

Digital Modification and women's Financial Empowerment: A Study of Women Freelancers in Aligarh

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This study examines the interconnection between digital transformation and women's economic empowerment among women freelancers in Aligarh. women's financial freedom is affected by multiple interconnected factors. Using a standardised questionnaire, the study assemble data from a sample of 50 individuals regarding demographics, income, and professional habits. There is a strong positive association between economic agency and digital integration, as evidenced by the 80% of respondents who reported better long-term savings and financial stability. By consistently reinvesting digital income back into their work, participants demonstrate a commitment to professional development. However, there are still significant challenges, as 84% of independent women expressed concerns about internet fraud, a lack of formal training, and the absence of legal protections. The intense competition on social media platforms like Facebook and Instagram presents significant obstacles for new business women. Social media is a crucial growth engine because 92% of participants rely on digital networking for client acquisition and sales expansion in spite of these challenges. The study concludes that particular literacy activities and legislation protections are necessary to fully realize potential, even though the digital revolution helps close the gender wage gap.

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introduction

The expression assisting, market access “Women Empowerment” denotes the process of enabling women to liberate themselves from others’ control, allowing them to take charge of

their own lives and set their own terms. Increasing women's social, political, spiritual, or economic authority is referred to as empowerment. It Commonly means that people who are empowered gain confidence in their own skills. Encouraging women to take control

of their life, make independent decisions, and participate equally in social, economic, and political spheres is all part of the Autonomy process. Women in India have historically faced

obstacles such as limited access to school, a lack of employment possibilities, a lack of digital skills, and social barriers.

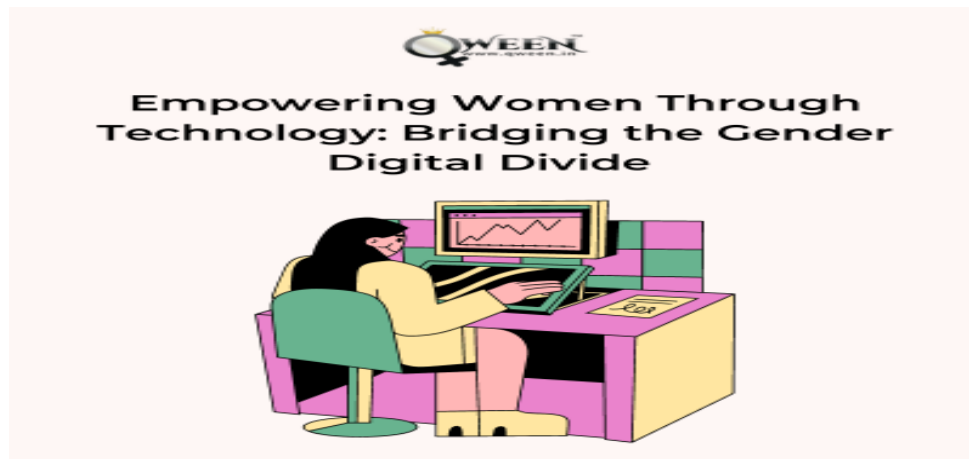


Source: <https://government.economictimes.indiatimes.com/blog/empowering-women-in-indias-digital-revolution-a-path-to-viksit-bharat-2047/123361859>

Digital changes is quickly changing the global labour market, giving women in developing cities like Aligarh a special chance to transition from traditional professions to independent freelancing. By using digital platforms, social media, and online marketplaces, women can overcome social and geographic barriers and have access to a variety of flexible job options and income-generating opportunities. This study looks at the socioeconomic impacts of this technological shift, concentrating on how digital tools help women freelancers become financially autonomous and make their own decisions. The route of women's economic engagement in the digital era is nevertheless influenced by persistent issues including the digital literacy gap, infrastructural limitations, and deeply ingrained patriarchal norms, despite the significant potential for empowerment.

Globalization and technology advancement have hastened the transition from traditional manual labour to a digital workforce, giving rise to a

novel idea known as the Business Process Outsourcing (BPO) system (Du Dux & Miao, 2022). An alternative to the conventional Business Process Management (BPM) employment model is provided by this new paradigm (Anand et al., 2013). In differ to the traditional structure of BPM employment, the concept of freelancing has emerged as a result of this shift. Freelancing is usually characterized as a creative form of self-employment, which includes entrepreneurship (Baitenizov et al., 2019). Due to the capacity for independent and autonomous work while connecting local and international markets, this field attracts professionals (Rikala et al., 2024). Freelancing gives people the competence to work on a variety of projects from any location and at any time (Akhmetshin et al., 2018). This concept has been widely adopted by the corporate sector in Western countries, as they acknowledge the intricate difficulties linked to conventional full-time employment (Huddek et al., 2021).



