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QUANTITATIVE ANALYTICAL RESEARCH

A comparative study of urban and rural female entrepreneurs of Bangladesh—challenges and prospects

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In Bangladesh (BD), women entrepreneurship is rapidly expanding in both rural and urban areas. This research examines the landscape of rural and urban women entrepreneurs in BD, focusing on their perceived competencies, capabilities, and opportunities. This research also identifies the key challenges and factors that hinder the growth of women entrepreneurship in the country. Both rural and urban women in BD are involved in several micro, medium, and small enterprises. However, they face significant obstacles in a male-dominated society. Other factors negatively impacting women entrepreneurs include a dynamic, competitive, and interconnected economic system, the overall business environment, national strategies, assistance from nongovernmental organizations, and the involvement of credit companies. Women in both rural and urban areas aspire to improve their quality of life and gain greater respect within their households and communities. Yet, several barriers still impede the development of women entrepreneurship in BD, such as limited access to credit, restricted access to market information, a lack of knowledge, inadequate infrastructure, insufficient utility services, outdated technology, and bureaucratic complexities. In this research, the author utilized regression analysis, chi-square tests, and independent *t*-tests to assess the impact of various factors on women entrepreneurship in BD.

Keywords: woman entrepreneurship, *t*-test, chi-square test, regression test, micro, small, and medium enterprise (MSME), rural, urban, Bangladesh

Introduction

Bangladesh (BD) is a developing country with a population of approximately 176 million people and a limited land area. Our society is highly stratified, and business opportunities often depend on factors such as quality, social status, and location. Although women represent nearly 50% of the population, the socioeconomic development of BD largely depends on women's empowerment. Both urban and rural women have significant potential to contribute to economic growth. However, only 7.2% of women are engaged in entrepreneurship in BD, although this number is rising rapidly; in 2018, the number of women-owned enterprises increased by 12%. The majority of female traders are involved in small, medium, and micro enterprises.

Urban and rural women in BD possess immense potential to become sustainable entrepreneurs. However, each group faces specific opportunities and challenges. This research aims to identify the factors influencing women's entrepreneurship prospects in both rural and urban areas of BD. This research also examines the obstacles that hinder the establishment and growth of female entrepreneurs in these regions.

Currently, there is a growing awareness of the plight of the most marginalized group in society—women—particularly rural women who face the greatest deprivation. Despite these challenges, both rural and urban women have unique skills and capabilities that can lead to successful entrepreneurship. As a consequence, the female workforce, which constitutes half of the total workforce, is gradually advancing in various spheres of life. Women in both rural and urban areas of BD have a positive inclination toward becoming sustainable entrepreneurs, and entrepreneurship is emerging as a prominent career choice for many women at various stages of development.

This research also includes a comparative study of rural and urban women entrepreneurs in BD, focusing on their competencies, capabilities, opportunities, and social perceptions. Additionally, it addresses practical situations and provides recommendations for enhancing women entrepreneurship in the country.

The research also explores how social perceptions influence women's entrepreneurship in BD and discusses the role of women entrepreneurs in the country's economic development. Furthermore, it highlights the challenges faced by these entrepreneurs.

In this research, the author presents a comparative analysis of the rural and urban women entrepreneurs in BD. Here, the author aims to create a comprehensive portrait of the challenges and prospects of these women utilizing Likert scale surveys, regression analysis, and chi-square tests.

Research objective

1. To identify the competencies and capabilities of rural and urban women entrepreneurs in Bangladesh.
2. To investigate the challenges faced by rural and urban women entrepreneurs in Bangladesh.
3. To examine the opportunities for rural and urban women entrepreneurs in Bangladesh.
4. To compare the facilities available to and challenges faced by rural and urban women entrepreneurs in Bangladesh.
5. To recognize the determinants affecting women entrepreneurs in Bangladesh.

Research questions

1. To what extent do social perceptions affect rural and urban women entrepreneurship in BD?
2. To what extent does women entrepreneurship influence economic development in BD?
3. To what extent do various challenges affect women entrepreneurship in BD?

Literature review

Entrepreneurship refers to the generation of economic value. It involves taking the initiative to become an entrepreneur—the individual or group who organizes and manages a trade enterprise, striving for financial gain through risk and innovation. Entrepreneurs act as supervisors as well as administrators during the inception and development of an enterprise.

Women entrepreneurs are defined as women or groups of women who establish and run their own businesses. In other words, women entrepreneurs are self-employed persons who set up their businesses and take care of moneymaking concerns. In Bangladesh, both rural and urban women engage in various entrepreneurial activities, yet female entrepreneurs face significant barriers and lag in economic engagement, accreditation, and leadership compared to their male counterparts.

The Government of BD has implemented numerous initiatives to support women entrepreneurship, allocating a budget of approximately one billion for facilities aimed at enhancing women's entrepreneurial capacities. Significant strategies and regulations have been introduced to promote the expansion of women entrepreneurship (31). Both private and public organizations, as well as various nongovernmental organizations (NGO), are actively promoting women entrepreneurship in BD.

Sectors of women entrepreneurs in Bangladesh

Many women entrepreneurs have started their entrepreneurial journey through various businesses and have successfully run them. The contribution of women entrepreneurs is assuredly amazing in various fields of entrepreneurship. Women entrepreneurs in BD are involved in various sectors, including handicrafts, agricultural products, parlors, textiles, fashion, boutiques, and food delivery services, increasingly moving toward electronic commerce.

The number of women entrepreneurs is increasing day by day, leading to an explosion of female entrepreneurship in BD. Today, these women entrepreneurs play a crucial role in the economic and social development of the country, though they continue to face numerous challenges and hurdles. Nevertheless, they are breaking down barriers, challenging social protocols, and making significant contributions across different fields.

This research focuses on the various factors that affect women entrepreneurship in both rural and urban areas of BD.

Despite their increasing involvement in business, many women in BD encounter significant obstacles when trying to become entrepreneurs or grow their enterprises.

Uncooperative family and community: Women of BD face various restrictions from their families and society.

Shortage of finance: Access to credit is a challenge for all micro-entrepreneurs, but it is particularly difficult for women.

Fear of harassment: Many women entrepreneurs in BD experience violence and injustice across business sectors.

Too much red tape: Procedural and administrative barriers make starting a business particularly challenging for less educated and impoverished women.

Preconceived notions of women's capabilities: Society often views women's economic activities and entrepreneurial efforts as inferior to those of their male counterparts.

The role of government and NGOs in women entrepreneurship

Various regulatory bodies and NGOs have supported many rural and urban women in launching and operating their businesses. The BD government has initiated several programs, including the "Gender Action Plan" by the Small and Medium Enterprise (SME) Foundation, aimed at fostering more women entrepreneurs in SMEs through strengthening their administrative as well as technical competence and potential to access credit. The "SME Credit Policies and Programs" was initiated by Bangladesh Bank in March 2010, which arranged special programs for women entrepreneurs to make certain a significant portion of credit funding goes to them. There are several other programs also working for the development of women entrepreneurs.

Scope of rural and urban women to go entrepreneurial

In BD, women in rural households often have sufficient free time during the mornings and afternoons to engage in income-generating activities. However, many rural women in BD struggle to select the right enterprises that require minimal investment. There are many small entrepreneurial opportunities in BD that don't require significant capital, such as poultry farming, vermiculture, tailoring, and agriculture.

In urban areas of BD, women's entrepreneurship plays a crucial role in boosting economic development and empowering women. Urban women receive more financial support, team resources, training opportunities, and credit facilities compared to their rural counterparts. Factors contributing to the growth of entrepreneurship in urban areas include corruption, city size, industrial structure, and cultural biases. These factors significantly impact the entrepreneurial initiatives of urban women in BD, influencing their intentions to start and run their businesses effectively.

Research findings indicate that both rural and urban entrepreneurship in BD is influenced by various factors, with rural women face more significant challenges than urban women.

Consequently, the entrepreneurial journey for rural women is more difficult than that of those in other areas. Ultimately, these factors negatively affect all women entrepreneurs in BD, hindering their ability to operate their businesses smoothly. These crucial insights may be applicable to other comparative studies such as ready-made garments (RMG) and small and medium enterprises (SMEs) in BD, as well as other developing countries.

Challenges faced by women entrepreneurs

1. Lack of access to finance: Women entrepreneurs often find it difficult to obtain loans from banks due to the absence of collateral or credit history.
2. Lack of education and training: Many female entrepreneurs lack the skills and knowledge necessary to operate sustainable enterprises.
3. Social and cultural impediment: Women entrepreneurs in BD frequently face various obstacles, including discrimination from male family members, co-workers, and customers.

Legal and documentation problems for women entrepreneurs

Female entrepreneurs in BD face numerous legal and documentation challenges, including:

1. Lack of property rights: Women in Bangladesh generally do not have the same property rights as men, which makes it difficult for them to secure loans needed to launch businesses.
2. Lack of access to legal services: Women entrepreneurs usually do not have access to legal services, making it challenging to defend their enterprises against legal challenges.
3. Lack of documentation: Women entrepreneurs usually do not have the required documentation to launch or operate a business, complicating their ability to access financing, obtain permits, or hire staff.

Hypothesis

H01: There is no important association between urban women's perceived opportunities and their aspiration to become tenable entrepreneurs.

H02: There is no important alliance between rural women's perceived opportunities and their aspiration to become tenable entrepreneurs.

H03: There is no important alliance between urban women's perceived capabilities and their aspiration to become entrepreneurs.

H04: There is no important alliance between rural women's perceived capabilities and their aspiration to become entrepreneurs.

H05: There is no important alliance between urban women's social perception and their aspiration to become tenable entrepreneurs.

H06: There is no important alliance between rural women's social perception and their aspiration to become tenable entrepreneurs.

H07: There is no important alliance between urban women's individual competencies and their endurable entrepreneurial tendency.

H08: There is no important alliance between rural women's individual competencies and their endurable entrepreneurial tendency.

