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## DIGITAL TRANSFORMATION AND WOMEN ENTREPRENEURSHIP IN HILLY REGIONS: AN EMPIRICAL STUDY OF E-COMMERCE ADOPTION AMONG WOMEN ENTREPRENEURS IN NAINITAL DISTRICT, UTTARAKHAND

Dr. Phakir Singh<sup>1</sup> and Bhawana Kandpal<sup>2</sup>

<sup>1</sup>Assistant Professor  
Department of Commerce  
IPGGPGCC, Haldwani  
E-mail: phakirsingh.2011@gmail.com

<sup>2</sup>Research Scholar  
Department of Commerce  
IPGGPGCC, Haldwani  
E-mail: bhawanak123m@gmail.com

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### ABSTRACT

Women Entrepreneurship is a catalyst for sustainable economic growth and Development. Traditional entrepreneurial activities in regions with limited resource, particularly in the hilly areas of Uttarakhand, have historically lacked sufficient access to markets, physical infrastructure, improved and more socio-cultural opportunities. However, the rise of e-commerce and digital business models has created better prospects for women entrepreneurs, helping them to reach new markets and locations, regardless of geographical and physical infrastructure limitations. This research paper examines the level and characteristics of adoption of e-commerce and its effects on women entrepreneurs in Nainital district, Uttarakhand. This research paper uses a descriptive and analytical design which is based on primary data backed by secondary data. This study evaluates economic performance indicators, social empowerment metrics, and challenges related to digital business operations. The findings of this research shows that the implementation of e-commerce practices has significantly enhanced earnings stability, market access, and decision-making empowerment among women entrepreneurs. However, digital skills, physical infrastructure issues, and competition among platforms emerge as challenges. This research contributes to existing gaps in knowledge and data concerning women digital entrepreneurs in hilly districts especially focusing on Nainital district, while also offering recommendations and actionable insights for developing e-commerce practices and infrastructure at the district level.

**KEYWORDS:** Women Entrepreneurship, Digital skills, E-Commerce, Hilly Regions, Nainital District, Economic Empowerment.



## INTRODUCTION

Women's entrepreneurship is crucial for fostering inclusive economic development, poverty reduction globally. In India, women's involvement MSMEs contributes towards household income, diversifies the labour market, and promotes social empowerment and gender equality. However, rural and hilly areas such as the Nainital district faces various structural and cultural challenges. Nainital district, situated in the Kumaon region of Uttarakhand, is defined by a mixed economy that includes agriculture, handicrafts, tourism, and small-scale businesses. Historically, women here, have participated in informal and home-based economic activities handicrafts, food processing, tailoring, and small retail, which are mainly limited to local markets. And with the rise of e-commerce and digital platforms, more opportunities have arisen that enable women entrepreneurs to reach broader markets beyond their localities. For women entrepreneurs in hilly areas, digital platforms is not only a commercial resource or platform but a means for structural inclusion.

This study aims to empirically examine the influence of e-commerce platforms in reshaping the landscape of women entrepreneurship in Nainital district, with a particular focus on economic performance, social empowerment, and ongoing challenges.

## LITERATURE REVIEW

Numerous studies emphasise how important is women's entrepreneurship for the rural development. Entrepreneurial success is influenced mainly by institutional support, financing, and educational opportunities, as per the researches on rural women entrepreneurs.

A comprehensive review of the existing literature on Digital India and women's empowerment counts on the crucial impact of digital technology on improving the socio-economic conditions of women in India. Since the initiation of the **Digital India campaign in 2015**, a variety of studies, publications, and governmental assessments have thoroughly examined how digitalization has offered women access to information, education, financial resources, and entrepreneurial ventures. In general, the literature indicates that this initiative helped establishing a framework for women to engage more actively in the economic and social advancement of the nation. Several publications in India, including **Gurumurthy and Singh's "Women, ICT, and Social Change in India" (2016)** and **Rita Sonawat's "ICT for Women's Empowerment in India" (2018)**, emphasize how increase in digital access has fostered women's autonomy and self-assurance. Research indicates that mobile technology, internet connectivity, and digital literacy initiatives have empowered women - particularly those in rural regions to tap into the markets, utilize government services, and seek online educational opportunities. However, it is crucial to acknowledge that cultural norms, concerns about safety, and the cost of devices continue to hinder complete participation. Government reports form a vital component of this



body of work. The Ministry of Electronics and Information Technology (MeitY) states that more than 40% of the beneficiaries of the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) are women, showcasing a notable advancement in digital literacy. **NITI Aayog's "Strategy for New India @75" (2018)** identifies digital inclusion as a pivotal factor for achieving gender parity and enhancing economic empowerment. Likewise, the Ministry of Women and Child Development has reported annually that initiatives like Mahila E-Haat and the Nari Shakti Portal have opened up numerous business avenues for female entrepreneurs. Further, the **Reserve Bank's Financial Inclusion Report (2021)** reveals that digital banking and UPI transactions have bolstered women's financial autonomy, allowing them to engage more significantly in the formal economy.