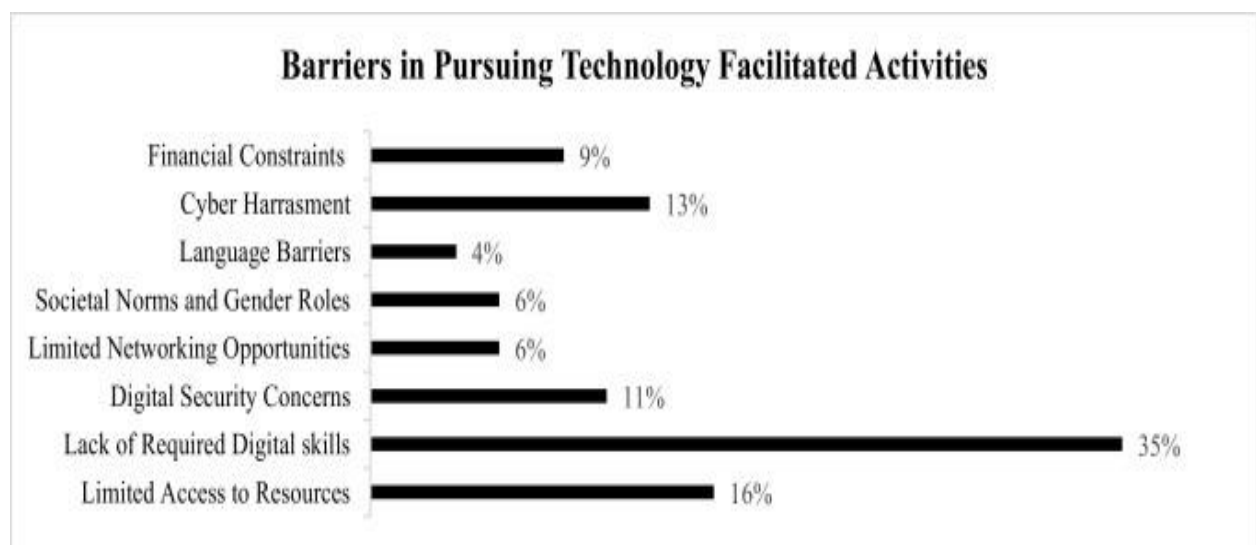
Source: <https://qween.in/blog/women-empowerment/empowering-women-through-technology-bridging-the-gender-digital-divide>

Challenges to the successful adoption and use of technology among female of Aligarh

The successful adoption and use of technology by women in Aligarh is hampered by a number of sociocultural, economic, and technological obstacles. First and foremost, deeply ingrained patriarchal conventions frequently restrict women's access to digital devices because smartphones are typically quiet personality for male family members or tightly watched because of worries about "social reputation." Due to budgetary limitations, many women are unable to purchase reliable data plans or high-quality technology, which makes the problem worse.

Additionally, there is a significant disparity in digital literacy; while having access to devices, many women lack the formal training needed to advance beyond basic social media use and participate in profitable economic activities like digital banking or freelancing.

Women's unwillingness to fully participate in digital settings is a psychological Discouragement caused by worry about cyber-safety, such as worries about online harassment and privacy violations. In the end, infrastructure issues like erratic energy in parts of the district's rural areas and a lack of localised technical support act as a physical barrier that prevents technology from being a reliable resource for their long-term empowerment.



Source: <https://www.sciencedirect.com/science/article/pii/S2666188825006562>

Empowerment of Women

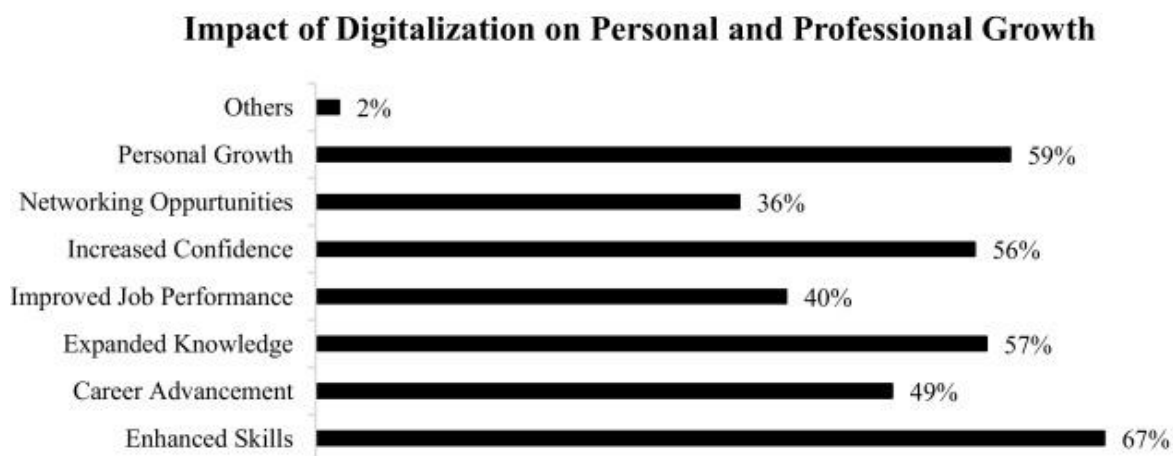
Giving someone authority or power is mentioned to as empowerment. As mums, women are important members of their families and the larger community. In the job, women make more money than their high status would imply, yet they work unpaid in the home.

The process of enabling women through decision-making entails giving them the power to make crucial life decisions that they were not previously able to. It entails having the agency to operate and manage resources and influence outcomes in the home and community in addition to possessing resources like income and education. When a woman is able to make

autonomous decisions about personal things like healthcare, family planning, and social mobility, as well as financial ones like managing her own income and making major household purchases, she is genuinely empowered.