H09: Rural entrepreneur mode of sale has no impact on the type of enterprise.

H10: Urban entrepreneur mode of sale has no impact on the type of enterprise.

H11: Share of women entrepreneurs has no impact on the total share of CMSME in Bangladesh.

H12: There is no significant alliance between educational qualification and the type of business.

H13: There is no significant alliance between the location of women entrepreneurs and the mode of sales.

H14: There is no significant alliance between the type of investment source and the percentage of women-run CMSMEs.

H15: There is no significant association between the type of investment sources and the category of women businesses.

H16: There is no important connection between the type of subsector-wise reduction in income of women entrepreneurs and the type of business.

H17: There is no significant association between marital status and the mental stress of women entrepreneurs.

TABLE 1 | Urban women's perceived opportunities.

Statement scale (5–1)	Strongly agree	Agree	No response	Disagree	Strongly disagree	Mean	Standard deviation
I have easy access to internet.	331	378	26	101	100	3.79	16.87
I get more training facilities.	354	367	39	95	81	3.87	16.98
I have easy access to credit facilities.	312	328	44	127	125	3.61	15.74
Urban women entrepreneurs export their products and services more easily than rural women entrepreneurs.	347	358	38	103	90	3.82	16.72
Urban women get more mentoring facilities.	351	366	41	97	81	3.86	16.91

Source: Collected and calculated by the author.
(Strongly agree = 5, Agree = 4, No response = 3, Disagree = 2, Strongly disagree = 1).
N = 936.
Here, a maximum of the mean range 3.5–5.0 indicates a positive attitude. The high standard deviation of the research expresses a high disagreement among the answers.

TABLE 2 | Urban women's perceived capabilities.

Statement scale (5–1)	Strongly agree	Agree	No response	Disagree	Strongly disagree	Mean	Standard deviation
I have the capacity to do all the entrepreneurial tasks accurately.	319	322	48	112	135	3.62	15.74
I will be able to improve my entrepreneurial failure.	342	348	33	103	110	3.76	16.50
I have done my job with more responsibility.	329	344	41	112	110	3.72	16.21
I want to do better than my peers.	334	355	44	97	106	3.88	16.44
I have sufficient leadership and communication skills, which are essential for an entrepreneurial journey.	325	341	39	117	114	3.69	16.12

Source: Collected and calculated by the author.
N = 936.
Here, a maximum of the mean range 3.5–5.0 indicates a positive attitude. The high standard deviation of the research expresses a high disagreement among the answers.

TABLE 3 | Urban women's social perception.

Statement scale (5–1)	Strongly agree	Agree	No response	Disagree	Strongly disagree	Mean	Standard deviation
I am encouraged by other people in my society.	311	329	49	128	119	3.63	15.72
My entrepreneurial activities are recognized by other people.	329	339	44	117	107	3.71	16.12
I can easily understand the needs of other people.	317	337	51	116	115	3.67	15.89
I utilize the right time to request a favor/approval.	312	321	55	123	125	3.61	15.59
I understand what is the reason that majority of people made a move in normal circumstances.	324	327	48	117	120	3.66	15.86

Source: Collected and calculated by the author.
$N = 936$.

H18: There is no significant association between location and the mental stress of women entrepreneurs.

H19: There is no important connection between the types of CMSMEs and the type of potential investment sources of women entrepreneurs.

Data analysis

In this study, the author focuses on both urban and rural women entrepreneurs and businesswomen. Data was collected through direct field study, utilizing both primary and secondary data.

In this paper, the author conducted interviews with 1,620 women. For data analysis, a variety of methods were employed, including a 1–5 Likert scale questionnaire, correlation R test, independent t-test, path coefficient, and Cronbach's alpha test.

Urban women entrepreneur = 936.

Rural women entrepreneur = 684.

Primary data analysis

Urban women entrepreneur data

Refer to Tables 1–5 for additional information.

Rural women entrepreneur data

Refer to Tables 6–10 for additional information.

Test of hypothesis

H01: There is no important alliance between urban women's perceived opportunities and their aspiration to become tenable entrepreneurs.

Outcomes in Table 12 disclosed that there is an important connection between perceived opportunities and aspiration to become tenable entrepreneurs of urban women in BD because ($P = 0.00 < 0.05$). The beta value ($r = 0.99$) proved that there is a strong positive correlation between perceived opportunities and aspiration to become tenable entrepreneurs of urban women in BD. The R square value proved that 0.9979 of the entire disparity of aspiration to become tenable entrepreneurs is described by perceived opportunities. So, the null hypothesis is true.

H02: There is no important alliance between rural women's perceived opportunities and their aspiration to become tenable entrepreneurs.

Consequences in Table 14 expressed that there is an important alliance between perceived opportunities and aspiration to become tenable entrepreneurs of rural women in BD. Hence ($P = 0.00 < 0.05$). The beta value ($r = 0.99$) expressed that there is a strong positive connection between perceived opportunities and aspiration to become tenable entrepreneurs of rural women in BD. The R square disclosed that 0.9979 of the entire inequality of intention to become sustainable entrepreneurs is described by perceived opportunities. So, the null hypothesis is true.

H03: There is no important alliance between urban women's perceived capabilities and their aspiration to become tenable entrepreneurs.

Outcomes in Table 16 proved that there is an important connection between perceived capabilities and aspiration to become tenable entrepreneurs of urban women in BD. Hence ($P = 0.00 < 0.05$). The beta value ($r = 0.99$) disclosed that there is a strong positive connection between perceived capabilities and aspiration to become tenable entrepreneurs of urban women in BD. The R square disclosed that 0.9980 of the entire disparity of aspiration to become tenable entrepreneurs is described by perceived opportunities. So, the null hypothesis is true.

H04: There is no important alliance between rural women's perceived capabilities and their aspiration to become entrepreneurs.

Outcomes in Table 18 disclosed that an important alliance exists between perceived capabilities and aspiration to become tenable entrepreneurs of rural women in BD. Because ($P = 0.00 < 0.05$). The beta value ($r = 0.71$) expressed that there is a strong positive

TABLE 4 | Urban women's individual competencies.

Statement scale (5–1)	Strongly agree	Agree	No response	Disagree	Strongly disagree	Mean	Standard deviation
Capacity to work hard in any difficult situation with different peers.	311	323	51	119	132	3.60	15.63
Ability to tolerate any disturbance and complex situation and take right decision in this situation.	319	327	49	125	116	3.65	15.79
Talent to identify new possibilities and form ideas into reality.	311	316	55	126	128	3.59	15.51
Capability to face new challenges and hurdles with an attitude of assurance.	325	329	49	119	114	3.68	15.89
Eagerness to take immediate action as well as upgrade consequences in the absence of an outer hiring.	312	316	58	126	124	3.60	15.51

Source: Collected and calculated by the author.
N = 936.

TABLE 5 | Urban women's aspirations to become tenable entrepreneurs.

Statement scale (5–1)	Strongly agree	Agree	No response	Disagree	Strongly disagree	Mean	Standard deviation
I am prepared to do whatever to be a successful entrepreneur.	334	339	49	114	100	3.74	16.18
I will make every attempt to initiate and run my own enterprise.	337	344	53	105	97	3.77	16.28
I am purposeful to construct an enterprise in the upcoming time.	335	321	47	109	124	3.68	15.94
I have a too earnest concept toward initiating an enterprise.	328	334	44	114	116	3.69	16.04
I have grabbed the whole-hearted intention to begin an enterprise immediately.	331	339	48	117	101	3.73	16.14

Source: Collected and calculated by the author.
N = 936.

TABLE 6 | Rural women's perceived opportunities.

Statement scale (5–1)	Strongly agree	Agree	No response	Disagree	Strongly disagree	Mean	Standard deviation
I have easy access to internet.	196	202	45	117	124	3.33	12.44
I get more training facilities.	145	156	59	174	150	2.96	11.95
I have easy access to credit facilities.	169	158	66	161	130	3.11	11.88
Rural women entrepreneurs export their products and services more easily than rural women entrepreneurs.	114	126	68	221	155	2.74	12.25
Rural women get more mentoring facilities.	117	129	65	213	160	2.75	12.19

Source: Collected and calculated by the author.
N = 684.

TABLE 7 | Rural women's perceived capabilities.

Statement scale (5–1)	Strongly agree	Agree	No response	Disagree	Strongly disagree	Mean	Standard deviation
I have the capacity to do all the entrepreneurial tasks accurately.	134	156	67	171	156	2.91	11.87
I will be able to improve my entrepreneurial failure.	117	132	65	176	194	2.71	12.11
I have done my job with more responsibility.	177	192	58	124	133	3.23	12.11
I want to do better than my peers.	186	207	55	117	119	3.33	12.32
I have sufficient leadership and communication skills, which are essential for an entrepreneurial journey.	124	137	61	177	185	2.76	12.07

Source: Collected and calculated by the author.
N = 684.

TABLE 8 | Rural women's social perception.

Statement scale (5–1)	Strongly agree	Agree	No response	Disagree	Strongly disagree	Mean	Standard deviation
I am encouraged by other people in my society.	141	135	64	198	146	2.89	12.02
My entrepreneurial activities are recognized by other people.	165	174	68	155	122	3.15	11.89
I can easily understand the needs of other people.	171	196	61	121	135	3.21	12.09
I utilize the right time to request a favor/approval.	167	191	67	132	127	3.20	11.97
I understand what is the reason that majority of people made a move in normal circumstances.	172	161	69	139	143	3.12	11.84

Source: Collected and calculated by the author.
N = 684.

TABLE 9 | Rural women's individual competencies.

Statement scale (5–1)	Strongly agree	Agree	No response	Disagree	Strongly disagree	Mean	Standard deviation
Capacity to work hard in any difficult situation with different peers.	188	216	59	114	107	3.39	12.41
Ability to tolerate any disturbance and complex situation and take right decision in this situation.	196	221	61	104	102	3.45	12.54
Talent to identify new possibilities and form ideas into reality.	114	121	68	195	186	2.68	12.17
Capability to face new challenges and hurdles with an attitude of assurance.	214	218	67	102	83	3.55	12.69
Eagerness to take immediate action as well as upgrade consequences in the absence of an outer hiring.	221	228	65	89	81	3.61	12.95

Source: Collected and calculated by the author.
N = 684.

