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Opportunities and challenges of Digital skills for Women Entrepreneurs: A study with special Reference to Tirunelveli Area of Tamil Nadu State

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Abstract

India is transitioning from a traditional economy to a digital one. The Indian government backs companies that use technology to improve society. Digital businesses make use of this scheme to help the economy grow. This study explores the development opportunities and obstacles faced by digital entrepreneurs. Primary data was collected for this empirical investigation using structured questionnaires and random sampling. The monthly salaries of the respondents before and after the launch of their firms are compared in the study. 40.33 percent of those polled before starting a business stated that their family made less than Rs. 10,000 a month. A family income of less than Rs. 10,000 per month was reported by 7.0% of those who launched a business. The findings demonstrated that the respondent's family's monthly income significantly increased after starting the business. According to the test results, at 1% significance, the 't' statistic is -14.836 with 49 degrees of independence. Therefore, it is necessary to disprove the null hypothesis, which states that there is no correlation between the sample respondents' earnings before and after a firm is founded. As a result, the respondents' profits increase significantly after starting a business. It was determined that a lack of internal access was the most frequent issue, followed by a lack of digital proficiency. Technology upkeep and connectivity fell in second and third, respectively, due to a lack of funding. Poor tools and equipment, a lack of technical support from salespeople, and a system of training to help with the process were placed fifth, sixth, and seventh, respectively. Indian entrepreneurs grew the economy thanks to Digital India's increasing investment, universal digital literacy, job opportunities, and technologically advanced society. The provision of financial and non-financial support by the government, non-governmental organisations, and other institutions is necessary to establish a strong

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economy and enhance the performance of digital entrepreneurs. Additionally, digital entrepreneurs should discover training programs provided by the District Industries Centre for Technical Sustainability or the Entrepreneur Development Institute, launch new companies, and reconnect with locals who have left the area for betterment. The research findings will be helpful to entrepreneurs and society as the economy becomes more digitalised.

Key words : Digital Entrepreneurs, technical innovation, development, economic growth, product marketing.

In the globalised economy, digital entrepreneurs are crucial to the nation's overall growth, and development encompasses both social and economic change. Digital entrepreneurs are essential to the nation's overall growth, encompassing social and economic transformation. To modernise the nation's economy and move towards a digital India that may accomplish enormous diversity via digital resource platforms, the Indian government has implemented several laws and programs to encourage enterprises to become digital. When it comes to the success of a business, digitalism is a crucial component of having a unique and creative technology.

Digital entrepreneurs are very satisfied with innovating and advancing the economy. As a result, digitalism promotes innovation, entrepreneurs' growth, and areas change. Colaco *et al*.,[8] found that one of the significant factors in the country's financial development is women entrepreneurs' growing role. Because of the growth of digital entrepreneurship, we are witnessing a change in business methods. The majority of banking needs can be satisfied by convenient or electronic means, independent of the time of day or the location of the customer[10].

Foreign direct investment, a vital pillar for non-debt inflows, is becoming increasingly necessary to move knowledge flows and attain spirited competence by creating significant connections of global interconnectedness[6]. Business incubators in both developed and developing nations deal with several challenges. There is strong evidence that innovative endeavours that lack the necessary firmness, board knowledge, specialised skills, and entrepreneurial aptitudes will generally fail[12].

There are no worries regarding the sustainability of traditional, small-scale companies due to global climate change. Many lack the information and technology necessary to achieve quality standards and seize new opportunities[7]. The entrepreneurial spirit is vital to sustained success[2].

Many strong women have overcome obstacles to success in business, entrepreneurship, and other fields[1]. Adopting technology, or digitalisation, has given women many excellent options. Illustrative instances of such systems include Internet marketing, automated data collection, supply chain management, mobile commerce, and electronic fund transfers[4]. This digital technology wave opens up novel networks and networks with the

marketplace, operators, and other investors[1]. Regarding globalisation, technology transfer is one of the most prominent and essential factors for forecasting growth. Only a narrow area and a small number of entrepreneurs benefited from the advantages, despite many small entrepreneurs seeing notable increases in their enterprises[6]. For every firm to succeed and to grow the economy, digitalism becomes a crucial component of distinctive, innovative technology.

However, in a developing country like India, the role of women entrepreneurs goes beyond economics in terms of social significance. It also relates to curbing inequality, breaking taboos, and contributing towards a broader goal of women empowerment[5]. This study aims to investigate the potential and difficulties faced by digital entrepreneurs in the Tamil Nadu State region of Tirunelveli.

