

Women in Science, Technology and Engineering- A Long History of Entrepreneurship

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Abstract:

To be an entrepreneur, you must be an active doer, not just a dreamer. A notable shift in the Indian society has been the change in educational statuses of women and the different demands for social superiority, as demonstrated by the increasing number of women pursuing post-secondary education. There has been an increase in the number of female entrepreneurial activities, and this translates into progress for women's rights and improved economic and social well-being. Women's entrepreneurship is a testament of women's empowerment. Entrepreneurship is a great and unending source of fascination, since individuals get a kick out of building something from nothing and getting it to operate. at this particular moment, it is imperative to boost the number of women who have started their own business. In addition to the male counterparts, female entrepreneurs are very active in creating jobs, stimulating innovation, and adding significantly to the Gross National Product of the country. In order for an economy to grow, women must be given an equal playing field as men. Innovation and technology are undoubtedly the accelerator for starting a business. Despite addressing many of the societal difficulties, Indian women have gained in stature from their counterparts and are held in high regard for their achievements in their various fields. Women-owned businesses play a critical role in the economic stimulation of other small businesses, as well as in producing new job prospects for the overall U.S. economy. Despite the improvements achieved in

gender equality, the Indian society still fails to bridge the gap between men and women in regards to education, job, and business. The goal of this research is to supply some information that is missing from this gap and to investigate the existing research pertaining to Women as Entrepreneurs in the field of engineering. The fundamental relevance of our research is to help businesses and the people in these organisations know more about the way women entrepreneurs operate. This includes helping to uncover the profile of women entrepreneurs, discovering their difficulties, specifying the mechanisms that assist women, and illustrating the expectations and demands that women entrepreneurs have.

Keywords: *Entrepreneur, Technology, Women Entrepreneurship,*

Introduction

The key to entrepreneurship is finding a way to provide value to an enterprise. “Something capable of bringing about change on a global scale, as well as preserving the status quo.” In entrepreneurship, there are three critical objectives: continual innovation and development that leads to production of value. Woman entrepreneurship is a long-term process where women create a small firm, secure all of the resources, assume substantial risks, meet with numerous problems, provide opportunities for job creation, and operate the firm on their own. Additionally, an organisation owned and operated by women with the goal of facilitating a transformation in the position of women. Over the past decade, women

entrepreneurs have proven especially proficient at solving challenges, which lends credence to the idea that they are just as capable as males. When it comes to increasing the percentage of women entrepreneurs, there is no one better than women themselves, as they employ other women in their workplace, showing them to be the drivers of women's lives and the economy as well. Because women have to confront many significant challenges on their way to success, their low position in society is due to their involvement in things that are less influential. Each and every successful woman entrepreneur has failed and experienced all sorts of problems while attempting to keep their business running with their own strength, which has a good effect on society by

making numerous offers and possibilities available to many people.

Literature Review

The entrepreneurial path is a bit of a roller coaster, in general. Over the last five to ten years, there has been a growth in the participation of women in various frontiers as they take their first steps. In Pakistan, the perception of a man being a gendered being created obstacles for women starting businesses. The Survey done among 100 female entrepreneurs discovered the numerous concerns and concerns they deal with on a daily basis. For the sake of woman entrepreneurship, all individuals must have equal involvement, regardless of their gender. Women need more exposure in order to accomplish their goals, which will also enable them to establish their status and pave the way for equal treatment of men.

As difficulties and opportunities were revealed in India, the women there proved to be truly aggressive, powerful, and prepared to take risks [2]. The author made the majority of his attention on why women were having such a hard time starting their own businesses and discussed a number of ways for their improvement. We have now seen how one woman from Ludhiana has worked her way up via her

many degrees of accomplishment. Women begin business to learn from the success stories of others, to become self-sufficient, to generate jobs, to meet the financial needs of their families, to provide a new source of income, and to maintain social standing.