Impact of digitalization on personal and professional growth

Digitization offers an array of benefits and opportunities, including digital educational platforms, employment platforms, networking, and online banking platforms. Fig.4 highlights responses from participants and their perceived impact of digitalization on their personal and professional development.



Source: <https://www.sciencedirect.com/science/article/pii/S2666188825006562>

Social Media and Profit Possibilities

Social media platforms are a powerful and affordable communication tool that is crucial for the empowerment of women. It encourages women to engage in online activities like as content creation, freelancing, and online entrepreneurship (Akhter & Al-Zaman, 2024). Opportunities to make money on social media platforms are created by these actions. Social media, which started out as a simple communication medium but has now developed into a powerful force for entrepreneurship, economic empowerment, and flexible, profitable employment possibilities, has completely changed the professional environment for women. Through websites like Instagram, LinkedIn, TikTok, and YouTube, women can

build their own identities, access international markets, and make money from their skills. Social media-driven enterprises, particularly those owned by women, are rapidly growing, according to numerous reports.

Impacts of women's empowerment on society and the economy

Over the past few decades, women's participation in economic growth has emerged as a critical area of study and application. The various roles that women play in promoting economic growth, as well as the relevant historical context, theoretical frameworks, empirical research, and policy initiatives. It describes the evolution of women's economic

roles towards economic emancipation, beginning with a historical overview.

This analysis, which makes use of feminist economic theories and human capital theory, looks at the underlying factors that impact women's engagement in the workforce as well as the persistent challenges they face, such as Inequality based on gender and limited options for education and career training. It demonstrates the economic impacts of women's participation in the labour market and develops connections between gender-inclusive policies and more general economic development by examining Practical evidence, such as case studies and statistical data. Empowering women increases GDP, reduces poverty, and improves Domestic well-being, all of which contribute to significant socioeconomic growth. Increased participation of women in the workforce and in decision-making promotes inclusive growth. This development strengthens community resilience and improves family health and educational results. Closing gender inequalities can boost the world economy by trillions.

SWOT Analysis of Female Freelancers

Strengths: -

Greater Access to Financial Services: By giving female entrepreneurs access to banking, credit facilities, and mobile payments, digital financial inclusion lessens their dependency on unofficial money lenders.

Government and Institutional Support: Women in the unorganized sector are adopting digital technology at a higher rate thanks to initiatives like NABARD's Project E-Shakti and financial literacy programs.

Reduced Transaction expenses and Increased Efficiency: Online transactions and digital payments save operating expenses, allowing firms to grow more effectively.

Growing Smartphone and Internet Penetration: In India and other emerging nations, the quick uptake of mobile technology and internet services makes it easier for digital businesses to grow.

Weaknesses: -

Low Financial and Digital Literacy: Many women in the unorganized sector are not proficient in using digital financial instruments. **Limited Infrastructure and Internet Connectivity:** The availability of online business solutions is hampered by rural areas continued poor digital infrastructure.

Gender-Based Socio-Cultural Barriers: Many women encounter opposition from family and cultural standards, which restricts their access to financial independence and technology. **Trust Deficit in Digital Financial Services:** Women are discouraged from utilizing digital payment systems due to cybersecurity concerns, digital fraud, and a lack of knowledge about financial safety.

Opportunities: -

Growing Digital Economy and Fintech Innovations: Women entrepreneurs now have more options thanks to the growth of fintech solutions like digital wallets, UPI, and AI-based financial advising services.

Government Policy Reforms: Putting more emphasis on financial inclusion and women-led entrepreneurship in government policies can encourage more involvement.

Private Partnerships for Digital Literacy: Women's digital education programs can be strengthened by cooperation between the government, non-governmental organizations, and private fintech firms.

E-commerce Growth and Market Expansion: Women entrepreneurs can reach larger consumers through platforms like Flipkart Samarth and Amazon Saheli.

Threats: -

Cybersecurity Risks and Digital Fraud: Online scams and financial fraud pose a serious threat to the unorganized sector.

Economic Instability and Inflation: Efforts to promote financial inclusion may be hampered by high inflation and economic downturns that restrict investment in digital infrastructure.

Opposition to Technological Change: A lot of small businesses are still reluctant to switch from traditional cash-based transactions to digital ones.

Inconsistent Policy Implementation: Programs for financial inclusion may have less of an impact if they are not properly monitored and carried out.

Access to financial resources through social media

Social media is another way that entrepreneurs can expand their social networks and obtain relevant resources for their goals. Future business owners who have limited access to resources and social networks can rely more on the opportunities offered by social media

platforms. In order to fulfill their financial goals, aspiring entrepreneurs use social media.

However, people with limited financial resources often face challenges. Aspiring business owners must develop and adjust to new work-role identities as well as the requisite abilities, attitudes, behaviours, and patterns of engagement. This study explores how prospective business owners negotiate their transition to entrepreneurship and look for online informational, social, and emotional support in a financially limited setting. A reanalysis of data from two empirical investigations served as the foundation for the investigation. Observing other members' posts in online forums, which contained the next steps needed to adjust to their intended small business work positions, provided these entrepreneurs with emotional and informational resources. However, only few disclosed their emotional or informational demands online.