TABLE 10 | Rural women's aspiration to become tenable entrepreneurs.

Statement scale (5–1)	Strongly agree	Agree	No response	Disagree	Strongly disagree	Mean	Standard deviation
I am prepared to do whatever to be a successful entrepreneur.	139	141	64	174	166	2.87	11.92
I will make every attempt to initiate and run my own enterprise.	176	188	67	121	132	3.23	12.00
I am purposeful to construct an enterprise in the upcoming time.	178	191	62	124	129	3.24	12.07
I have a too earnest concept toward initiating an enterprise.	181	201	66	117	119	3.30	12.15
I have grabbed the whole-hearted intention to begin an enterprise immediately.	194	215	69	105	101	3.41	12.40

Source: Collected and calculated by the author.
$N = 684$.

TABLE 11 | Correlation between urban women perceived opportunities and aspiration to become tenable entrepreneurs.

Model	Un standardized coefficient		Standardized coefficient	*t*	Significance
	B	Std. error	Beta		
Constant	6.13	19.96		3.36	0.000
Perceived opportunities	5.57	21.97	0.998965139	3.05	0.000

TABLE 12 | Regression between urban women perceived opportunities and aspiration to become tenable entrepreneurs.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.998965139	0.99793135	0.997920228	35.18

Source: Collected and Calculated by the author.
Predictors: (Constant), perceived opportunities.
Dependent Variable: aspiration to become tenable entrepreneurs.

TABLE 13 | Correlation between rural women perceived opportunities and aspiration to become tenable entrepreneurs.

Model	Un standardized coefficient		Standardized coefficient	*t*	Significance
	B	Std. error	Beta		
Constant	12.83	8.15		7.00	0.000
Perceived opportunities	13.75	7.61	0.75	7.52	0.000

connection between perceived capabilities and aspiration to become tenable entrepreneurs of rural women in BD. The R square disclosed that 0.71 of the entire inequality of aspiration to become tenable entrepreneurs is described by perceived opportunities. Hence, the null hypothesis is true.

H05: There is no important alliance between urban women's social perception and their intention to become sustainable entrepreneurs.

Outcomes in **Table 20** disclosed that an important connection exists between social perceptions and aspiration to become tenable entrepreneurs of urban women in BD. Hence ($P = 0.00 < 0.05$). The beta value ($r = 0.99$) expressed that a strong positive connection exists between social perception and aspiration to become tenable entrepreneurs of urban women in BD. The R square proved that 0.99 of the entire inequality of aspiration to become tenable entrepreneurs is described by social perceptions. So, the null hypothesis is true.

TABLE 14 | Regression between rural women perceived opportunities and aspiration to become tenable entrepreneurs.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.75	0.555102905	0.551821953	20.30

Source: Collected and calculated by the author.
Predictors: (Constant), perceived opportunities.
Dependent Variable: aspiration to become tenable entrepreneurs.

TABLE 15 | Correlation between urban women perceived capabilities and aspiration to become tenable entrepreneurs.

Model	Un standardized coefficient		Standardized coefficient	*t*	Significance
	B	Std. error	Beta		
Constant	6.13	19.96		3.36	0.000
Perceived capabilities	6.03	20.29	0.998999735	3.30	0.000

TABLE 16 | Regression between urban women .perceived capabilities and aspiration to become tenable entrepreneurs.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.998999735	0.998000471	0.99798972	35.09

Source: Collected and calculated by the author.
Predictors: (Constant), perceived capabilities.
Dependent Variable: aspiration to become tenable entrepreneurs.

TABLE 17 | Correlation between rural women perceived capabilities and aspiration to become tenable entrepreneurs.

Model	Un standardized coefficient		Standardized coefficient	*t*	Significance
	B	Std. error	Beta		
Constant	12.83	8.15		7.00	0.000
Perceived capabilities	14.32	7.31	0.846712794	7.83	0.000

TABLE 18 | Correlation between urban women perceived capabilities and aspiration to become tenable entrepreneurs.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.846712794	0.716922556	0.714834964	20.11

Source: Collected and calculated by the author.
Predictors: (Constant), perceived capabilities.
Dependent Variable: aspiration to become tenable entrepreneurs.

TABLE 19 | Correlation between urban women social perception and aspiration to become tenable entrepreneurs.

Model	Un standardized coefficient		Standardized coefficient	*t*	Significance
	B	Std. error	Beta		
Constant	6.13	19.96		3.36	0.000
Social perception	6.51	18.81	0.998958537	3.57	0.000

H06: There is no important alliance between rural women's social perception and their aspiration to become tenable entrepreneurs.

Outcomes in **Table 22** express that there is an important connection between social perceptions and aspiration to become tenable entrepreneurs of rural women in BD. Hence

TABLE 20 | Regression between urban women social perception and aspiration to become tenable entrepreneurs.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.998958537	0.997918159	0.997906966	34.44

Source: Collected and calculated by the author.
Predictors: (Constant), social perception.
Dependent Variable: aspiration to become tenable entrepreneurs.

TABLE 21 | Correlation between rural women social perception and aspiration to become tenable entrepreneurs.

Model	Un standardized coefficient		Standardized coefficient	*t*	Significance
	B	**Std. error**	**Beta**		
Constant	14.32	7.31		7.83	0.000
Social perception	14.53	7.19	0.956842221	7.01	0.000

TABLE 22 | Regression between rural women social perception and aspiration to become tenable entrepreneurs.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.956842221	0.915547036	0.914924226	20.04

Source: Collected and calculated by the author.
Predictors: (Constant), social perception.
Dependent Variable: aspiration to become tenable entrepreneurs.

TABLE 23 | Correlation between individual competencies and aspiration to become tenable entrepreneurs.

Model	Un standardized coefficient		Standardized coefficient	*t*	Significance
	B	**Std. error**	**Beta**		
Constant	6.13	19.96		3.36	0.000
Individual competencies	6.03	20.31	0.998999735	3.31	0.000

TABLE 24 | Regression between urban women individual competencies and aspiration to become tenable entrepreneurs.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.998999735	0.998000471	0.99798972	35.09

Source: Collected and calculated by the author.
Predictors: (Constant), individual competencies.
Dependent Variable: aspiration to become tenable entrepreneurs.

0.05 ($P = 0.00 < 0.05$). The beta value ($r = 0.95$) disclosed that a strong positive connection exists between social perception and aspiration to become tenable entrepreneurs of rural women in BD. The R square disclosed that 0.91 of the entire disparity of aspiration to become tenable entrepreneurs is described by social perceptions. Hence, the null hypothesis is true.

H07: There is no important alliance between urban women's individual competencies and their endurable entrepreneurial tendency.

Outcomes in **Table 24** express that there is an important connection between individual competencies and aspiration to become tenable entrepreneurs of urban women in BD. Hence ($P = 0.00 < 0.05$). The beta value ($r = 0.99$) disclosed that a strong positive connection exists between individual competencies and aspiration to become tenable entrepreneurs of urban women in BD. The R square proved that 0.99 of the entire inequality of aspiration to become tenable entrepreneurs is described by individual competencies. So, the null hypothesis is true.

H08: There is no important alliance between rural women's individual competencies and their endurable entrepreneurial tendency.

TABLE 25 | Correlation between rural women individual competencies and endurable entrepreneurial tendency.

Model	Un standardized coefficient		Standardized coefficient	t	Significance
	B	Std. error	Beta		
Constant	14.53	7.19		7.01	0.000
individual competencies	10.83	9.66	0.980892224	5.91	0.000

TABLE 26 | Regression between rural women individual competencies and endurable entrepreneurial tendency.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.980892224	0.962149555	0.961870421	21.58

Source: Collected and calculated by the author.
Predictors: (Constant), individual competencies.
Dependent Variable: endurable entrepreneurial tendency.

Outcomes in **Table 26** express that a crucial connection exists between individual competencies and endurable entrepreneurial tendency of rural women in BD. Hence (P = 0.00 < 0.05). The beta value (r = 0.998) disclosed that a strong positive connection exists between individual competencies and the sustainability entrepreneurial inclination of rural women of BD. The R square proved that 0.96 of the entire inequality of aspiration to sustainability entrepreneurial inclination is described by individual competencies. Hence, the null hypothesis is true.

Secondary data analysis

Attributes of the participants

In this research, the author used data from two prime NGOs, Association for Social Advancement (ASA) and Bangladesh Rural Business Development (BRBD), in BD. Of which ASA is a private sector and BRBD is a public sector organization.

In the interviewed NGOs, 88% of the women in BRBD were married and about 98% of the women in ASA were married. Almost 33% of the women in ASA are self-literate. These women became literate after joining the micro credit program of ASA to manage financial matters.

TABLE 27 | Age distribution of the micro credit borrowers.

Age	Association for Social Advancement (ASA) (%)	Bangladesh Rural Business Development (BRBD) (%)
15–20	6.10	00
20–25	29.00	15.20
25–30	18.40	21.00
30–35	24.50	15.20
35–40	22.40	49.00

Table 28 showed that the participants from the BRBD were more illiterate than the participants from ASA. Again, BRBD women have more secondary education than ASA.

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So, the null hypothesis, qualification has no impact on training status, is rejected or not true. So, qualification has a significant impact on the training status of female entrepreneurs of ASA.

For BRBD, t cal = 7.62.

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So, the null hypothesis, qualification has no impact on training status, is rejected or not true. So, qualification has a significant impact on the training status of female entrepreneurs of BRBD.

H: Rural entrepreneur mode of sale has no impact on the type of women entrepreneurship.

Here, the author used an independent t-test, t cal = 2.51.

