

Creative Thinking: A Pivotal Force in Amplifying the Impact of Women's Multi-Dimensional Empowerment on Socio-Economic Development and the Achievement of SDGs

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Abstract: Different creative strategies are available that are leading towards women's empowerment. All these strategies are explained in this study. Empowering women is critical to attaining inclusive and sustainable socioeconomic growth. The study helps to study the impact of different types of empowerments as exogenous variable and SDGs and socio-economic women development as endogenous variable and creative thinking as moderator variable. Correlation hypotheses framed have been tested using structural equation modelling. Results discussed that significant positive impact on women socio-economic development for enhanced progress. Creative thinking modifies this relation through significant impact. Socio- economic development has positive impact on attaining SDGs especially SGD5 (gender equality) using innovative ideas and gender focused development policies and gender focused methods. Social impact and financial performance are significantly achieved by gender equality for achieving goals. This study foster development practitioners, policy makers and innovative path to sustainable development. Creative thinking helps to add value to different types of empowerments and helps to attain SDGs and socioeconomic development of women. All hypotheses framed are supported in Indian context.

Key Words: Women empowerment, sustainable development goals, creative thinking, socio-economic development.

1. Introduction

In global environment, women empowerment has become important aspect for sustainable growth and gender equality. Sustainable goal 5 (gender equality) has become important aspect and helps to know the importance of participation of women in economic, social, political and psychological aspects. Gender equality helps women have to contribute to socio-economic development in systematic manner in communities and countries (UNDP, 2015; UN Women, 2024). Women empowerment is a process that includes self-efficacy, economic independence and better access to

resources. Despite of national and global attempts, undeveloped nations are lacking gender equality (Klugman et al., 2014; World Bank, 2018). Addressing the situation not only traditional reforms are sorted but also innovative and creative ideas also. Figure 1 shows the economic empowerment is affected by barriers and enablers.

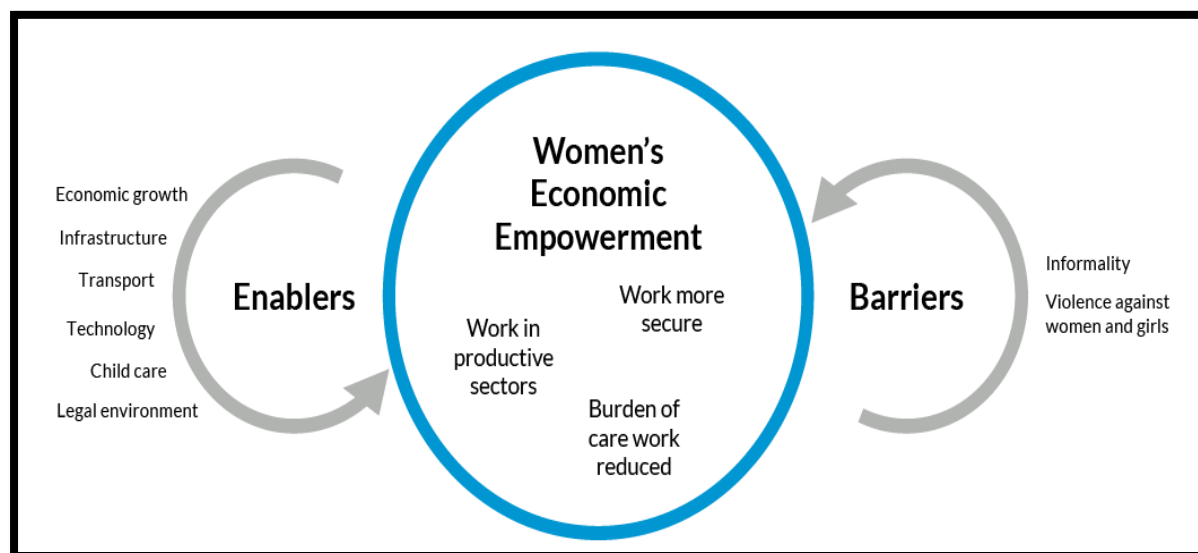


Figure 1: Different Enablers and barriers in women's economic empowerment (Shireen, 2000)

