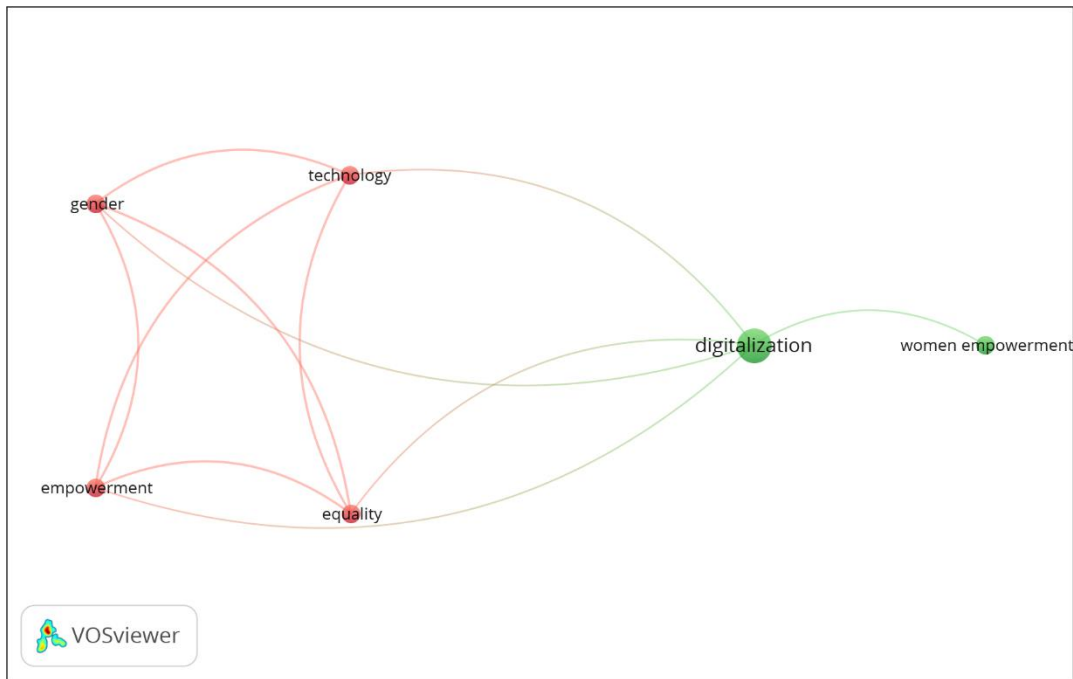


Figure 02: Network Visualization Map

The network visualization map illustrates two clusters related to the keywords.