Minorities are underrepresented in the number of female entrepreneurs. he was faced with several issues in the fields of engineering, mining, and construction. Many women choose to do business in nontraditional industries, such engineering, mining, and construction, although they only make up a small percentage of women in these areas [3]. In this study, it was proposed that the many possibilities for educating women entrepreneurially should be made diversified, by diversifying into various industries and distinct demographics. Through this study, various characteristics of the minority female entrepreneurial experience in various domains have been found, and variables that distinguish minority women who choose to enter conventional sectors from those who enter non-traditional ones have been elaborated upon and validated. This information shows that, regardless of the type of industry in which they operate, non-traditional industry women

entrepreneurs of all races have different features.

Since these deductions have been made, it has been advocated that the study framework be used to study and explore the primary concerns that face the female entrepreneurial community. This collection of surveys was developed based on information gathered from women who own their own businesses. Lack of advancement for women was due to the following factors: Are there any significant issues that one should know about before making this investment? Is gender equity kept in place? What steps must women take to establish themselves in non-traditional industries? through this research, we want to discover the answers to these questions in order to ease the experiences of female entrepreneurs in various industries and to demonstrate their capabilities

Research methodology

The study and analysis of the many aspects of women in engineering (as well as of all women in general) were conducted carefully to discover the advantages and

disadvantages of a woman entrepreneur's life path. A survey on the woman entrepreneurial growths of nations across the world was done to discover the status of women in entrepreneurship and their advancement in our country. One of the most critical aspects of this study is that responders answer will play a major influence.

The study looks at a group of 500 women entrepreneurs and 500 women who are not entrepreneurs. In this work, we conducted an analysis of both primary and secondary data. The primary statistics was obtained from 500 women and women who are not entrepreneurs. The main data collection is performed through the preparation of structured questionnaires on the basis of the research of literature and the variables were picked from those. The secondary data are gathered from the types of publications and journals, as well as some of the useful websites. The questionnaire is organised to gather data on respondents' demographics, abilities, and more. % approach and a system that assigns a weight to each percentage point are used to evaluate the data.

Table 1: Demographic factors of women respondents

Demographic Factors	Women Entrepreneurs=500		Women Non-Entrepreneurs=500	
	Number	%	Number	%
Age				
20-30	100	20	120	24
31-40	123	24.6	145	29
41-50	89	17.8	63	12.6
51-60	39	7.8	2	0.4
> 60	24	4.8	0	0
Education (Engineering)				
Masters	78	15.6	0	0
Bachelors	278	55.6	114	22.8
Diploma	46	9.2	159	31.8
Others	12	2.4	0	0
Working Experience				
Yes	352	70.4	196	39.2
No	36	7.2	87.2	17.44
Childhood Background				
City	94	18.8	23	4.6

Town	176	35.2	265	53
Village	76.3	15.26	52	10.4

The data included in Table 1 demonstrates the comparison of demographic variables of our respondents. Following an investigation, we have determined that the two categories – women business owners and non-women business owners were found to be distinctly different in their age, education, experience in the workplace, and the backgrounds of their children. While the majority of female entrepreneurs are much younger, better educated, and have previous job experience, these figures were shown to be applicable to all entrepreneurs. In contrast to the non-entrepreneurs, women entrepreneurs are represented from a broad spectrum of backgrounds, including young mothers, women in mid-career, single women, as well as mothers with children.

According to this survey, the demographic profile of women entrepreneurs shows that they are generally less than forty years of age. For the sake of argument, I would say that, of the 500 responders, a majority of them (44.6 percent) fall between the ages of 20 and 40. Surprisingly, compared to their male counterparts, women business

owners tend to be better educated, with almost half of respondents holding graduate degrees. Additionally, it is really the educated population that is the most likely to become self-employed and female entrepreneurs.

Nearly 35% of the women entrepreneurs tend to be from diverse backgrounds as compared to non-entrepreneurs, who tend to be mostly from towns. Some women see varied backgrounds as an encouraging element, as they encourage the women to be the best versions of themselves by challenging themselves with new ideas and discovering new skills.

In compared to non-entrepreneurs, women entrepreneurs have a greater percentage of women at all stages of entrepreneurship. 70.4% of women in this data had already had a job before, which suggests they want to adopt a favourable working style and the desire to experience change in their work history may be why they are starting their own companies.