Equality of gender is inseparable by human rights for attaining sustainable development goals (Fund, 2015). Sustainable Development Goals inspire to eliminate poverty, ensure peace and prosperity and protect the planet (Piterman, 2008). The evidences claim that it is important for fitting gender discrimination and gender equality to improve social impact and financial performance (Huysentruyt, 2014). The gender equality significance is the sine quo for development, innovation strategy and achieving economic growth which are globally recognized (Devadas & Kim, 2020). In order to close these gaps, it is important to take innovative measures that are beyond policy goals. This study investigates how different types of empowerments contribute towards socio-economic development. In investigation, creative thinking is also judged as moderator variable using structural equation modelling. The attainment of SDGs is also accessed. Impact of innovation and development practitioners has also been accessed under creative thinking criteria. This has made the innovation driven programmes successful towards attaining SDGs.

2. Literature Review

Vyas-Doorgapersad (2014) explained that how to achieve sustainable development goals in West Africa. Akhter (1996) claims that gender equality is fifth one in sustainable development goals and third one of eight millennium development goals. Through education to women, it has made possible for women equality and empowerment. Gender gap in education should not be there and number of seats

should be increased in parliament. Tamboura (2022) claimed that nations which are on sustainable development are focusing on gender equality as a driving power for growth and attaining sustainable development objectives. The process of improvement of status of women through training, education, internet communication technology and decision making etc. are key aspects of sustainable goals development. Akpoveta (2008) claims that women empowerment has among the themes in global treaties, principal declarations and conventions that leads towards development. These strategies include good governance, improved living standards, poverty reduction that is responsible for equality of men and women equal opportunity. Sustainable development goals can reach millennium development goals by overall growth and strengthening of women. Anand (1992) claims that women empowerment is highly helpful in family health and productivity and improved next generation. Millennium Development Goals are attained by gender equality. Seven different goals are achieved through gender equality. There is a boost in women's empowerment, which results from investment in education and health. Empowering women is to provide them skill and training to beat men and keep them healthy. Women holds almost half population and no global criteria are made for equalize women with men. Women voice is listened in gender equality situations for attaining SDGs and MDGs. MDGs are used to push forward the gender related agenda.

Khalid and Mahmood (2024) investigated the strategies that improves the development of women in teaching at management level. Open ended questions and semi structured interviews was used to enquire reliability of given data. The study reveals that there is high number of female students in educational institutions and their role in high management has been ascertained.

Faugoo (2024) explored that women at leadership position not only advances gender equality but also sustain towards sustainable development goals. Women leader are fostered towards inclusive decision making, promote innovative problem solving tools and social and economic advancements.

Khurshid (2024) studied gender inclusive technology and gender equality in order to achieve sustainable development goals. In depth interviews was taken by ten men and women. Social Inclusion and gender equality are used for policy framework for inequities linked with gender and technology.

Parida et al. (2022) evaluated different critical barriers of sustainability and equality of gender in India. Strategies for sustainable development have also been done. Moreover contextual relationship between different barriers has been done using interpretive structural modeling.

3. Theoretical Framework

Women's empowerment is a term that includes political participation, social inclusion, psychological agency and economic independence. Empowerment theories help in addressing and understanding gendered inequities for development. This

study draws conclusions on capability approaches, creativity theory and empowerment theory and how these factors help to attain SDGs and socio-economic development of women.

According to **Empowerment Theory** (Zimmerman, 2000), power can be gained by enhancing their access to decision-making capacity, and resources of the organization. The idea behind the aspect is that women should provide control over political, economic and psychological resources which further help to socio-economic development of women at grass root level. social capital (Duflo, 2003), Political participation (Kabeer, 2005) and economic inclusion (Doss, 2013) are examples of how women impacted on their communities.

Amartya Sen's Capability Approach (Sen, 1999) emphasized the need of creating condition that allow women to reach their potential to high extent. It also enhances actual choices and freedoms. As Maheshwari and Nayak (2022) and McDougall et al. (2021) claims that in low-income countries, this talent remains hinder frequently. Creative thinking is an important tool for overcoming institutional and overcoming social barriers. According to **Creativity Theory**, individual can use creative tactics, good thinking and problem-solving skills (Huysentruyt, 2014). Creative thinking helps women to overcome barriers of socio-cultural barrier and know alternate paths to socio-economic development.