Figure 1 Social-Media based source of access to financial resources



Source: Akhter & Al-Zaman, 2024

STATEMENT OF THE PROBLEM

In this study I examine that Because of the fast spread of digital payment systems, mobile banking, and fintech platforms has greatly eliminated structural obstacles to formal financial inclusion, although a major empirical paradox continues between nominal account access and true financial autonomy among women. The fundamental issue is the deeply ingrained operational and sociocultural barriers that hinder the conversion of technical instruments into self-directed economic agency. Women mostly deal with shared smartphones,

unequal access to intra-household devices, and Transfer of unofficial transactions credentials, like PINs and OTP authentications, to male family members. Female users have significant obstacles in terms of advanced fintech literacy, digital microcredit acquisition, and independent long-term investment decisions, basic transaction like UPI has improved. Psychological reluctance and operational risk aversion are exacerbated by increased susceptibility to cyber fraud and complicated, English-centric application interfaces. Instead of being empowered financial decision-makers with

the ability to independently generate wealth, women frequently continue to be passive conduits for household expenses and governmental assistance payments. Under the pretense of comprehensive digital modernization, this structural friction maintains current patterns of economic dependency. Without careful empirical enquiry into these domestic power dynamics and behavioural constraints, the digital economy risks expanding formal financial reach while persistently failing to bring real financial freedom to women.

Research Objectives

1. To study the of digital technology on the financial empowerment of women in Aligarh.
2. To assess the hindrances of leveraging social media platforms for women's economic empowerment in Aligarh
3. To analyze social media's influence on the business growth of female freelancers in Aligarh.

Literature Review

Dr. V. Jamuna (2026) conducts a study on “Digital Transformation and Women Empowerment in India”. This study uses a descriptive and analytical methodology based on secondary data to examine how Digital India has empowered women in Telangana. The primary objectives are to comprehend the concept of empowerment in the digital era and investigate how government initiatives improve access to financial, health, and educational services. The findings demonstrate that although there are still problems with inclusivity, new prospects for socioeconomic growth have been made possible by the use of digital technologies. In the end, the study comes to the conclusion that although Digital India is a potent catalyst for empowering women to make confident decisions, closing current gaps in digital literacy and accessibility is necessary to realised its future promises.

Ayesha Javed ^a, Muhammad

Zeshan Ashraf ^b, Sumbal Shahbaz (2025), is made a study on “Digital Transformation and Its Influence on Women's Economic

Empowerment in Pakistan”. The overall growth and development of Pakistan's economy is the focus of this study. According to this survey, a lot of work will be done to give women equal access to digital tools and the internet, which will enable them to become independent and generate their own money. Despite the fact that 95% of the 110 women surveyed in this study use smartphones, the majority of them use them for shopping rather than financial activities. Just 38% of people believe they have achieved true financial freedom, despite 96% believing that digital tools create additional employment opportunities. The study underscores that although technology aids in developing skills and generating income, the absence of financial literacy continues to be a significant hindrance. At last, it determines the precise elements that help women in achieving economic self-sufficiency in the digital era.

Rupam Gogiyan¹, Ravi Kumar², Prof. Subodh Kumar Sharma³, (2025) is made a study “social media as a catalyst for economic empowerment among Indian women: a literature-based analysis Examining how websites like LinkedIn, YouTube, and Instagram help women achieve financial freedom is the main goal. According to study, social media can help women start enterprises and gain financial literacy at a reasonable cost. Even while economic involvement has been substantially increased, a sizable disparity still exists: women only make up 18% of India's GDP, and many are still hampered by concerns about their safety and lack of computer literacy. in order to address these problems, the report recommends improving digital infrastructure (better internet and device availability) and starting programmes to teach digital skills. Instead of doing new interviews, the researcher looked at data, reports, and scholarly articles to understand how social media affects Indian women.

Sowmya B¹, Ramesh Pai²(2025) made a study on “Digital Inclusion of Women Entrepreneurs in The Unorganized Sector – A Systematic Review”. This study looks at

how digital tools, such e-commerce and online banking, are improving financial access and business sustainability for female entrepreneurs in the unorganized sector. The research, which is based on a comprehensive review of the literature, emphasises both the benefits of government initiatives like NABARD's Project E-Shakti as well as ongoing challenges including digital illiteracy, societal barriers, and poor infrastructure. The findings demonstrate that while there are several opportunities for digital inclusion, issues including cybersecurity risks and a lack of gender-sensitive legislation continue to obstruct progress. In order to solve problems, the study suggests implementing targeted financial literacy programmes, modifying laws, and developing a robust digital infrastructure.

Prof. Anita Bajpai¹, Pragati Awasthi² (2025) is made a study on “Socio-Economic Challenges Faced by Nepalese Women Migrant Workers in India: With a focus on the intersection of labour, gender, and migration, "A Sociological Study of Lakhimpur Kheri" aims to examine the socioeconomic challenges faced by Nepalese women migrant workers in India, specifically in the Lakhimpur Kheri border region. It uses a mixed-methods research approach including surveys, interviews, and field observations to investigate their lived experiences. It is supported by theories of labour migration as well as feminist and sociological perspectives. The findings demonstrate that these women face language barriers, dangerous working conditions, economic instability, gender discrimination, and limited access to social services, healthcare, and education. The pressures from their home communities and their immigration status exacerbate these problems. To address their vulnerabilities and enhance their general well-being, the study recommends more robust policy interventions, better access to social security and basic services, legal protection, awareness campaigns, and improved cross-border coordination.