Analysis and Interpretation

According to the demographic data that we obtained from the questionnaire, as depicted in Table 2, the following

challenges have greatly confronted the respondents. All of these problems suggest that their development will be significantly diminished.

Table 2: Obstacles faced during entrepreneurial

PROBLEMS	NO. OF RESPONDENTS	PERCENTAGE
Inadequate infrastructure facility	9	7%
Lack of skilled labor	17	14%
Non availability of raw material	13	10%
Lack of training	5	4%
Marketing problem	16	13%
Inadequate finance	38	28%
lack of govt. support	17	14%
Lack of age maturity	10	10%
Total	125	100

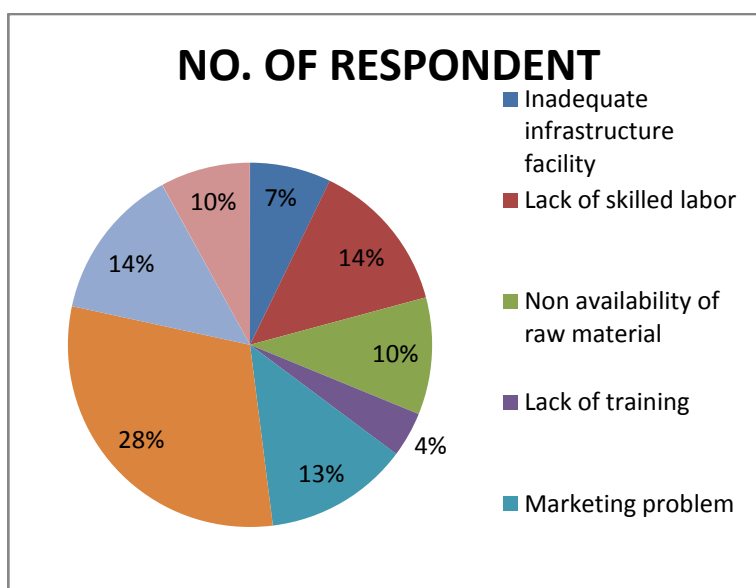


Fig.1. Stumbling blocks of entrepreneurial journey

The data in Fig. 1, which presents the conclusions of the survey, shows that the majority of respondents (28 percent) think their financial problem is an inadequate supply of money. It is determined that governmental backing is critically lacking (14% of investors say so) and marketing concerns are equally troubling (13% of investors agree). Support and incentives for encouraging women to be self-employed should be provided by governments and financial institutions. There are financial aids for women entrepreneurs that include, but are not limited to, funding for marketing, distribution, and everything else associated with being a female entrepreneur.

One of the characteristics of an excellent entrepreneur is the capacity to transform how we live and work. The definition of entrepreneurship is a person who pursues his or her own interests as a means to discover their full human potential. In order to run our own business, we'll have to meet and interact with a lot of individuals who have their own opinions and backgrounds. We will have to be comfortable with individuals who aren't hesitant to voice their political convictions. Think of new ideas to strengthen your company foundation, consider new ways to make money, develop ways to save and

plan for the future, and above all, one will acquire the necessary skills to run a firm. Unlike all the other degrees we're offered, this programme is not comprised of books that we must utilise, nor do we need to obtain knowledge for our lives through these texts. Instead, they're all going to be what we live our lives by. Entrepreneurship is surely a wake-up call, as it allows us to think about things we would not have ever considered prior to embarking on this journey. In fact, entrepreneurs are those people who are quite self-aware and have a clear idea of what they want and when they want it. Entrepreneurs see the world as a series of barriers they can conquer, and once they do, they will remove those hurdles so that the next person, ideally another entrepreneur, can look at the world in a new manner. A visual representation is provided with these numbers to depict a clear image.

The realities of having a small startup firm are obviously not a bed of roses for women. This study examined 40 nations and territories throughout the world to find out the extent to which women are an entrepreneurial force due to need and displayed in Fig. 2. A distinguishing factor between necessity-driven entrepreneurship, which can be caused by

a lack of formal employment possibilities in a nation, and innovation-driven entrepreneurship, which exists in nations with well-developed formal labour markets, is that necessity-driven

entrepreneurship is associated with a lack of economic freedom, whereas innovation-driven entrepreneurship is a function of overall economic freedom.