**P. Jayakumar and J. Kannan (2014)** emphasized the obstacles and prospects that women encounter in self-employment. The primary difficulties women face includes the dual responsibilities of managing both business and family, widespread illiteracy among rural women, limited capacity to take risks, insufficient access to information and support, and a need for training and development. However, the growing focus of the government on women entrepreneurship has created new opportunities for them.

Moreover, Research conducted at the district level, particularly in Uttarakhand, is limited, resulting in a notable research gap that this study aims to fill.

## RESEARCH GAP

A lack of research exists on women's entrepreneurship and internet platforms at the micro-level, particularly in hilly regions such as Nainital and others. Most of the existing descriptive studies do not adequately assess the economic and social impacts of e-commerce adoption among women entrepreneurs. This research addresses this gap by providing data-driven insights specific to the district-level.

## OBJECTIVES

- 1. To analyze the level of adoption of e-commerce and digital platforms by women entrepreneurs in the district.**
- 2. To evaluate the economic effects of e-commerce adoption on income and business performance and challenges encountered when using e-commerce platform.**
- 3. To examine how digital entrepreneurship contributes to the social empowerment of women.**

## RESEARCH METHODOLOGY

**Research Design:** Descriptive and analytical.

**Sample Size:** 120 women entrepreneurs from different block of Nainital District.

**Sampling Technique:** Purposive Sampling.

**Sources of Data:**

- Primary data is collected using a structured questionnaire.
- Secondary data is gathered from journals, government reports, etc.

**Tools of Data Analysis:** Percentage analysis, Mean score, Ranking method, Tabular and graphical representations.

**Scope of the Study:** Geographical scope is limited to Nainital district of Uttarakhand.

**Data Analysis and Interpretations**

This section presents the results obtained from the analysis of primary data collected from women entrepreneurs who are engaged in e-commerce or digitally enables activities of business.

**Objectives 1: To analyze the level of adoption of e-commerce and digital platforms by women entrepreneurs in the district.**

**Table 1:**

| <b>LEVEL OF ADOPTION</b> | <b>NO. OF RESPONDENTS</b> | <b>PERCENTAGE</b> |
|--------------------------|---------------------------|-------------------|
| High Adoption            | 48                        | <b>32.0</b>       |
| Moderate Adoption        | 67                        | <b>44.7</b>       |
| Low Adoption             | 35                        | <b>23.3</b>       |
| <b>TOTAL</b>             | <b>150</b>                | <b>100</b>        |

**Interpretation:** The table above clearly reflect that the women entrepreneurs of the district are actively adopting the digital and e-commerce platforms for their businesses. As majority more than 75% fall under good adoption category, one-fourth population still lies in the low adoption showcasing uneven digital penetration.

**Objectives 2: To evaluate the economic effects of e-commerce adoption on income and business performance and challenges encountered when using e-commerce platform.**

Table 2: Impact on Income Level

| INCOME        | BEFORE ADOPTION (%) | AFTER ADOPTION (%) |
|---------------|---------------------|--------------------|
| Below 10,000  | 44.0                | 20.0               |
| 10,000-20,000 | 34.0                | 43.3               |
| 20,000-30,000 | 16.0                | 29.3               |
| Above 30,000  | 6.0                 | 7.4                |
| <b>TOTAL</b>  | <b>100</b>          | <b>100</b>         |

**Interpretation:** It can be inferred from above that there can be seen an upward shift in income of the respondents after the adoption of e-commerce or digital platforms showing a positive contribution of the platforms.

Table 3: Impact on Business Performance

| BUSINESS PERFORMANCE INDICATORS      | MEAN SCORE |
|--------------------------------------|------------|
| Increase in volume of sales          | 4.20       |
| Larger customer base                 | 4.63       |
| Improvement in realization of prices | 4.42       |
| Reduced intermediaries' dependency   | 4.10       |
| Business sustainability improved     | 3.92       |

**Interpretation:** Most of the given indicators for business performance records a mean score above 4, reflecting a strong positive effect of e-commerce adoption. And the highest mean score of expanding customer base presents an overview of how the platforms are helping women entrepreneurs to reach more customers beyond their geographical market.