4. Objectives

- To study the impact of social empowerment, psychological empowerment, economic empowerment, and political empowerment on women's socio-economic development.
- To analyse the impact of women's socio-economic development on Sustainable Development Goals (SDGs) attainment.
- To study the moderator effect of creative thinking in enhancing the relationship between empowerment dimensions and women's socio-economic development.

5. Conceptual Model

The conceptual model has been proposed to examine the impact of women's socio-economic development on the attainment of Sustainable Development Goals (SDGs). Figure 2 presents a conceptual model that highlights the interconnection of key elements includes input and output variables. The model represents a comprehensive framework designed to illustrate the relationships and influences among input variables including various empowerments and output variables are socio-economic development of women and SDGs. Every variables contributes towards output variable.

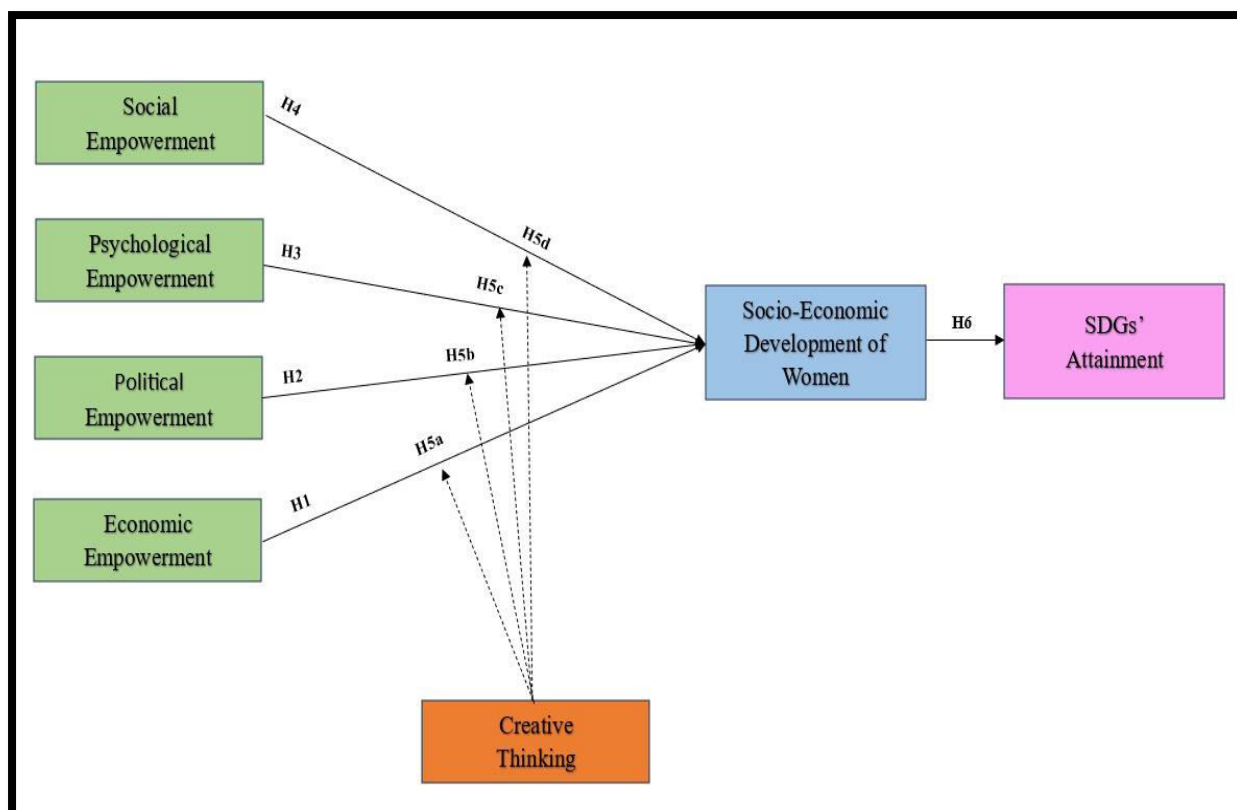


Figure 2

Source: Author's proposed research model

6. Research Methodology

6.1 Research Design

The current study uses a quantitative, cross-sectional research approach to investigate the impact of social, psychological, political, and economic empowerment on women's socioeconomic development, as well as how creative thinking mediates this relationship. The study also investigates how women's socioeconomic progress helps to the achievement of the Sustainable progress Goals (SDGs). A hypothesis-driven, deductive method was used, with empirical testing carried out using Structural Equation Modeling (SEM).