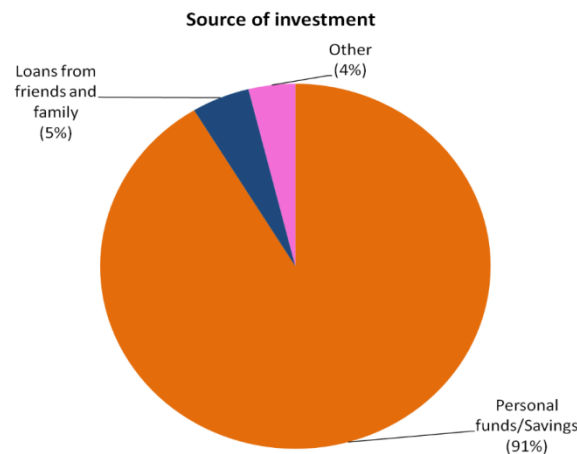


Fig.2. Sources of investment for startups by women

There are 91% of women who used their personal finances and assets to begin their business. This market has historically been

overlooked, thus it is one of the greatest untapped reservoirs in the world.

Obstacles Faced in the Entrepreneurial Journey

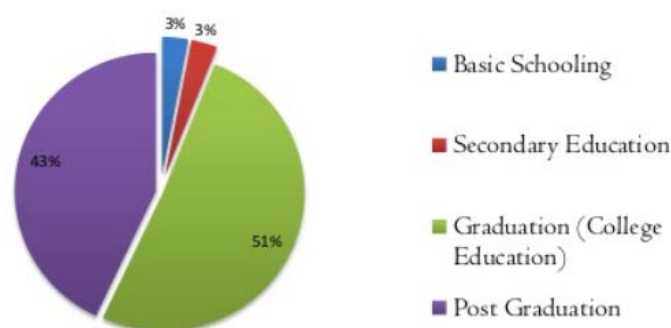


Fig.3. Educational background of women

From figure 3, it is obvious that 51% of the respondents completed their undergrad and are now furthering their education, whereas the other 49% completed their undergrad and have moved on to furthering their education. It is difficult for women to be successful in the economic sector, since they confront a hard sea of problems. The presence of these problems has the effect of increasing their

capabilities, and maybe even increasing their chances of success. A woman's innate intelligence is far superior than a man's, since women inherently have exceptional common sense, keen intuition, and incredible concentration on others. Because they are incredibly significant traits in entrepreneurship, those who possess them can project an air of leadership.

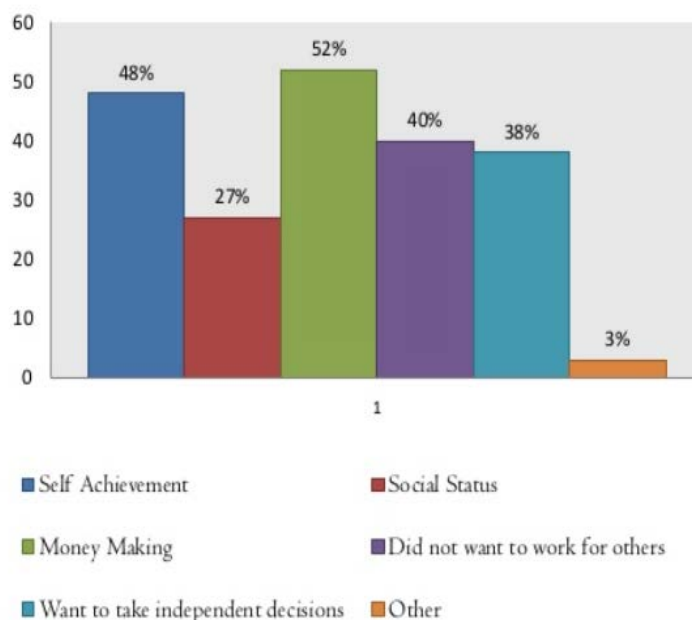


Fig.4. Motivation for startups

The reason for launching a business is depicted in Fig. 4 which revolves around gaining money and satisfying one's own goals. To continue going for your dreams, you need to keep the fire in your belly stoked by having a drive for success.