Objectives of the study :

1) To investigate the sample digital entrepreneurs' socioeconomic profile in the Tirunelveli region.
2) To determine the features of the products and services that respondents received.
3) To assess how much time is spent on the communication and business facilities each day.
4) To examine how business owners affect monthly household income.
5) To study the motivational factors to start an enterprise.
6) To find satisfaction in digital women's entrepreneurship.
7) To evaluate digital entrepreneurs' obstacles to growth.

The research utilises information from primary and secondary sources. Data was gathered using random sampling. One hundred thirty digital entrepreneurs from Tirunelveli were selected for the study. To gather information, the researcher turned to the following sources. The investigator will use surveys to collect primary data. Digital entrepreneurs have been surveyed using a variety of organised interview schedules. The researcher will gather secondary data from books, journals, periodicals, and the Internet. Cronbach's Alpha, the Gini coefficient, averages, and the Garrett ranking test were used in the analysis. The field survey was conducted using the personal interview method between July and September 2024.

Review of Literature :

The many forms of entrepreneurs, their advantages, and the challenges they face regarding financial services, product marketing, and government initiatives to support the economy's growth are all examined by Patil and Patil[13].

Digital entrepreneurship, technology entrepreneurship, and digital technology entrepreneurship are three phenomena Ferran & Clark[9] conceptualised to explore further the opportunities that new technology and entrepreneurship create. Clark also analysed entrepreneurship as a key to emerging technologies.

Shukla *et al.,*[14] stated that women will be more entrepreneurial if they possess a sufficient range of internet capabilities, encompassing operational, informational, and creative aptitudes. According to the findings, positive attitudes about entrepreneurship were

more common among students with personal experience. Internet competence yielded contradictory findings regarding the connection between an entrepreneurial attitude and drive.

Reliability test

Cronbach's Alpha	No. of items
0.77	14

According to the above data, the reliability test's Cronbach's Alpha value was 0.0770. This indicates that 77% of the information used to examine opinions on digital transformation was reliable.

Table-1. Distribution of Sample According to their Age

S. No.	Age	No. of Respon-dents	Percen-tage
1.	Below 25 years	11	8.46
2.	26 – 35 years	15	11.54
3.	36 – 45 years	48	36.92
4.	46-55 years	37	28.46
5.	Above 55 years	19	14.62
Total		130	100

Source: Primary data.

As the table shows, only 8.46% of the 130 sample respondents are under 25, and the remaining 11.54% are between 26 and 35. The respondents' ages range from 36.92 percent for those between the ages of 36 and 45 to 28.46 percent for those between the ages of 46 and 55 to 14.62 percent for those over the age of 55. According to the statistics, most respondents are between 36 and 45, linked to higher activity levels, flexibility, and openness to new ideas. In these regions, entrepreneurs were 43.42 years old on average.

Table-2. Distribution of sample entrepreneurs according to their educational level

Sl. No.	Educational level	No. of Respon-dents	Percen-tage
1.	Illiterate	6	4.62
2.	Primary level	18	13.85
3.	High school	49	37.69
4.	Higher Secondary	33	25.38
5.	Degree and above	24	18.46
Total		130	100

Source: Primary data.

Of the entrepreneurs in the survey, 4.62 percent are illiterate, 13.85 percent have finished elementary school, 37.69 percent have completed high school, and 25.38 percent have completed upper secondary. In some places, 18.46% of entrepreneurs have earned at least one degree.

Table-3. The monthly personal income of the entrepreneurs

S. No.	Monthly Personal Income (in Rs.)	No. of Respon-dents	Percen-tage
1.	Less than Rs.5,000	11	8.46
2.	Rs.5,001–Rs.10,000	27	20.77
3.	Rs.10,001–Rs.15,000	73	56.15
4.	Rs.15,001 and above	19	14.62
Total		130	100

Source: Primary data.

Out of the 130 entrepreneurs, 73 (56.15 percent) earn between Rs. 10,001 and

Rs. 15,000, while 27 (20.77 percent) earn between Rs. 5001 and Rs. 10,000 every month, according to the figure. Of the entrepreneurs, 11 (8.46%) earn less than Rs. 5,000, while 19 (14.62%) earn Rs. 15001 or more. Personal income averaged Rs. 11.346.65 per month.