Dr. Nida Fatima (2025) is made a study on “The role of Social Entrepreneurship in promoting Economic Equity for Women in India”. This study investigates the impact of social entrepreneurship in advancing economic parity for women in India by looking at secondary data from government papers and case studies like SEWA. It concludes that by offering microcredit, career training, and better market access, social enterprises successfully close gender gaps in rural areas, leading to comprehensive empowerment. However, the report identifies key barriers to women's involvement, including a significant digital divide, a lack of finance, and deeply ingrained patriarchal beliefs. The study suggests creating a supportive ecosystem through increased digital literacy and better alignment with governmental efforts like Stand-Up India in order to address these problems.

Dinithi Liyanage, Adithya Vidanapathirana, Pulasthi Attanayake, Devinda Mudannayake , Kalpana Ambepitiya (2025) is made a study on “Breaking barriers for females in IT freelancing: An analysis of challenges in Sri Lanka”. In order to raise awareness and promote a more equitable workplace, this study aims to investigate the primary causes of the lower participation of female IT freelancers in Sri Lanka's gig economy in comparison to global trends. Female IT professionals are interviewed over the phone as part of the qualitative research process. Expert confirmation was used to authenticate the data after it had been subjected to theme analysis. The findings indicate that motivation is negatively impacted by four major factors: disinclination, childcare and family responsibilities, the gender wage difference, and concerns about stable income. However, many women have recently resorted to freelancing in order to protect themselves as a result of the COVID-19 outbreak.**Swati Srivastava, Kaushalendra Kumar, Lotus McDougal, Ashish Kumar Upadhyay, Katherine Hay, Abhishek Singh (2025), Mapping women’s work in India: An application of small area estimation”.** This

study intends to examine the spatial diversity of women's employment participation across 640 districts in India in order to present a more comprehensive picture than is feasible using state-level data. The study technique uses a district-level estimating approach to analyse three key metrics: the percentage of women who worked, earned money, and were self-employed during a 12-month period. The findings demonstrate considerable district-level variation, suggesting that customised, district-specific measures are required to effectively improve paid job opportunities for women and that large local disparities are hidden by national or state-level averages.

Rohatgi, Swati, Gera, Navneet (2025), is made a study on “The augmenting role of digital banking in reconstructing women's economic empowerment”. This study aims to evaluate the impact of digital banking utilisation (DBU) on women's economic empowerment (WEE), specifically with regard to granting women more control over their income and savings. A quantitative cross-sectional survey and qualitative in-depth interviews of educated urban professional women employed in Delhi-NCR's IT, healthcare, and education sectors are combined in this mixed-methods approach. The study, which is based on sociological ideas of gender equality, cites interpersonal, societal, and organisational elements such as government support, personal autonomy, and workplace HR policies as crucial preconditions to empowerment. In the end, the study comes to the conclusion that while digital finance significantly increases financial independence, true empowerment requires a supportive ecosystem that includes career stability and specific governmental measures to alleviate gendered economic imbalances.

Nankyer Sarah Joseph, Mohammed Nasiru Yakubu (2025) is made a study on “From Exclusion to Empowerment: Rethinking Digital Transformation for Women Entrepreneurs”. study how digital transformation can help Nigerian women entrepreneurs transition from marginalisation to

empowerment. Use Affordance Theory to study how specific institutional conditions affect the use of digital tools. In order to uncover hidden generative mechanisms, the research uses a qualitative multiple-case study approach, semi-structured interviews with 13 purposefully selected entrepreneurs, and retrodictive reasoning and inductive coding to analyse the data. Findings indicate that while digital platforms provide prospects for expansion, real empowerment is often hampered by issues such as a lack of funding, unstable infrastructure, and algorithmic opacity. The study comes to the conclusion that in order for digital affordances to materialise, a supporting ecosystem is necessary. It suggests that integrated finance, peer-driven training, and transparent platform governance are essential for transforming technology access into long-term financial independence.

Rhonda Breitzkreuz and Marian Baird (2025) examine “Women's economic empowerment: A global pathway to gender equality?”. This study aims to critically assess the advantages and dangers of the worldwide movement toward women's economic empowerment through a feminist perspective. The research methodology adopts theoretical and conceptual review through a critical-feminist lens. It charts the development of the concept of "empowerment" and assesses current global agendas particularly the 2024 UN Women framework through an analysis of secondary data and existing literature on market participation, education, and labor conditions.

The results indicate that although empowerment fuels economic growth and autonomy, it poses dangers like the reduction of women to mere “instruments” for GDP and the neglect of their significant unpaid domestic work burden. The study ultimately suggests that a holistic framework is necessary to ensure that economic participation prioritizes genuine female well-being over mere market productivity.