When the motivation level is strong, women will be more focused on spending more time perfecting their product. You must enlist the assistance of others in order to get to the top.

Table 3: Women entrepreneurial journey interferences

Particulars	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
	1	2	3	4	5	
Lack of Awareness	8%	28%	42%	22%	0%	100
Lack of manpower	5%	32%	50%	13%	0%	100
Lack of resources	8%	37%	45%	10%	0%	100
Competition	6%	9%	28%	38%	19%	100
Financial/Liquidity	16%	45%	29%	9%	1%	100
Problems						
Gender Discrimination	69%	15%	10%	5%	1%	100
Family and Work Life Balance	38%	19%	18%	14%	11%	100
Technological Problems	28%	28%	26%	16%	2%	100

According to the table found in the source survey, there are specific challenges experienced by female business owners, and these challenges are tallied in the table above.

Women who want to become entrepreneurs face various obstacles along the way, such as interpersonal conflicts, such as family pressures, and other such situations.

Despite efforts to increase the number of women in business, women are still in the minority, and act as a barrier to women's

admission into the industry. Now it is more difficult for women to start their business on a huge scale due to the existence of this male-dominated culture. Even while only a few women experiment with venturing out of their comfort zones in order to develop entrepreneurial networks that helps both socially and get clients, many women choose to stick to a comfortable routine. Any company can only afford to conduct financial transactions if they have a business line that serves as the financial lifeline. Many women have no assets in their names, and

banks view it as a potential liability when lending money. So banks are hesitant to loan money to women and discourage them from applying for loans because they believe women may leave their firm at any moment and ruin everything. Although these plans are only one of the many steps the government has taken to empower women financially, there are more financial programmes devised by the Indian government to further help women in need.

This limits her engagement in family, and as a result, she has neither the energy nor the time to provide to the family company. Another challenge in addressing the lack of awareness, personnel, and resources is a lack of awareness, personnel, and resources. Indian corporations utilise universities as a major place of recruiting, telling both male and female students that they must be given equal opportunity to work in their field. As a consequence of this a large percentage of young unemployment is alleviated. According to the most recent study by GEM (Gender Empowerment Measure), total entrepreneurial activity among women has climbed by 10 percent, and the gender gap has shrunk by 5 percent. Women should be able to “Think Big”. It's necessary for them to never attempt to bridge their

“Ambition Gap”, which would only serve to create the “Achievement Gap”. In order to excel as young women leaders who want to occupy strong positions and roles, one must be prepared to deal with criticism. The most important thing for a successful society is for it to strive to increase the involvement of women. We should all be appreciated for our efforts, no matter who we are. That is also true of women. To guarantee that the same amount of attention and consideration is given to both genders, equal nomination and recognition is necessary. It's possible that we may see an increase in businesses that use business models that don't put men and women at a disadvantage. If this happens, it will bode well for the economic prosperity of the places where this is possible.

Conclusion

This success was mostly because to the healthy economic development coupled with a strong educational foundation, which results in an increase of non-profit activities, and which promotes admiration of the valuable female abilities and their many chances. In the foreseeable future, women who run their own businesses should be recognised as examples for other women. Women entrepreneurs should also

be given the opportunity to share their storey with others. In order to have true equality between men and women, it is important to realise that there should come a day when there should be no need for specific prizes for women since they are given the same consideration as males. A civilisation that is able to reach this aim might potentially quadruple its current production without the use of any natural resources or the immigration of more people from another location. Women in the modern day are establishing precedent-setting, trailblazing successes in nearly every facet of life, and they are very positive about the future. Institutionalized strong financial assistance for women to launch their business ventures by offering several programmes for women just starting out. This has allowed the government, management boards, peer-to-peer platforms, families, and support systems to all enhance their support for women. Now that the barriers that women previously faced have been removed, these women have more opportunity than ever before to start their own businesses.

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