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So, the null hypothesis, rural entrepreneur mode of sale has no impact on the type of entrepreneurship, is rejected or not true. So, the rural entrepreneur mode of sale has a significant impact on the type of entrepreneurship.

H: Urban entrepreneur mode of sale has no impact on the type of women entrepreneurship.

Here the author used an independent t-test, t cal = 3.11.

TABLE 28 | Education level of the women.

Qualification	ASA (%)	BRBD (%)
Illiterate	22.40	36.40
Self-literate	33.00	15.20
Primary educated	29.00	12.10
Secondary educated	16.30	36.00
Total	100.7	99.7

TABLE 29 | Training status of the micro credit borrowers.

Type of training	ASA (%)	BRBD (%)
Technical	18.00	12.00
Nontechnical	8.20	12.10
Total	26.2	24.1

Qualification has no impact on training status.
Here, the author used an independent *t*-test.
For ASA, *t* cal = 5.99.
So, *t* cal > *t* tab.

TABLE 30 | Sector contribution of women in Bangladesh economy.

Name of sectors	% enterprises
Garments/home textile	16.10
Printing	1.60
Handicraft	69.40
Agro-based	3.20
Parlor	4.80
Food	3.20
Others	1.60
Total	100

Source: Roy (32).

If the absolute value of the *t*-value is greater than the critical value, we reject the null hypothesis. So, the null hypothesis, urban entrepreneur mode of sale has no impact on the type of women entrepreneurship, is rejected or not true. So, the urban entrepreneur mode of sale has a significant impact on the type of women entrepreneurship.

H: Female workforce has no impact on the total workforce.

T-test value for the economic census 2001and 2003 is *t* cal = 3181.852947.

T-test value for the economic census 2013 is *t* cal = 3696.549176.

If the absolute value of the calculated t-statistic is larger than the critical value of *t*, we reject the null hypothesis. For a two-sided 95% confidence interval, use the table of the t-distribution (found at the end of the section) to select the appropriate critical value of *t* for the two-sided $\alpha = 0.05$.

TABLE 32 | Selected CMSME-wise respondents.

Sector	% of respondents	% of share of women entrepreneurs
Garments and accessories	19	6.8
Beauty parlor	18	9.9
Agriculture	17	9.3
Tailoring	17	13.6
Retail shop	9	15.2
IT/software/electronics	3	2.7
Jute products and other handicrafts	8	20.2
Health and related products	4	3.4
Online business	5	–

TABLE 33 | Business category-wise percentage of female employees.

Category of business	% of female employees recruited
Cottage	65
Micro	74
Small	62
Medium	65
Overall	69

TABLE 34 | Category of business vs. educational qualification.

Level of education	Cottage (%)	Micro (%)	Small (%)	Medium (%)
Below HSC	81	63	20	20
Above HSC	19	37	80	80

So, the null hypothesis, female workforce has no impact on the total workforce, is rejected. The alternative hypothesis, female workforce has a significant impact on the total workforce, is true.

H: Share of women entrepreneurs has no impact on the percentage of CMSME respondents in Bangladesh.

TABLE 31 |

Working status	Economic census 2001 and 2003			Economic census 2013		
	Total	Female	% of female	Total	Female	% of female
Owners/entrepreneurs	34,96,120	1,08,494	3.1	73,52,024	4,31,809	5.9
Unpaid family workers	12,63,173	2,25,079	17.8	12,96,960	4,65,978	35.9
Full-time workers	60,76,865	8,17,998	13.5	1,51,20,355	30,00,846	19.8
Part-time workers	4,34,264	77,842	17.9	4,86,080	91,005	18.7
Casual workers	–	–	–	2,45,431	62,080	25.3
Total	1,12,70,422	12,29,413	10.9	2,45,00,850	40,51,718	16.5

TABLE 35 | Mode of sales of women traders.

Location	Online (%)	Showroom/malls (%)	Wholesaler (%)	Retail sell (%)	Export (%)	Others (%)
Overall	11	35	16	53	3	11
Rural	2	18	24	65	2	14
Urban	18	48	10	44	4	8

TABLE 36 | Category of business vs. investment sources of women entrepreneurs.

Type of enterprises	Women entrepreneurs' credit (%)	Bank loan (%)	NGO (%)	Other business/ sources (%)	Family members (%)	Personal savings (%)	Loan from relatives/ friends (%)	Others (%)
Cottage	9	14	57	4	23	41	9	1
Micro	10	12	48	7	28	43	10	1
Small	12	18	32	10	37	67	13	2
Medium	40	30	20	10	60	60	10	0

Here, the researcher applied an independent t-test, t cal = −0.822.

In that case, a negative t-value would not cause rejection of the null hypothesis. So, the null hypothesis, share of women entrepreneurs has no impact on the percentage of CMSME respondents in BD, is true.

H: Qualification has no impact on the business category-wise percentage of female employees.

Here, the researcher applied an independent t-test.

For ASA, t cal = −26.07.

So, the null hypothesis, qualification of ASA women entrepreneurs has no impact on the business category-wise percentage of female employees, is true.

For BRBD, t cal = −20.90.

So, the null hypothesis, qualification of BRBD women entrepreneurs has no impact on the business category-wise percentage of female employees, is true.

H: There is no important connection between educational qualification and the type of business of women entrepreneurs.

TABLE 37 | Sector-wise income loss in businesses of women entrepreneurs.

Subsector	Average income loss (BDT)
Garments and accessories	4,14,708
Beauty parlor	2,31,673
Tailor	89,668
Online business	6,82,857
Agriculture	90,830
Retail shop	1,44,840
Health and related services	3,07,708
IT/software	9,28,462
Jute products and other handicrafts	6,85,875

Here, the researcher applied the chi-square test.

The chi-square calculated value = 120.15.

So, chi-square calculated value > chi-square table value.

So, the null hypothesis, that there is no important connection between educational qualification and the type of business of women entrepreneurs, is rejected or not true. So, there is an important connection between educational qualification and the type of business of women entrepreneurs.

H: There is no significant association between the location of women entrepreneurs and the mode of sales.

Here, the author used chi-square test, the chi-square calculated value = 38.212715.

So chi-square calculated value > chi-square table value.

So, the null hypothesis, that no important alliance between the location of women entrepreneurs and the mode of sales, is rejected or not true. So, there is an important connection between the location of women entrepreneurs and the mode of sales.

H: There is no significant association between the type of investment sources and the category of business.

Here, the author used the chi-square test.

The chi-square calculated value = 79.06.

So chi-square calculated value > chi-square table value.

So, the null hypothesis, that there is no notable connection between the type of investment sources and the category of business, is rejected or not true. So, there is an important connection between the type of investment sources and the category of business.

H: There is no significant association between the type of subsector-wise reduction in income of women entrepreneurs and the type of business.

Here, the author used chi-square test.

H: There is no significant association between educational qualification and knowledge on stimulus package.

Here, the researcher applied the chi-square test.

TABLE 38 | Knowledge vs educational qualification.

Knowledge	Educational qualification									Total
	Cannot read and write (%)	Can read and write, but no institutional education (%)	Class 5 or below (%)	Class 9 (%)	SSC (%)	HSC (%)	Went to college/university but no certificate/diploma (%)	Bachelor (%)	Masters (%)	
Know about the stimulus package	9	27	19	28	25	33	38	48	49	276
Do not know about the stimulus package	91	73	81	72	75	67	62	52	51	624
Total	100	100	100	100	100	100	100	100	100	900

TABLE 39 | Educational qualification vs. holding trade license by women entrepreneurs.

Trade license status	Educational qualification								Total
	Cannot read/write (%)	Can read and write, but no formal education (%)	Class 5 or below (%)	Class 9 (%)	SSC (%)	HSC (%)	Went to college/university but did not complete/No certification (%)	Honors/ masters (%)	
Holds trade license	47	45	41	51	67	67	85	81	484
Does not hold trade license	53	55	59	49	33	33	15	19	316
Total	100	100	100	100	100	100	100	100	800

TABLE 40 | Financial sources of women entrepreneurs.

Type of CMSMEs	Bank (general credit) (%)	Bank (women entrepreneurs' credit) (%)	NGO (%)	Income from other business (%)	Family source (%)	Do not want to disclose (%)	Uncertain (%)	Will not invest further (%)
Cottage	14	18	55	4	12	2	18	4
Micro	15	14	50	3	7	3	17	9
Small	18	13	30	0	12	8	15	15
Medium	30	10	10	10	0	20	10	20

The chi-square calculated value = 63.65.

So chi-square calculated value > chi-square table value.

So, the null hypothesis, that there is no significant association between educational qualification and knowledge on the stimulus package, is rejected or not true. So, there is a significant association between educational qualification and knowledge on stimulus package.

H: There is no important alliance between educational qualification and holding a trade license by women entrepreneurs.

Here, the researcher employed chi-square test.

The chi-square calculated value = 83.0416.

So chi-square calculated value > chi-square table value.

So, the null hypothesis, that there is no important connection between educational qualification and holding a trade license. So, there is a crucial connection between educational qualification and holding a trade license for women entrepreneurs of BD.

H: There is no significant association between the type of CMSMEs and potential investment sources.

Here, the researcher employed the chi-square test.

The chi-square calculated value = 110.71.

Here, the chi-square calculated value is greater than the chi-square table value.

So, the null hypothesis, that there is no crucial connection between the type of CMSMEs and potential investment sources, is rejected or not true. So, there is an important connection between the type of CMSMEs and potential investment sources.

H: There is no significant association between location and challenges faced by the workers.

Here, the researcher applied chi-square test.

TABLE 41 | Location-wise challenges faced by the women workers.

Location	Challenges												Total
	No job	Could not go to work due to lockdown	Getting partial payment	No household income	Working but not getting paid	No food at home	Could not pay house rent	Risk of losing job/work opportunity	Income opportunities reduced	Not getting necessary health care/treatment	Self/family members corona infected	Facing oppressive/ insensitive behavior	Others	
Rural	53	53	25	29	18	19	6	2	3	3	1	1	10	223
Urban	60	47	27	25	24	15	13	3	2	2	0	0	4	222
Total	113	100	52	54	42	34	19	5	5	5	1	1	14	445

TABLE 42 | Reduction of income of the women entrepreneurs.