Edmund Fosu Agyemang^{1,2,3}

Godfred A. Bokpin⁴ (2024) is made a study on “Women economic empowerment

through digitalization: analyzing social networks, risk and time preferences”. With an emphasis on the impact of digital tools on women's financial decision-making and bargaining power, evaluate the impact of Digital Financial Services (DFS) on women's economic empowerment in Accra, Regression analysis and odds ratios are mentioned in the text to suggest a quantitative approach, but its primary focus is on evaluating factors like women's social network usage, education, and digital awareness. The findings demonstrate a strong positive relationship between empowerment and digital finance, with digital awareness being the most significant predictor (shown by a high regression coefficient of 5.563). Ultimately, the study emphasizes that although DFS is a robust tool for reducing poverty, its effectiveness relies significantly on addressing challenges such as digital illiteracy and the gender digital divide with policies that are sensitive to gender issues.

A examination of “digital financial inclusion and its contribution to women's empowerment in India's informal economy” is given by Ambika R Nair (2022). 195 million women work in the unorganized sector, but their contributions are still often ignored, according to their research. Despite their significant presence, they nonetheless face a variety of grave problems, including discrimination in pay, job insecurity, and restricted access to official financial services. The study emphasises the importance of gender participation in economic growth by citing a Deloitte report that suggests more women entering the workforce might lead to a 27% rise in India's GDP. The authors contend that digital financial inclusion is a powerful tool for reducing the financial gap since it makes credit, banking services, and savings options more accessible to women. The study also examines the connection between financial inclusion and poverty alleviation, arguing that technology can support the economic success of marginalised groups. The paper presents a compelling argument, however it primarily relies on secondary data, such as Deloitte reports, which

may introduce biases or inaccuracies if the original data is not entirely representative. Additionally, women's technological challenges—such as limited access to digital devices, inadequate internet connectivity, and low levels of digital literacy—are not fully explored.

Sohima Anzak, Aneela Sultana (2020) made a study on “Social and economic empowerment of women in the age of digital literacy: A case study of Pakistan, Islamabad-Rawalpindi”. The study is to investigate women's digital literacy abilities and how these abilities allow them to actively participate in the digital world while also identifying the obstacles they encounter in developing these abilities. In order to comprehend women's perspectives, it employs a qualitative research approach that was carried out in Islamabad and Rawalpindi through focus groups and in-depth interviews. Despite obstacles like lack of formal training, limited access to resources, and financial limitations, the majority of women (about 83%) acquire digital skills informally. Nevertheless, these skills greatly aid them in managing personal tasks, strengthening social networks, and engaging in digital entrepreneurship, all of which contribute to their social and economic empowerment. The study suggests promoting formal digital literacy programs, improving access to affordable digital resources, providing financial and institutional support, and creating awareness initiatives to enhance women's participation and inclusion in the digital economy.

Sibghatullah Nasir and Saleem Akhtar Farooqi (2016) made a study on “Impact of microfinance on women empowerment with special reference to Aligarh district”. The purpose of this study is to evaluate the impact of microfinance on rural women's socioeconomic empowerment in India, with a focus on its capacity to lower poverty and foster entrepreneurship. In order to collect data from 110 participants in Aligarh, Iglas, and five particular villages, the methodology uses a

quantitative design and a questionnaire-based survey. Four main hypotheses are tested by analysing this data using demographic, factor, ranking, index-based, and correlation methodologies. The results show that while microfinance is a useful tool for increasing economic engagement and skill development, there is a gap between basic financial access and true financial independence due to underlying socioeconomic constraints. The study ultimately concludes that microfinance plays a crucial role in national development, indicating that it is essential to bridge the digital and financial literacy gap to empower women and attain inclusive growth.

Research Methodology

I use a comprehensive dual-methodological approach that combines a focused quantitative analysis of female freelancers in Aligarh with a qualitative investigation. The qualitative section uses a descriptive research design to investigate how social enterprises support women's economic emancipation by combining primary data with a variety of secondary sources, such as academic databases like JSTOR and Google Scholar, peer-reviewed journals, and government reports from organisations like NITI Aayog.

The study uses a quantitative, analytical technique to specifically assess how digital change has affected a selective sample of 50 female independent contractors in Aligarh. Using a standardised Likert-scale questionnaire, the data captures significant facets of female agency. My study examines social media's contribution to business sustainability, measures how digital technologies enhance financial autonomy, and identifies socio-technical obstacles in the local environment. By recording demographic characteristics and classifying responses to find patterns in economic benefits, training gaps, the methodology provides a strong, empirically backed understanding of how social entrepreneurship and the digital gig economy collaborate to empower women. To demonstrate how many women actually manage their accounts, Percentages and straightforward charts (Descriptive Statistics) used by me. I also

do a Chi-Square test to determine whether phone ownership has an impact on financial independence.

DISCUSSION AND FINDINGS

The study's findings demonstrate that women's economic empowerment in Aligarh is significantly accelerated by digital transformation. 50 female freelancers in Aligarh were polled, and the results show a strong consensus about financial gain: 40 respondents believed that digital technology increased their stability and long-term savings, while 10 were neutral. Forty-two respondents highlighted the critical need for formal training and legal protection against fraud, whereas just eight respondents disagreed or were ambivalent about these challenges. However, only four participants did not see quick growth, whereas 46 participants believed that social media platforms directly boost business sales and customer acquisition. This shows that the greatest degree of agreement was given to social media-based business growth.