Table-4. Years of experience and a number of entrepreneurs

Sl. No.	Experience (in years)	No. of Respon-dents	Percen-tage
1	Less than two years	14	10.77
2	3 – 5 years	24	18.46
3	6 – 8 years	54	41.54
4	Nine years and above	38	29.23
Total		130	100

Source: Primary data.

According to the statistic, 41.54 percent of organisations had six to eight years of experience, and 29.23 percent had nine years or more. Of enterprises, 10.77% have less than two years of experience, while 18.46% have three to five years.

Table-5. Time spent per day in the business

Sl. No.	Time spent (in years)	No. of Respon-dents	Percen-tage
1	Up to 3 hours	9	6.92
2	4-6 hours	21	16.15
3	7-9 hours	49	37.69
4	10-12 hours	41	31.54
5	Above 12 hours	10	7.69
Total		130	100

Source: Primary data.

Of the 130 interviewees, 49 (37.69%) spent 7–9 hours a day, and 41 (31.54%) spent 10–12 hours a day, according to the table. Ten respondents (7.69%) said they spent more than 12 hours a day, nine respondents (6.92%) said they spent up to three hours a day, and 21 respondents (16.15%) said they spent four to six hours a day.

Table-6. Anova for age and working environment for success of women entrepreneurs

Age	Sum of squares	df	Mean square	F	Sig
Between Groups	17.538	2	4.638	12.56	0.041
Within Groups	11.913	128	0.734		
Total	29.451				

The calculated value (0.077) is greater than the table value (0.05) in the preceding table. Since the research hypothesis has been refuted, the alternative hypothesis (H2) is rejected, and the null hypothesis (Ho) is accepted. Therefore, the working circumstances of female entrepreneurs and the respondents' ages do not significantly correlate.

Table-7. Selection of enterprise

Sl. no.	Selection of Enterprise	No. of Respon-dents	Percen-tage
1.	Everyday Need	47	36.15
2.	Less Investment	19	14.62
3.	Residence Based	41	31.54
4.	Known occupation	23	17.69
Total		**130**	**100.00**

Source: Primary data.

When selecting a corporation, the main factor is the preponderance of the daily sampled selection. Afterwards, it was decided to reduce the investment and residential base.

Table-8. Characteristics of goods and services provided to respondents

Sl. No.	Goods and services provided	No. of Respon-dents	Percen-tage
1.	Quality goods provide	18	13.85
2.	Reasonable rate	23	17.69
3.	As per consumer demand	49	37.69
4.	Self-selection for better	28	21.54
5.	Home delivery	12	9.23
Total		**130**	**100.00**

Source: Primary data.

In many fields, respondents use a variety of business strategies. One question enquires about the specifics of a problem or the selling of goods. According to the table, 18 (13.85%) interviewees sold high-quality products, while 17.69% claimed to sell their goods at extremely fair prices. 21.54% of respondents stated that new items are superior in the sector, while 37.69% believed they sold in response to consumer demand. According to 9.23%, they deliver straight to homes.

Table-9. Supporting factors of the respondents

Sl. no	Supporters	No. of Respon-dents	Percen-tage
1	Parents	27	20.77
2	Spouse	51	39.23
3	Children	21	16.15
4	Friends	24	18.46
5	Relatives	7	5.39
Total		130	100

Source: Primary data.

According to the table, the primary source of support for entrepreneurs was their spouses (39.23 percent), followed by parents (20.77 percent), friends (18.46 percent), and children (16.15 percent). Family assistance also accounted for 5.39 percent of the entrepreneurs who responded to the poll.

Table-10. Correlation of Socioeconomic Variables and Motivational Factors to Start an Enterprise

Sl. no.	Variable	r	sig
1	Age	-0.816	0.182
2	Experience	0.327	0.295
3	Marital Status	0.418	0.104
4	Educational Qualification	-0.359	0.367
5	Monthly Income of Family	-0.738	0.284

Source: Computed from Primary data.

There have been attempts to manage the mathematical relationship between socioeconomic conditions and the factors that drive people to start their businesses. The relationship between socioeconomic characteristics and entrepreneurial motivation is shown in the table. The study concluded that socioeconomic and motivational elements in business initiation do not significantly correlate.