Subsector	Average income February (BDT)	Average income June (BDT)
Tailor	7868	3121
Construction worker	7200	1575
Domestic help	6677	2251
Agriculture labor	7919	2373
Handicraft	5966	2153
Hawker	8552	3478
Sex worker	14,643	6482
Beauty parlor worker	15,668	3161
Rice mill	4047	1261
Food processing	10,415	4588
Overall	8685	2954

The chi-square calculated value = 11.104.

Here, the chi-square calculated value is less than chi-square table value.

So, the null hypothesis, that there is no significant association exists between location and challenges faced by the workers, is true.

H: Reduction of the average income of February has no impact on the reduction of the average income of June.

Here, the author used an independent t-test, $t = 277.38$.

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So, the null hypothesis, reduction of average income in February has no impact on the reduction of average income in June, is rejected or not true. So, there is a significant impact of the reduction of the average income in February on the reduction of the average income in June.

H: There is no significant association between the average income in February and the average income in June.

Here, the author used the Pearson r test, $r = -0.090033218$.

So, a negative correlation exists between the average income in February and the average income in June.

H: There is no important alliance between women entrepreneurs' marital status and primary spending area of the informal sector female workers.

Here, the author used the chi-square test.

The chi-square calculated value = 178.024.

Because chi-square calculated value is greater than the table value, the null hypothesis, that there is no remarkable association between marital status and primary spending area of the informal sector female workers, is rejected or not true. So, there is a crucial connection between women entrepreneurs' marital status and primary spending area of the informal sector female workers.

H: There is no significant relationship between the change in food expenditure and demographic attributes of female entrepreneurs.

Here, the author used the chi-square test.

TABLE 43 | Primary spending area vs. marital status of the informal sector women workers.

Marital status	Expenditures									Total
	Food expense (%)	Education of children (%)	Rearing children (%)	Loan repayment (%)	Personal expense (%)	Treatment (%)	Savings (%)	For elderly family members/ siblings (%)	Others (%)	
Unmarried	65	3	0	5	14	2	0	5	8	102
Widowed	71	12	1	7	1	6	1	0	1	100
Divorced	47	19	6	3	9	3	0	3	9	99
Separated	60	13	0	13	0	0	0	7	7	100
Married	55	14	9	6	4	4	2	2	3	99
Not disclosed	100	0	0	0	0	0	0	0	0	100
Total	398	61	16	34	28	15	3	17	28	600

H: There is no significant relationship between the change in food expenditure and the respondents' household (HH) status.

Here, the author used the chi-square test.

H: There is no significant relationship between the change in food expenditure and the location of women entrepreneurs.

Here, the researcher applied chi-square test.

The chi-square calculated value = 0.57.

Because chi-square calculated value is less than the table value, the null hypothesis, that there is no significant relationship between the change in food expenditure and the location of women entrepreneurs, is true.

TABLE 44 | Location-wise expenditure of women entrepreneurs.

Location/type of respondents	Monthly food expenditure (February)	Monthly food expenditure (June)	Change in food expenditure (%)
Overall	2349	2027	−14
Rural	2122	1789	−16
Urban	2465	2148	−13
Respondents is Household (HH) head	2426	2097	−14
Respondent is not HH head	2248	1934	−14

TABLE 45 | Location vs monthly food expenditure.

Location	Monthly food expenditure		Total
	Monthly food expenditure (February)	Monthly food expenditure (June)	
Rural	2122	1789	3911
Urban	2465	2148	4613
Total	4587	3937	8524

H: There is no significant association between the marital status and the type of mental stress.

Here, the author used the chi-square test.

The chi-square calculated value = 55.8806.

Based on the result, the null hypothesis, that there is no significant association between the marital status and the type of mental stress, is rejected. So, there is a significant association between the marital status and the type of mental stress.

H: There is no significant association between the location and the mental stress of women entrepreneurs.

Here, the author used the chi-square test.

The chi-square calculated value = 4.04.

Based on the result, the null hypothesis, that there is no significant association between the location and the mental stress of women entrepreneurs, is true.

H: Potential challenges for women in joining the labor market have no impact on their needs in rural locations.

Here, the author used an independent t-test, $t = -0.94$.

In that case, a negative t-value would not cause rejection of the null hypothesis. So, the null hypothesis, that potential challenges for women in joining the labor market have no impact on their needs in rural locations, is true.

H: Potential challenges for women in joining the labor market have no impact on their needs in urban locations.

Here, the author used an independent t-test, $t = -2.55$.

In that case, a negative t-value would not cause rejection of the null hypothesis. So, the null hypothesis, that potential challenges for women joining the labor market have no impact on their needs in urban locations, is true.

H: There is no significant association between the location and the women informal sector workers' need for joining work.

Here, the author used the chi-square test.

The chi-square calculated value = 5.895.

TABLE 46 | Mental stress of women entrepreneurs by marital status and locations.

Marital status	Type of stress					Total
	Severe/extreme impact (%)	Quite/significant impact (%)	Little impact (%)	Very little impact (%)	No impact (%)	
Unmarried	51	27	10	8	4	100
Widowed	56	40	3	1	0	100
Divorced	57	33	3	3	3	99
Separated	50	21	14	0	14	99
Married	53	34	7	2	4	100
Total	267	155	37	14	25	498

TABLE 47 | Location vs type of stress.

Location	Type of stress					Total
	Severe/extreme impact (%)	Quite/significant impact (%)	Little impact (%)	Very little impact (%)	No impact (%)	
Rural	44	41	8	2	4	99
Urban	58	30	6	2	3	99
Total	102	71	14	4	7	198

TABLE 48 | Basic needs of rural and urban women entrepreneurs.

Location of women entrepreneur	Need of women entrepreneurs								Total
	Work opportunities (%)	Increase in salary (%)	Health safety (%)	Work environment (%)	Social distancing (%)	Other benefits (%)	Transportation facility (%)	Others	
Rural	61	12	42	28	31	10	2	6	192
Urban	74	11	31	19	21	9	1	6	172
Total	135	23	73	47	52	19	3	12	364

So, chi-square calculated value < chi-square table value.

So, the null hypothesis, that there is no significant association between the location and the women informal sector workers' need for joining work, is true.

H: There is no significant association between rural women's needs and their potential challenges.

Here, the author used an independent t-test.

H: There is no significant association between the needs of urban women and their potential challenges.

Here, the author used an independent t-test.

Source: Analysis from the stimulus package circular by the Bangladesh Bank.

H: There is no significant relationship exists between the female entrepreneurs' educational status of SMEF 2009 and BIDS 2017.

Here, the author used regression, $r = 0.34$.

So, a weak positive correlation exists between the educational status SMEF 2009 and BIDS 2017.

H3: Woman entrepreneurship has no relation to family/husband's business.

Here, the author used a regression test, $r = 1$.

So, the business of women perfectly correlated with either the parents' or the husband's business.

Years of experience as women entrepreneurs, 2017:

H: There is no significant association between year-wise business type and business documents.

Here, the researcher applied the chi-square test.

The chi-square calculated value = 15.99.

So, chi-square calculated value > chi-square table value.

So, the null hypothesis, that there is no significant association between year-wise business type and business documents, is rejected or not true. So, there is a

TABLE 49 | Government initiatives for women entrepreneurs.

Package	Priority for women
BDT 20,000/- crore for CMSMEs	5% (BDT 1000 Crore) for women entrepreneurs.
BDT 5000/- crore for export-oriented industries	No special mention for women.
BDT 19,500/- crore refinancing scheme for agriculture sector	Not clearly disclosed for female producers and agri-entrepreneurs.
BDT 760 crore for informal sector	No particular technique or prioritization for female labor-depriving works.
BDT 3000/- crore for professionals, farmers, and marginalized businesses	Preference given to severely poor, poverty-stricken, distressed, oppressed, and deserted women.

TABLE 50 | Education level of women traders.

Educational status (%)	SMEF 2009	BIDS 2017
Below SSC	31.5	24.2
SSC	26.2	29.1
HSC	22.1	20.8
Graduate and above	20.0	27.2
Total	100	100
N	1007	1510

TABLE 51 | Family business history 2017.

Business	Husband	Either parents or husband
Same	121 (8.0)	155 (10.3)
Different	654 (43.3)	825 (54.6)
Total	775 (51.3)	980 (64.9)

significant association between year-wise business type and business documents.

H: Initial capital has no impact on the current capital of SMEF business.

Here the author used an independent t-test.

In terms of SMEF, $t = -0.37$.

In that case, a negative t-value would not cause rejection of the null hypothesis. So, the null hypothesis is accepted. So, the initial capital has no impact on the current capital of the SMEF business is true.

H: Initial capital has no impact on the current capital of BIDS business.

In terms of BIDS, $t = 0.06850$.

If the absolute value of the t-value is greater than the critical value, we reject the null hypothesis. So, the null hypothesis, that initial capital has no impact on the current capital of BIDS business, is rejected or not true.

H: Current investment of SMEF is not related to the current investment of BIDS.

Here, the author used the Pearson r test, $r = 0.36$.

So, the current investment of SMEF is positively related to the current investment of BIDS. There is a weak positive correlation exists between the current investment of SMEF 2009 and BIDS 2017.

H: There is no significant association between the IT document of business and the type of business organization.

Here, the author used the chi-square test.

The chi-square calculated value = 15.99.

So, chi-square calculated value > chi-square table value.

So, the null hypothesis, that there is no significant association exists between the IT document of business and the type of business organization, is rejected or not true.

H: There is no significant association between the types of impediments and the types of business organizations.

Here, the researcher employed r chi-square test.

The chi-square calculated value = 82.15.

So, chi-square calculated value > chi-square table value.

So, the null hypothesis, that there is no significant association between the types of impediments and the types of business organizations, is rejected or not true.