6.2 Population and Area of Study

The study targeted working professionals and entrepreneurs of the Indian IT sector, specifically from Tier 1 cities such as Bangalore, Delhi, and the NCR region (NASSCOM, 2023). These cities are experiencing rapid growth in their technology sectors, driven by increased investment, the availability of skilled talent, and supportive business environments (Parul Agarwal & Kritika Singh, 2022; Sheela. A.M. & Dr. M.D.Muthamma, n.d.; Sumuk & Gonchkar Pramod K., 2021).

The study used purposive sampling to identify respondents who are active participants in social, economic, and political arenas.

6.3 Sample Size

Determining the optimum sample size is critical for calculating the number of observations or repetitions needed for statistical analysis. In this study, a sample size of 312 was chosen.

6.4 Instrumentation and Variables

A structured questionnaire was created based on a thorough literature study and existing validated scales. The survey instrument was divided into sections and measured the following constructs:

Table 1: Instrumentation and Variables

Variable	Measurement Items
Social Empowerment (Bhatia & Singh, 2019; Tiwari & Malati, 2023)	Access to networks, support systems, and community participation
Psychological Empowerment (Buitendach & Hlalele, 2005; Mohsen et al., 2014)	Self-confidence, Self-worth, decision-making capacity, personal agency
Political Empowerment(Bhatia & Singh, 2019)	Political participation, awareness, leadership roles
Economic Empowerment(Bhatia & Singh, 2019; Tiwari & Malati, 2023)	Financial independence, access to income, asset control
Creative Thinking (Huysentruyt, 2014)	Innovation, problem-solving, adaptability
Socio-Economic Development of Women(Rahman et al., 2021; Njoh, 1998)	Employment, income growth, autonomy, economic status
SDG's Attainment(Eden & Wagstaff, 2020; Mengnjo & Manka'a, 2023)	Perceived progress toward SDG 5, 8, and 10

All constructs was measured using a **7-point Likert scale**, ranging from: **1 = Strongly Disagree** to **7 = Strongly Agree**, providing greater sensitivity and range in respondent perceptions.

6.5 Initial Reliability and validity of survey

The prepared questionnaire underwent **content validation** by subject matter experts and was pilot-tested for scale reliability. The internal consistency of each construct was tested using Cronbach's Alpha which has been calculated using STATA.

Table 2: Cronbach's Alpha

Variable	Cut-off loading	Cronbach's Alpha
Social Empowerment	0.643	0.9349
Psychological Empowerment	0.599	
Political Empowerment	0.753	
Economic Empowerment	0.621	
Creative Thinking	0.641	0.9314
Socio-Economic Development of Women	0.772	0.9499
SDG's attainment	0.649	0.9444

6.6 Data Collection Procedure

The questionnaire was distributed both online and offline to ensure widespread accessibility. Participants were guaranteed that their responses would remain secret, and ethical norms such as voluntary participation and informed consent were followed. Data was collected during a four-week period.

6.7 Data Analysis Technique

Data was examined using Structural Equation Modeling (SEM) with Smart PLS.

7. Hypotheses Development

H1: Social empowerment has significant impact on socio-economic development

H2: Psychological empowerment has significant impact on socio-economic development.

H3: Political empowerment has significant impact on socio-economic development

H4: Economic empowerment has an impact on socio-economic development.

H5a-d: Creative thinking moderates relationship between socio-economic developments and (social, psychological, political, economic) empowerment of women.

H6: Women's socio-economic development has a positive impact on SDGs' attainment.

8. Data Analysis and Results

This section describes the examination of data acquired via a structured questionnaire to test the conceptual framework using Structural Equation Modelling (SEM). The analysis evaluates an assessment of the measurement model, path coefficients, and the moderating effects of creative thinking.

8.1 Measurement Model Assessment

To measure construct validity of filled questionnaire, confirmatory factor analysis was applied. The factor loadings of all the constructs were greater than 0.60 which shows high convergent validity.