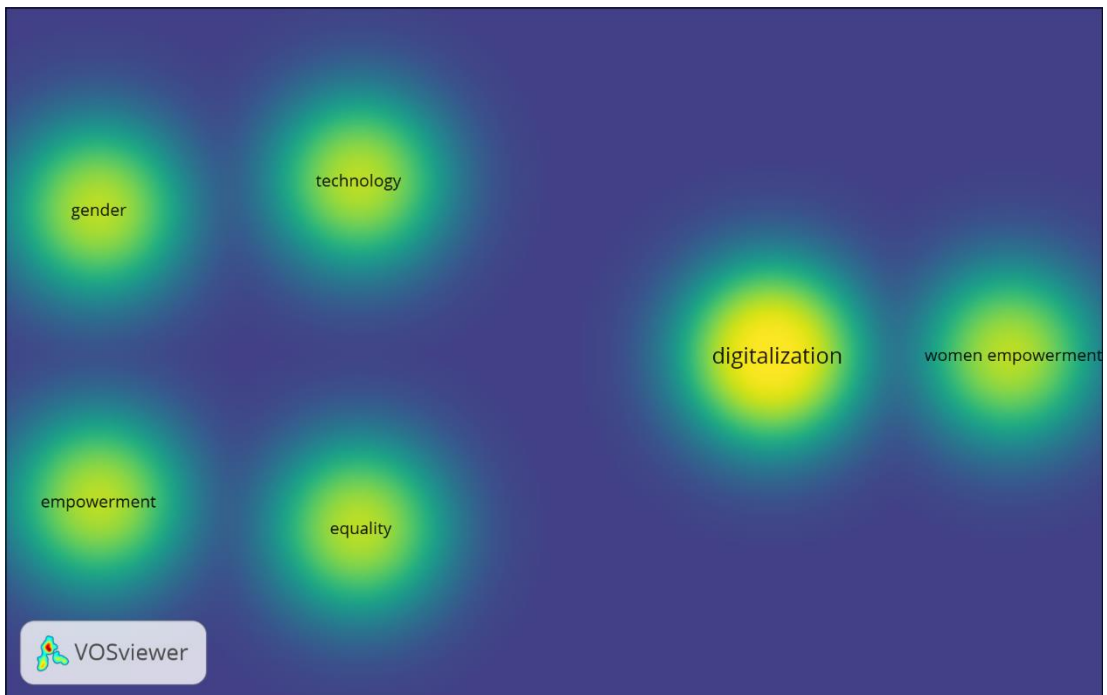


Figure 03: Density Visualization Map

The density visualization map shows that the keywords in the yellow and green area have been researched in a less number of occasions and they need to be researched more. It further indicates that the knowledge related to these keywords is very less and therefore, more opportunities exist to conduct research in this area. If the areas are red in color, it shows that extensive research has been done in that area and sufficient knowledge is available (Dogra & Priyashantha, 2023).

5.0 Findings

When starting their own businesses, women should receive technical training, skill development, and marketing strategies for increased sustainability. Micro and small enterprises are acknowledged as long-term economic growth drivers that contribute to economic development. Gender equality progresses faster when women have equal access to financial and development opportunities, resulting in sustainable national and global development. Countries can develop various initiatives to empower women and establish mutually beneficial relationships with the business sector. Authorities must conduct training campaigns to educate these untrained female employees and transform them into a national asset. In addition, women should be free to assume any function in society. Further, women should be given more opportunities to engage in digitalized environments especially the Industry 4.0.

Below future research directions have been identified based on the research gaps found during this literature review.

Some Major Research Gaps and Future Research Directions

1. There is a contextual gap in research related to women empowerment and digitalization. Studies related to very limited number of countries have been found in the literature. More research can be conducted in other countries to understand the relationship and issues related to the women empowerment and digitalization. Considering the economic situation in Sri Lanka, future research would be beneficial to gain insights into the issue under concern. It is of importance to study the variables in different cultures since the culture plays a major role as far as the role of the women is concerned. Some studies have been conducted in rural areas of some countries. Future studies can be conducted to understand the issue in different demographic contexts. Women's age, education and related factors can be studied in a digitalized environment.
2. There is an empirical gap in research related to the women empowerment and digitalization. The impact of digitalization on woman empowerment can be studied and empirically tested. In this effort, barriers and challenges in empowering women through digital technologies can also be identified. Empirical studies can be conducted to investigate the relationship between specific digital technologies and women

empowerment. The relationship between industry 4.0 (4th industrial revolution) and woman empowerment can also be studied since there were no studies reported in this area. Empirical research studies can be designed to assess how culture affects women's empowerment in digitalized environment.

3. There is a methodological gap in research related to the women empowerment and digitalization. Very few studies have been conducted using the qualitative methodology. More case study type research can be conducted to understand the issue under concern.
4. There is a knowledge gap in the research related to women empowerment and digitalization. A comprehensive framework is needed to capture the real relationship between digitalization and women empowerment Only the isolated studies have been conducted in this area.

6.0 Conclusions & Recommendations

To create a decent society, it is necessary to empower women, and a stable society is contingent on empowered women. Women's ideas and value systems help to build strong families, societies, and eventually nations, which impacts economic growth. Interaction between digital technologies such as Industry 4.0 and women empowerment need to be studied further. A comprehensive framework is needed to study the full effects of digitalization on women empowerment. It is recommended to conduct future research in the areas identified above in order to understand the effects and interactions of woman empowerment and digitalization.

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