The following results emphasis the intricate consequences of digital change on female freelancers in Aligarh, based on the research objectives and survey data: According to the study, digital transformation is a powerful force for individual economic liberation and can help women quickly escape traditional financial dependencies. By using digital tools, these women have not only established independent streams of income but also significantly improved their long-term savings capacity, which was previously a major barrier in traditional employment arrangements. The fact that many participants report increased financial stability as a result of digital work, which enables them to reinvest their earnings back into their professional development and create a self-sustaining cycle of economic advancement and career development, further supports this financial autonomy. Notwithstanding the financial benefits, the study identifies important socio-technical obstacles that make it more difficult for female independent contractors to succeed in Aligarh.

The lack of formal, expert training on using social media for business is one of the biggest issues mentioned. Because of this, many women are compelled to navigate complex networks by trial and error. Furthermore, it is impossible for new business owners to flourish without substantial initial engagement or specialised marketing experience due to the fierce competition on well-known platforms like Facebook and Instagram. For female freelancers, security and legal issues are a major source of worry that affects the long-term viability of their digital endeavors. Many respondents voiced long-standing worries about the absence of legislative safeguards against cybersecurity risks, customer payment failures, and online fraud. These concerns are not only technical; they are closely related to the risk of operating in an unofficial digital economy, where established legal frameworks frequently fall short of offering a safety net. As they strike a balance between the need for personal and financial safety and the drive for advancement, this perceived danger might occasionally limit the scale at which these women are ready to operate. The effects of social media are thought to be dual, namely stimulating networking and company growth. Digital platforms have fundamentally altered how female freelancers in Aligarh handle client acquisition and sales since they provide direct access to markets that were previously unavailable. Social apps and online networking are attributed with driving business expansion by building professional brands and increasing client reach. Women are able to overcome local mobility constraints and transform their professional identities from home-based employees to well-known digital entrepreneurs with a global viewpoint thanks to his online presence.

Limitation Of The Study

1. The diversity of all female freelancers in the area might not be fully represented by the sample size of fifty participants.
2. Results are based on self-reported data, which may be skewed by social desirability bias or personal opinions.

3. The experiences of women who are completely shut out of the digital economy because of severe obstacles are not included in the study.

Conclusion

The study's conclusions indicate that women's economic empowerment in Aligarh has been significantly influenced by digital transformation. It has effectively transitioned women professionals from home dependence to recognised economic entrepreneurship by providing them with unmatched access to global markets and flexible cash streams. The findings demonstrate a strong positive correlation between digital inclusion and economic agency, with 80% of participants achieving greater long-term savings and financial stability.

A self-sustaining cycle of career advancement and professional reinvestment is created. Social media is a crucial tool for business expansion since 92% of independent contractors use it to find new clients. However, the journey to parity is severely hampered by fundamental socio-technical barriers, such as a crucial 84% disparity in formal professional training and persistent worries about legal protections against online fraud. The study demonstrates that while technology improves individual decision-making power and reduces the gender pay gap, achieving its full potential requires a supportive ecosystem with targeted digital literacy programmes and robust legal protections to safeguard women navigating the unofficial digital gig economy.

Recommendations / Suggestions

According to the study's conclusions, digital authorized programmes for women in Aligarh should be developed into a structured support ecosystem that improve women's entrepreneurial potential and guarantees long-term stability rather than just providing them with reach to technology. The implementation of programmes focused on women's digital literacy and skill development is one of the main suggestions. In addition to teaching basic

smartphone usage, these courses ought to cover useful entrepreneurial skills like digital marketing, online branding, customer interconnection, digital bookkeeping, and secure online platform usage. Skill training should be made available through community organisations, educational institutions, and local training centres since the digital literacy gap has become a significant obstacle.

The study also highlights the essential of reasonably priced digital infrastructure. The exorbitant expense of laptops, smartphones, and internet bundles prevents many female entrepreneurs from taking full advantage of digital platforms. In order to enable women entrepreneurs to buy digital gadgets and have reliable internet connectivity, government agencies and banking institutions should implement subsidised programmes or low-interest financing options. Furthermore, since variable power supplies and unreliable internet connection continue to be major obstacles that limit digital inclusion and lower company efficiency, enhancing digital transformation necessitates substantial improvements in internet connectivity and electricity infrastructure.

Another important recommendation is the establishment of women-only digital entrepreneurship cells and institutional support centres. These support groups could help female entrepreneurs with e-commerce onboarding, digital payment integration, GST compliance, business registration, and access to government welfare programmes. These resources can also help women in developing their digital planning and expanding their customers outside local markets. It is counsel that policymakers use gender-sensitive strategies that tackle both social and financial issues since the study highlights the "double burden" phenomenon. Interventions that acknowledge women's disproportionate responsibility in domestic work are necessary to enhance technology-based empowerment. In addition to supportive mechanisms like childcare support systems, community awareness

initiatives should be carried out to promote shared family duties.

Furthermore, women should be trained on how to navigate the difficulties of social media platforms, including algorithmic governance, digital visibility, and platform policies. This will reduce dependency on unstable digital systems and improve women's capacity to sustain their businesses in competitive digital markets.