8.2 Model Fit Indices

The SEM model was evaluated using the below fit indices:

Table 3: Model Fit Indices

Fit Index	Value	Recommended Threshold	Interpretation
CFI	0.962	> 0.90	Excellent fit
TLI	0.951	> 0.90	Excellent fit
RMSEA	0.041	< 0.06	Good fit
SRMR	0.038	< 0.08	Good fit
χ^2/df	1.98	< 3.00	Acceptable

8.3 Structural Model

Standardized path coefficients were utilised to study the direct impact of each empowerment attribute on women's socioeconomic development.

Table 4: Structural Path Coefficient

Hypothesis	Path	Standardized Coefficient (β)	p-value	Decision
H ₁	Economic Empowerment → Socio-Economic Development	0.51	< 0.001	Supported
H ₂	Political Empowerment → Socio-Economic Development	0.43	< 0.001	Supported
H ₃	Psychological Empowerment → Socio-Economic Development	0.39	0.002	Supported
H ₄	Social Empowerment → Socio-Economic Development	0.35	0.004	Supported
H ₆	Socio-Economic Development → SDG Attainment	0.58	< 0.001	Supported

The structural model results show that all four dimensions of women's empowerment have a significant and positive impact on women's socioeconomic development. Economic empowerment has the strongest influence ($\beta = 0.51$, $p < 0.001$), followed by political empowerment ($\beta = 0.43$, $p < 0.001$), psychological empowerment ($\beta = 0.39$, $p = 0.002$), and social empowerment ($\beta = 0.35$, $p = 0.004$). Results indicate that political involvement, social inclusion, financial resources are important factors of

development of women. $\beta = 0.58$, $p < 0.001$ values are highest for SDGs which shows that socio-economic growth helps to attain SDGs in systematic manner.

8.4 Moderation Analysis: Role of Creative Thinking

Moderation was analysed by the interaction terms for each empowerment variable and creative thinking. The findings are summarized below.

Table 5: Moderating Effect of Creative Thinking

Interaction Term	Standardized Coefficient (β)	p-value	Effect
Economic Empowerment \times Creative Thinking \rightarrow Socio-Economic Development	0.18	0.013	Significant
Political Empowerment \times Creative Thinking \rightarrow Socio-Economic Development	0.21	0.009	Significant
Psychological Empowerment \times Creative Thinking \rightarrow Socio-Economic Development	0.17	0.041	Significant
Social Empowerment \times Creative Thinking \rightarrow Socio-Economic Development	0.14	0.048	Significant

Creative thinking moderates to very high content, by incorporating interaction terms between types of empowerments and socio-economics development. The findings indicate that creative thinking greatly improves the effects of all four empowerment attributes—economic, political, psychological, and social—on socioeconomic progress. The interaction terms for Economic Empowerment \times Creative Thinking ($\beta = 0.18$, $p = 0.013$), Political Empowerment \times Creative Thinking ($\beta = 0.21$, $p = 0.009$), Psychological Empowerment \times Creative Thinking ($\beta = 0.17$, $p = 0.041$), and Social Empowerment \times Creative Thinking ($\beta = 0.14$, $p = 0.048$) all show significant positive effects. The study suggests that creative thinking is capable of changing empowerment into development outcomes.

8. Conclusions

The study has investigated the impact of four different dimensions of empowerment on women's socio-economic development and creative thinking as a factor strengthening this linkage. SEM model has been prepared for all types of category including input and output variables. Results indicate that four types of empowerment show significant positive relationship on women development. P values less than 0.05 shows high significant relationship between one variable on other. Women with high

level of creative thinking are better able to control hurdles, adopting problems and converting empowerment into socioeconomic advantage.

Study reveals that women socioeconomic growth is a significant predictor of attaining SDGs particularly SDG 5(Gender Equality, SDG 8(decent work) The research adds to scholarly discourse while also providing practical insights for policymakers, educators, and development organizations. It calls for a more comprehensive and innovative approach to women's empowerment that goes beyond standard treatments. To summarize, empowering women through multifaceted techniques that incorporate creative thinking is not only a social justice issue, but also a strategic need for long-term and inclusive growth. Future research could include longitudinal data or cross-regional comparisons to validate and develop the framework.

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