Table-11. Distribution of investment of entrepreneurs

Sl. no	Investment (in Rs.)	No. of Respon-dents	Percen-tage
1.	Below 1,00,000	14	10.77
2.	1,00,001-2,00,000	23	17.69
3.	2.00,001-3,00,000	62	47.69
4.	Above 3,00,000	31	23.85
	Total	130	100

Source: Primary Data.

The majority of the sample, 47.69%, falls between the Rs. 200,001 to Rs. 300,000 investment range. Of the respondents, 23.85% made investments totalling more than Rs. 300,000. The remaining 10.77 percent are below Rs. 100,000, while 17.69 percent are between Rs. 100,001 and Rs. 200,000.

Gini Ratio

Gini coeffi-cient ratio G	Before starting an enterprise	After starting an enterprise
	0.2847	0.1375

The distribution of family incomes among entrepreneurs before and after they started a firm in the research field was evaluated using the Gini ratio. Estimates of the Gini ratio show no complete equality in household income between business owners before and after they launch their ventures. There has been less income inequality among entrepreneurs since the start of their companies, as seen by the Gini coefficient's decline from 0.2847 to 0.1375.

Table-12. Communication facilities

Sl. no	Communication Facilities	No. of Respon-dents	Percen-tage
1.	Cell Phone	76	58.46
2.	Telephone	32	24.62
3.	E-mail	14	10.77
4.	Fax	5	3.85
5.	Telegram	3	2.30
	Total	**130**	**100**

Source: Primary Data.

Given their crucial function in communication, 58.46% of respondents highly support using cell phones, according to the data. According to 24.62 percent of those surveyed, the telephone was the most efficient means of communication. According to 10.77 percent of respondents, the most successful communication method was e-mail, 3.85 percent favoured fax, and only 2.30 percent chose Telegram. This emphasises the importance of smartphones for social interaction.

Women's entrepreneurship satisfaction and socioeconomic characteristics like age, marital status, and monthly family income are significantly correlated at the 5% level, as indicated by the table's P value of less than 0.05. The null hypothesis for these variables

Table-13. The effect of socioeconomic characteristics on the satisfaction of women entrepreneurship using the chi-square test

Socio-Economic variables	Chi-Square values	P Values	Significance
Age	18.572	0.001*	Significant
Experience	10.967	0.138	Not Significant
Marital Status	26.534	0.001*	Significant
Educational Qualification	18.725	0.217	Not Significant
Monthly Income of Family	7.1308	0.010*	Significant

* Significant level of 5 per cent.

is disproved. The satisfaction of female entrepreneurs is only weakly correlated with other socioeconomic characteristics, such as education and work experience, at a significance level of 5%. This reasoning has led to accepting the null hypothesis for these variables.

Table-14. Challenges of digital entrepreneurs towards development

Sl. no.	Constraints	Mean Score	Rank
1.	Lack of internal access	67.38	II
2.	Absence of technical care from salespersons	130.57	V
3.	The nonexistence of a training system to ease	38.29	VII
4.	Connection and upkeep of technology	61.05	III
5.	Absence of suitable tools and equipment	42.19	VI
6.	Insufficient digital skill	70.37	I
7.	Lack of financial resources	54.52	IV

Source: Computed from Primary Data

According to the table, lacking internal access was placed second, followed by a lack of digital abilities. The third place went to technological upkeep and connectivity, while the fourth place went to inadequate funding capabilities. Salespeople lacked technical attention, suitable tools and equipment, and a training structure to support these procedures, which were placed fifth, sixth, and seventh, respectively.

Initiating the Digital India initiative, the Indian government required business owners to function within a digitalised framework. By boosting employment prospects, encouraging universal digital literacy, drawing in investment, and cultivating a technologically savvy populace, Digital India has helped propel economic growth for local companies. The development of the economy depends on entrepreneurship. Creation can be facilitated when digitalism is incorporated into a company's early stages of creation and operation.

The population's quality of life needs to be raised. Digital marketing is a potential remedy for the industry, but inclusion remains a problem in digital India. In India, the industry has seen substantial change. Digitalisation is a powerful tool for boosting progress in various areas. The growth of entrepreneurship has always been a top priority for and support from the Indian government. Increasing development

and competitiveness requires the digitalisation of entrepreneurship. Digitalisation is a viable strategic growth strategy for multinational corporations operating in developing nations. To encourage economic growth, the government should support continued research and development for technology innovation, encourage entrepreneurial concentration on digital platforms, and incorporate these developments into commercial operations.

Conflicts of Interest

The author does not have any conflict of interest.

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