And in last I will say that, improving cybersecurity knowledge and digital safety measures is highly recommended by the study. Risks like internet fraud, privacy violations, and harassment are becoming more common for female businesses. As a result, training sessions on digital legal rights, safe online transactions, grievance redressal procedures, and cyber safety should be implemented. Overall, the study suggests that in order to achieve significant and long-lasting economic independence for women in Aligarh, digital empowerment must be combined with technical training, infrastructure development, financial inclusion, and sociocultural reforms.

Future Scope Of Research

The study's conclusions provide several directions for further investigation into women's economic authorization and digital transformation. Future research may concentrate on primary fieldwork, employing focus groups, interviews, and structured surveys with Aligarh's female entrepreneurs. Instead of mostly depending on secondary interpretations, such study would enable academics to investigate empowerment from the viewpoint of women themselves and offer greater insights into actual experiences.

Conducting comparative regional studies is another crucial area for future research. Researchers should broaden their focus beyond Aligarh to examine women's digital empowerment in other Uttar Pradesh districts or in other Indian states. This comparative research would be useful in determining whether empowerment is largely dependent on local infrastructure and cultural factors or whether

digital transformation yields comparable results in diverse socioeconomic contexts.

Future research can also adopt a longitudinal approach, examining whether digital empowerment leads to long-term business sustainability, increased income, and improved socio-economic status over several years. This would help determine whether digital transformation provides only short-term benefits or creates lasting entrepreneurial resilience among women.

The study also emphasises the growing influence of social media platforms and algorithmic governance. Therefore, future research can look at how algorithmic prejudice and platform governance impact women's entrepreneurial visibility and business growth. Because social media is not a neutral medium, more research is needed to understand how algorithms, platform regulations, and digital legislation affect women's economic outcomes.

The problem of digital labour and the double burden phenomenon is another new topic that needs more investigation. Future research might look at how digital work impacts women's time management, societal expectations, family connections, and mental health. Through ongoing unpaid household work, such research may demonstrate whether digital tools actually liberate women or inadvertently reinforce traditional gender roles.

Additionally, future research may evaluate the efficacy of government digital empowerment schemes such as Digital India initiatives, PMJDY, UPI expansion, Mudra loans, digitization in improving women's entrepreneurial participation. Researchers may

examine whether these schemes reach the intended beneficiaries and whether they produce measurable outcomes in women's economic independence.

Future research may focus on challenges related to cybersecurity and digital safety, such as online annoyance, fraud, privacy, and legal safeguards for female entrepreneurs. Ensuring women's safety and regality in digital settings becomes a crucial subject of academic and policy research as their participation in online markets grows. In general, in order to guaranty that digital transformation leads to inclusive, belief, and long-lasting empowerment for women, future research should aspiring to offer more thorough empirical evidence and suggest more robust policy frameworks.

Confirm originality of work

I hereby certify that this research project, "Digital Modification and women's Financial Empowerment: A Study of Women Freelancers in Aligarh". is a genuine, original account of my own study conducted under appropriate academic supervision. I am the alone author of this study which include all raw data, analytical interpretations, and findings. In accordance with accepted academic practices, concepts, models, or data that are taken from other sources have been properly cited by me.

Conflicts of interest

I declare that there are no financial, personal, or professional conflicts of interest which influence or bias the findings of this study. My research conducted in the absence of any commercial or financial relationships construed as a potential conflict of interest.

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Questionnaire

Survey to Study: Digital Transformation and women's Economic Empowerment:

A Study of Female Freelancers in Aligarh

Section A: Demographic Profile (Tick The Correct Option)

Q1. The Fundamental Character of Digital Work

- Independent Freelancer
- Content Creator / Influencer
- Digital Entrepreneur

Q2. Age Category

- 20–28 years
- 28–35 years
- 36–50 years
- 50 years and above

Q3. Maximum Level of Education

- High School / Intermediate
- Undergraduate Degree
- Postgraduate Degree

Q4. Marital Status

- Unmarried women
- Married women
- Divorced womens
- Widowed women

Q5. Average Monthly Income from Freelancing (INR)

- Below 11,000
- 11,001 – 26,000
- 26,001 – 50,000
- Above 50,000

Participants should rate these from: (1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly Agree.

Section B: (Objective 1)Influence of Digital Technology on Economic Empowerment

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral 4 = Agree, 5 = Strongly Agree*

Focus: Income, financial independence, and skill acquisition.

Statement

Statement	1	2	3	4	5
My long-term savings have enhanced by digital tools.					
I put money back into advancing my career.					
Financial stability is improved by working digitally.					

Objective 2: Difficulties of Leveraging Social Media for Empowerment

Focus: Social barriers, harassment, infrastructure, and platform-specific hurdles.

* Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral 4 = Agree, 5 = Strongly Agree*

Statement	1	2	3	4	5
I have lack of formal training on how to use social media professionally in Aligarh.					
I am concerned about the lack of legal protection against online fraud or client payment defaults.					
I feel that High competition on platforms like Instagram/Facebook makes it hard for new female entrepreneurs to thrive.					

Objective 3: Social media's influence on the business growth of female freelancers

Focus: Long-term business growth, networking, and decision-making power.

* Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral 4 = Agree, 5 = Strongly Agree

Statement	1	2	3	4	5
Social apps boost my sale					
Online networking drives business growth.					
Social media handles client acquisition					