**Table 4: Challenges encountered while using E-commerce platforms.**

| <b>CHALLENGES</b>                | <b>PERCENTAGE</b> |
|----------------------------------|-------------------|
| Logistics/Delivery Barriers      | 21.6              |
| Payment Issues                   | 20.4              |
| Lack of Digital Literacy/ Skills | 37.0              |
| Internet Connectivity            | 35.9              |
| Family Constraints               | 12.4              |

**Interpretation:** The major issues encountered are lack of digital literacy and internet connectivity in some areas, limiting the full optimization of the growth potential of the platforms.

**Objectives 3: To examine how digital entrepreneurship contributes to the social empowerment of women.**

**Table 5:**

| <b>SOCIAL EMPOWERMENT INDICATORS</b>     | <b>MEAN SCORE OF RESPONDENTS</b> |
|--|----------------------------------|
| Financial Independence                   | 4.24                             |
| Role in decision-making at home          | 4.12                             |
| Boosting self-confidence and leadership  | 4.23                             |
| Recognition in society                   | 4.02                             |
| Control over decision-making at business | 4.22                             |



**Interpretation:** A good mean score across the selected indicators presents that indeed the digital era of entrepreneurship leads to the social empowerment of women.

## **DISCUSSION**

The findings of the study match what previous researches in other areas has shown that e-commerce is a key support for women's entrepreneurial growth even in hilly areas such as Nainital. Like earlier studies, this study also presents that digital platforms increase market access and lessen the reliance on traditional middlemen. However, this study adds new insights by focusing on the specific conditions in a hilly district.

In contrast to urban areas, women entrepreneurs face the limits of infrastructure and skills development. The significant empowerment outcomes noted suggest that digital entrepreneurship not only boosts income but also changes gender roles within families and communities by giving them more importance at decision-making.

## **Implication and Contribution of Study**

- Requirement of training initiatives for learning digital skills at district-level such as algorithms, branding, promotion, etc
- Development of logistics and internet infrastructure with rural localities.
- Integration of Women Self-help groups with the network of e-commerce platforms.
- Hybrid online-offline business models should be encouraged.
- Connecting the adoption of e-commerce with economic and social results
- Providing insights that will help shape future policies regarding regional digital inclusion initiatives.

## **CONCLUSION**

As per the findings of this research paper, women's entrepreneurship in the Nainital district and its regions is strengthened by the use of e-commerce and digital platform. Women are able to overcome regional isolation they face, improved company success can be seen, and have attained significant social empowerment through participation in the digital platforms network. However, infrastructure issues and digital skill gaps must be addressed to utilize the full potential of these platforms. In mountainous areas, targeted interventions can guarantee that digital entrepreneurship develops into a sustainable and inclusive route for women's empowerment. The study adds also more empirical data to the body of knowledge regarding women entrepreneurs in geographically limited areas.

## **REFERENCES**

Sonia Justin Raj et.al, (2018) E-Commerce Vs Women Entrepreneurs, International Journal of Advanced Research, Vol. 6(6), PP. 729-732.



T. Priyanka and Dr. B. Sudha, E-Commerce in India–Challenges and Opportunities, Vol. 19, Issue 8, PP. 37-47.

Akhila, P. H. (2018). Digital Startups and Women Entrepreneurship: A study on Status of Women Entrepreneurs in India. *International Journal of Research and Analytical Reviews*, 5(4), 655-659. Retrieved from [https://ijrar.com/upload\\_issue/ijrar\\_issue\\_20542620.pdf](https://ijrar.com/upload_issue/ijrar_issue_20542620.pdf)

Pushpam, K., & Thirumal, S. (2020, February). Role of Women Entrepreneurs in Digital Commerce. *International Journal of Research and Analytical Reviews*, 7(1), 280-285. Retrieved from <https://www.ijrar.org/papers/IJRAR2001312.pdf>

<https://yourstory.com/2018/02/women-entrepreneurs-digital-space>

<https://www.peoplesmatters.in/article/diversity-equity-inclusion/start-ups-for-empowering-women-at-work-17583>

Sharma, A., & Hussain, M. (2019). A Research Study on Problems of Hill Farm Women in.n *International Journal of Inclusive Development*, 5(1), 41-44.