Discussion and analysis

In this research, the author showed that urban women of BD received more opportunities to become entrepreneurs (**Table 1**). Here, the author also found that urban women of BD are more capable of being entrepreneurs (**Table 2**).

In this paper, the author disclosed that urban women face less negative social perception as active entrepreneurs

TABLE 52 | Type of business vs document.

Organization	Business document				Total
	Trade license	Tax identification number (TIN)	Value added tax (VAT) registration	Having showrooms	
SMEF 2009	51.5	10.0	12.0	50.3	123.8
BIDS 2017	98.5	56.4	46.8	77.5	279.2
Total	150	66.4	58.8	127.8	403

TABLE 53 | Source of capital vs type of enterprise.

Sources of capital	SMEF 2009		BIDS 2017	
	Initial	Current	Initial	Current
Own source/fund	87.5	92.4	63.4	56.2
Husband/parents	42.5	33.6	20.0	7.8
Friends/relatives	3.6	3.2	6.4	2.1
Banks	2.2	7.3	4.2	24.9
NGOs	7.0	13.0	4.2	6.2

(Table 3). This paper also found that urban women in BD have more competencies to become entrepreneurs (Table 4). The researcher also expressed that urban women have more aspirations to become tenable entrepreneurs (Table 5).

In this paper, the author also found that rural women of BD have fewer perceived opportunities to become tenable entrepreneurs (Table 6). This paper also showed that rural women have fewer capabilities to become tenable entrepreneurs (Table 7). Here, the author found that rural women face more negative social perceptions to become tenable entrepreneurs (Table 8). In this paper, the author showed that rural women have the same individual competencies as urban women in BD (Table 9). Here, the researcher also showed that rural women have comparatively less aspiration to become tenable entrepreneurs (Table 10).

In this paper, the author found that an important association exists between perceived opportunities and aspiration to become tenable entrepreneurs of urban women of BD (Tables 11, 12).

The research shows that (Tables 13, 14) there is a crucial connection between perceived opportunities and aspiration to become tenable entrepreneurs of urban women in BD. The research found that urban women entrepreneurs get more opportunities, which enables them to become entrepreneurs (Tables 15, 16).

The research shows that there is a crucial connection (Tables 17, 18) between perceived opportunities and aspiration to become tenable entrepreneurs of rural women in BD. The research found that if the rural women in BD get more opportunities, they become more tenable entrepreneurs.

TABLE 54 | Type of enterprise vs amount of investment.

Current investment in BDT	SMEF 2009	BIDS 2017
Up to 5,00,000	12.0	35.2
50,001–1,00,000	31.0	6.7
1,00,001–1,50,000	17.0	2.4
1,50,001–2,00,000	9.0	2.2
Above 2,00,000	31.0	53.6
N	816.0	1510.0

The research found that there is a notable connection between perceived capabilities and aspiration to become tenable entrepreneurs of urban women in BD (Tables 19, 20). In this research, the author found that urban women have more capabilities to become entrepreneurs.

The research showed that there is a notable bonding between perceived capabilities and aspiration to become tenable entrepreneurs of rural women in BD (Table 21, 22). The research found that rural women have fewer capabilities to become tenable entrepreneurs.

The author proved that there is a robust connection between social perceptions and the aspiration to become tenable entrepreneurs of urban women in BD. The research found that positive social perception of urban women tends to make them become successful entrepreneurs (Tables 23, 24).

Here, the author found that (Tables 25, 26) there is a crucial connection between social perceptions and aspiration to become tenable entrepreneurs of rural women in BD. The research found that negative social perception of rural women hinders their aspiration to become successful entrepreneurs.

Here, the researcher also found that there is a significant bonding between individual competencies and aspiration to become tenable entrepreneurs of urban women in BD. The author proved that urban women have many competencies to become successful entrepreneurs (Table 27).

The research showed that there is a crucial connection between individual competencies and endurable entrepreneurial tendency of rural women in BD. The research found that if the individual competencies of the rural women are increased, the inclination of becoming entrepreneur is also increased (Table 28).

The research showed that (Table 29) qualification has a significant impact on the training status of female entrepreneurs of ASA. The research found that educated women have a greater chance of getting training.

The research also found that qualification has a significant impact on the training status of female entrepreneurs of BRBD. The research found that educated women of BRBD are getting more training.

The research found that (Table 30) rural entrepreneurs' mode of sale has a significant impact on the type of

TABLE 55 | Type of organization vs IT documents.

Organization type	IT documents of women entrepreneurs					Total
	Computer	Internet access	Email account	Business website	Business association member	
SMEF 2009	23.0	5	4	1	29.2	62.2
BIDS 2017	33.8	33.8	28.3	10.4	40.8	147.1
Total	56.8	38.8	32.3	11.4	70	209.3

TABLE 56 | Type of organization vs types of impediments.

Type of organization	Types of impediments				Total
	Family members did not like	No family problems encountered	Impediments from society faced	No social problems encountered	
SMEF	53.0	22.4	80.2	19.8	175.4
BIDS	15.8	77.5	40.9	59.1	193.3
Total	68.8	99.9	121.1	78.9	368.7

entrepreneurship. The research found that rural women have only 2% online mode of business, because internet facilities are very low in the rural areas of Bangladesh. Again, the research found that 65% of rural women entrepreneurs used retail sales as a mode of sales. Rural women entrepreneurs have very few showrooms, wholesale, and export businesses. So, the availability of the mode of sale produced such type of rural entrepreneurs in BD.

The research showed that the urban entrepreneur mode of sale has a significant impact on the type of women entrepreneurship. The urban women are 18% online businesswomen, due to the easily available internet. Again, urban women have fewer wholesale and retail businesses in BD. Again, 48% urban women have showrooms/malls. Urban women entrepreneurs have more export facilities than rural women entrepreneurs in BD. So, the mode of sales has a great impact on the type of entrepreneurship in BD.

The research proved that the female workforce has a significant impact on the total workforce of BD. The research found that female entrepreneurs hold a major portion of the total entrepreneurs in BD. And the percentage of the female workforce is increasing year by year. In Bangladesh female workforce is actively engaged with proprietorship, unpaid family workers, full-time workers, part-time workers, and casual workers (Table 31).

The research found that (Table 32) the share of women entrepreneurs has no impact on the percentage of CMSMEs respondents in BD. The researcher found that women entrepreneurs of BD are independent from CMSME percentage of BD. Owners of women entrepreneurs in the sectors of retail shops, jute products, and handicrafts are much larger than CMSME respondents of BD.

The research found that the qualification of ASA women entrepreneurs has no impact on the business category-wise percentage of female employees. Here, the author proved that the qualification of women entrepreneurs of BD not influence their business category-wise percentage (Table 33).

This research showed that (Table 34) the qualification of BRBD women entrepreneurs has no impact on the business category-wise percentage of female entrepreneurs. So, women with different levels of education can occupy different categories of businesses in BD.

This research showed that there is a crucial connection between educational qualification and the type of business of women entrepreneurs. This research found that women in BD whose education level is below HSC are mostly occupied in cottage and micro entrepreneurship. This research also found that women whose education level is above HSC are mostly occupied in SMEs.

The research showed that there is an important connection between the location of women entrepreneurs and the mode of sales. The research found that the mode of sales is

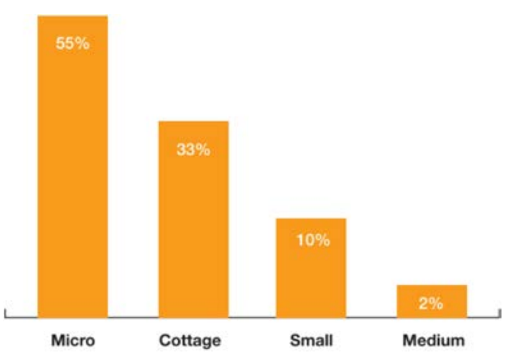

FIGURE 1 | Category-wise survey of percentage of CMSMEs.

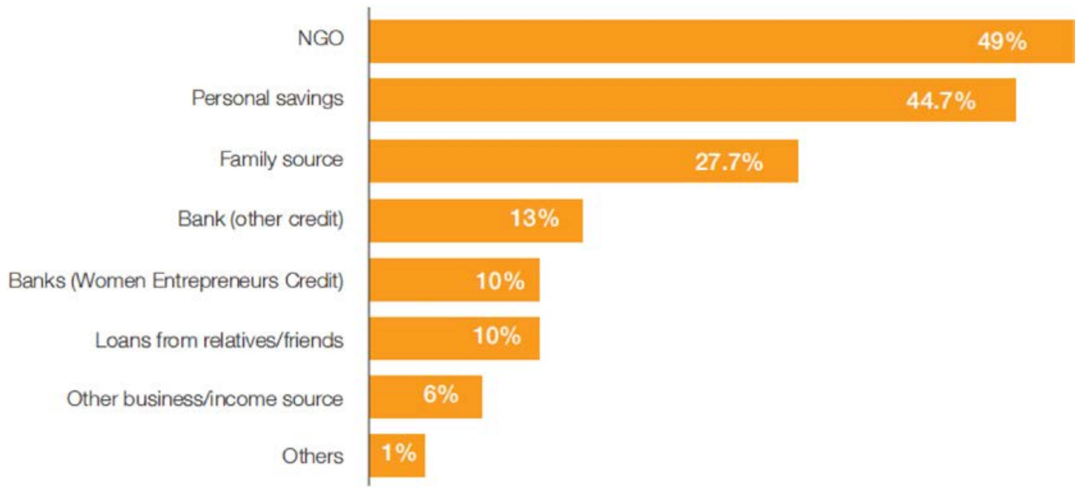

FIGURE 2 | Sources of investment of women-run CMSMEs.

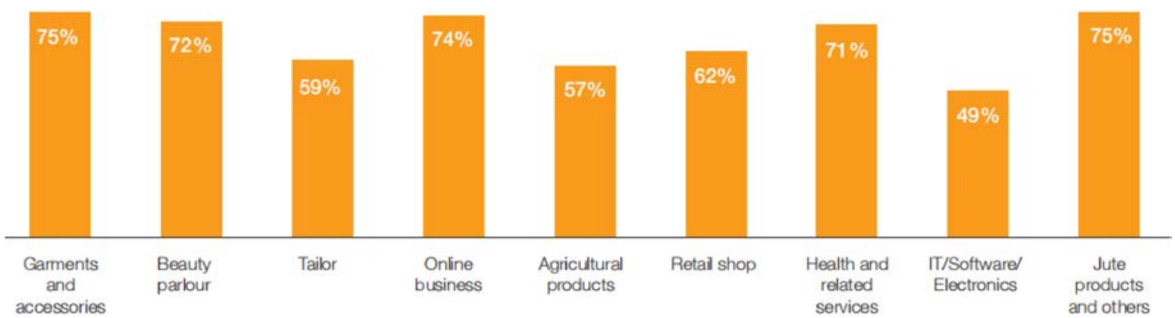

FIGURE 3 | Subsector-wise reduction in income of women entrepreneurs.

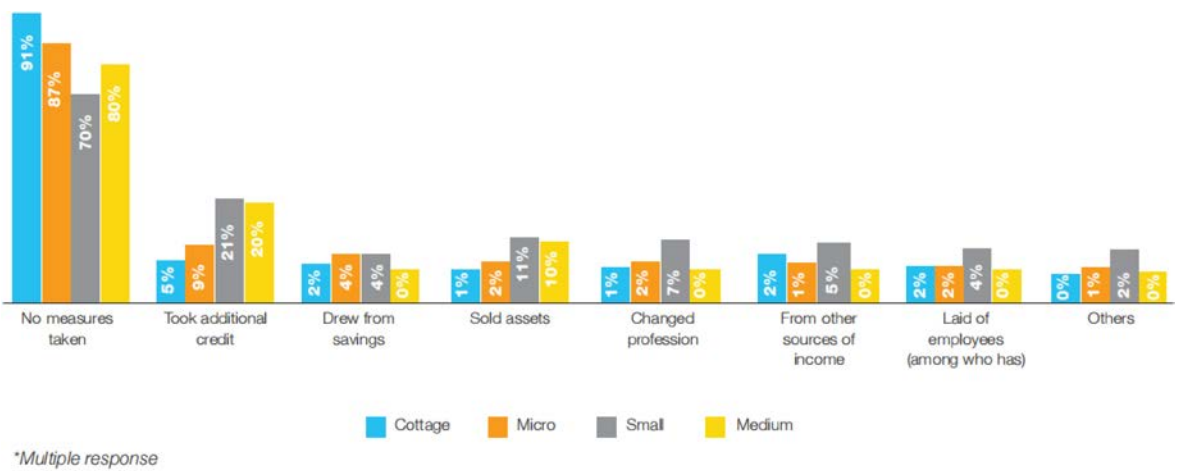

FIGURE 4 | Potential measures taken by women entrepreneurs.

strongly influenced by the location of women entrepreneurs of BD (**Table 35**).

The research showed that (**Table 36**) there is a robust link between the type of investment sources and the category of women in businesses in BD. This research found that different investment sources influenced the category of women's business. This research found that different NGOs are the main investment source of cottage, micro, and SME of BD. Banks are another major investment sources of women entrepreneurs in BD.

This research disclosed that there is a crucial connection between educational qualification and knowledge of the stimulus package. The research found that women entrepreneurs who have higher educational qualifications know about the stimulus package of entrepreneurship. Again, the illiterate and low-educated women do

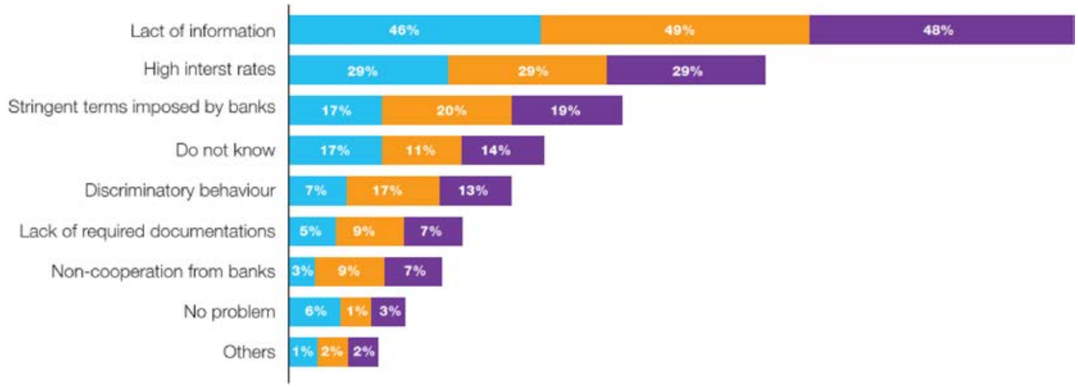

FIGURE 5 | Challenges of the women entrepreneurs.

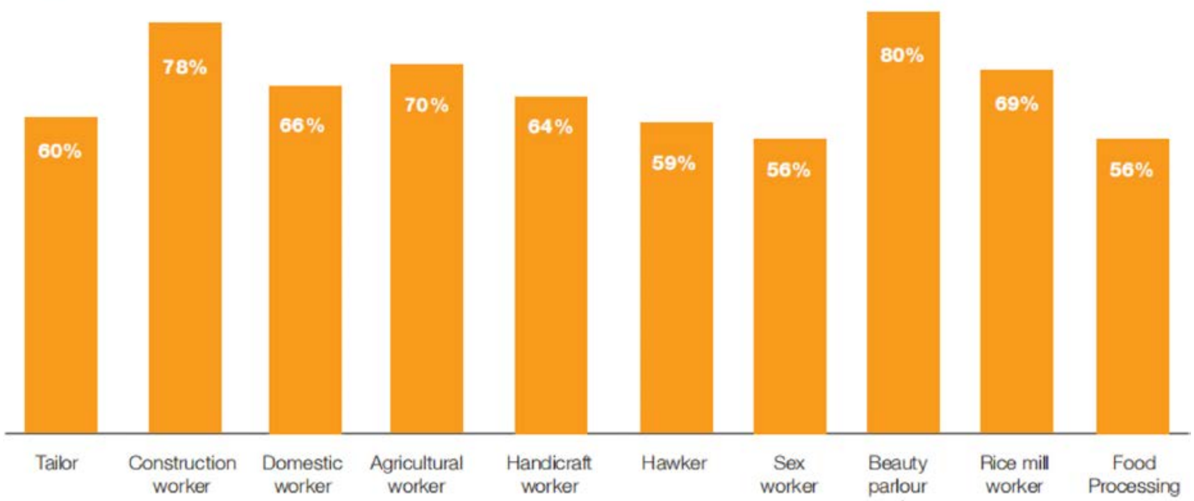

FIGURE 6 | Reduction of income of women workers.

not know about the stimulus package for women businesses (Table 38).

The research found that there is a robust connection between educational qualification and holding a trade license among women entrepreneurs in BD. The research disclosed that educated women entrepreneurs are holding a valid trade license, while illiterate and lower educated women are not holding a valid trade license in BD (Table 39).

The research found that there is a pivotal link between the type of CMSMEs and potential investment sources in BD. The research found that there is no important connection between location and challenges faced by the workers in BD. The research proved that rural and urban women entrepreneurs faced the same challenges in BD (Table 40).

The research found that there is a notable reduction of the average income in February as against reduction of average income in June of women entrepreneurs in BD (Table 37). This research found that in this year the average income of women entrepreneurs decreased from February to June. The income reduction in June is severely influenced by the income reduction in June.

The research also shows that (Table 37) there is a negative correlation between average income in February and average income in June.

This research showed that there is a crucial connection between women entrepreneurs' marital status and primary spending area of the informal sector female workers in BD. Research found that the food expenditure is highest for unmarried and widowed women entrepreneurs of BD. This research disclosed that only widowed and married women save their income for future investment (Table 43).

This research showed that (Table 44) there is no important association between the change in food expenditure and the location of women entrepreneurs. So, rural and urban women entrepreneurs' food expenditure is the same.

This research showed that there is a remarkable connection between marital status and the type of mental stress experienced by women entrepreneurs in BD. This research found that divorced and widowed women mostly faced

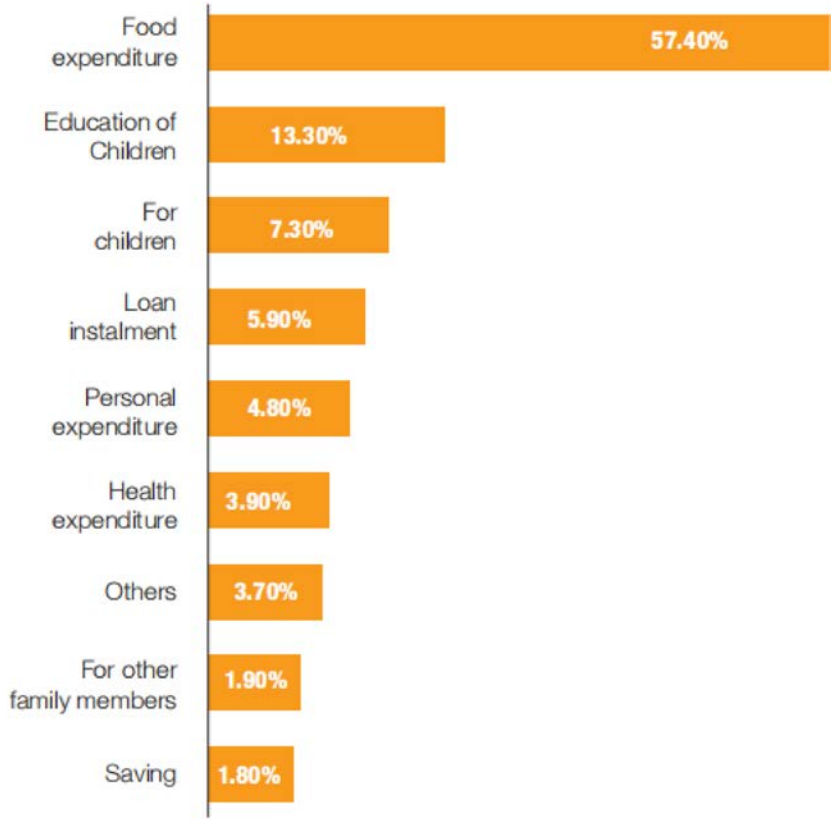

FIGURE 7 | Spending sector of women entrepreneurs.

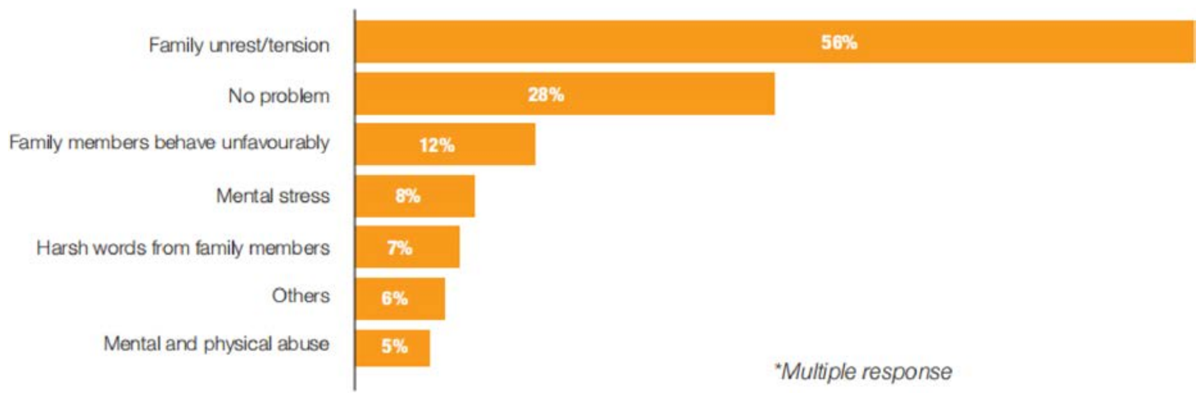

FIGURE 8 | Immediate impact of reduction of income in families of women informal sector workers.

severe/extreme type of mental/physical stress in our society (**Table 46**).

The research found that there is no important connection between the location and the mental stress of women entrepreneurs. This research disclosed that the types of stress faced by rural and urban women entrepreneurs are the same. The research found that both rural and urban women entrepreneurs faced severe/extreme impact of stress mostly (**Table 47**).

This research disclosed that (**Table 48**) possible challenges to females in BD to start entrepreneurship have no impact on their needs in rural locations. So, the needs of rural women cannot hinder the potential challenges for women in joining the labor market.

This research also found that (**Table 48**) the probable challenges for females in BD to enter entrepreneurship have no impact on their needs in urban locations, which indicates that the needs of urban women cannot influence the potential challenges for women in joining the labor market.

In **Table 41**, the author analysis the Location-wise challenges faced by the women workers of Bangladesh. This research proves that there is no significant association between the location and the women informal sector workers' needs for joining work in BD. So, rural and urban women

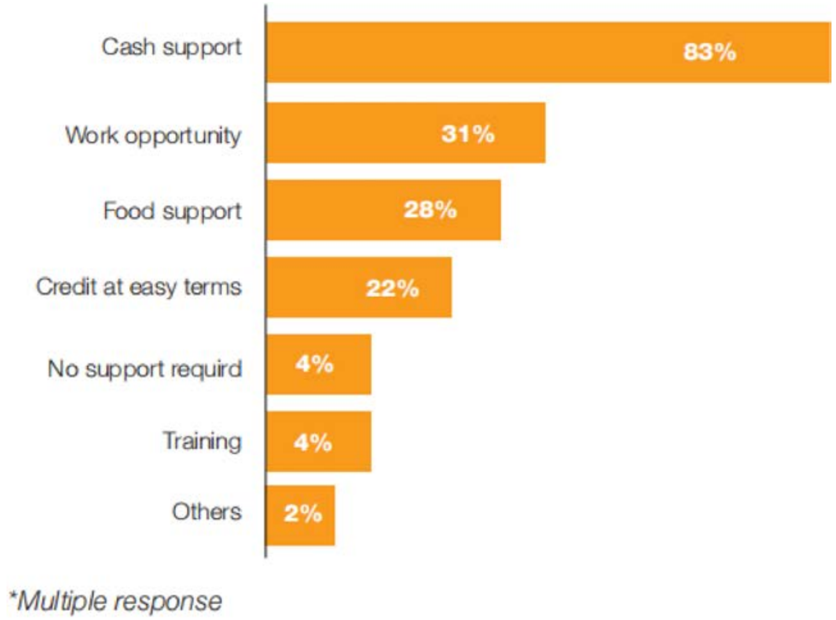

FIGURE 9 | Support needed for the women informal sector workers to survive.

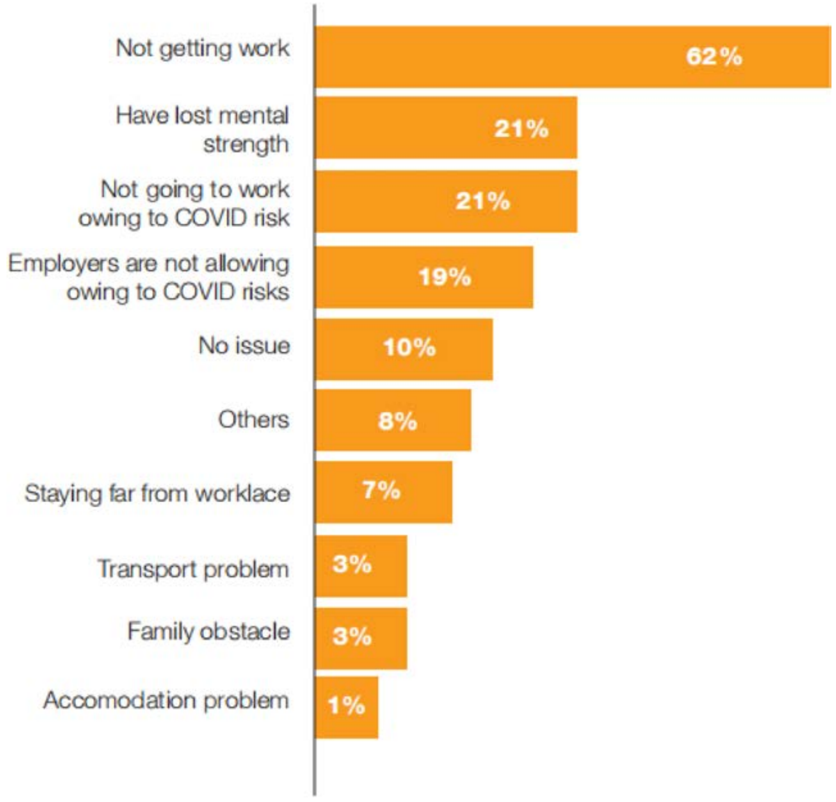

FIGURE 10 | Potential challenges for women in joining the labor market.

have the same type of needs in their entrepreneurial journey. This research found that the main need of all rural and urban women is work opportunities. Again, rural women have more health safety issues than urban women (Table 49). In Table 42, the author analysis the reduction of income of the women entrepreneurs of Bangladesh.

This research showed that there is a weak positive correlation between the educational statuses of SMEF 2009 and BIDS 2017, which indicates that the educational status of women entrepreneurs in BD has not improved very much (Table 50).

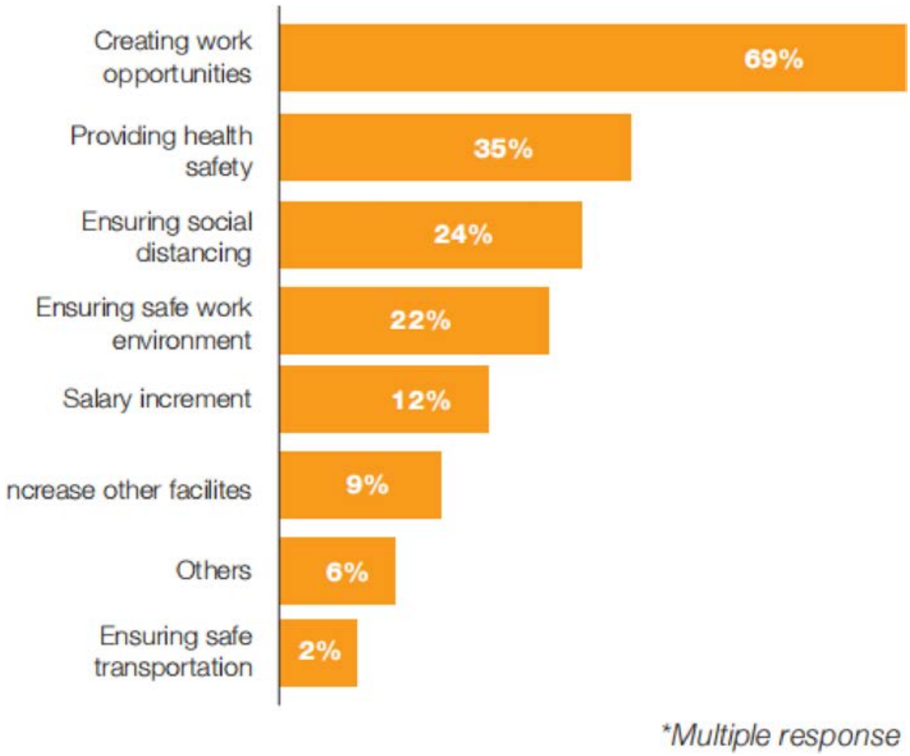

FIGURE 11 | Basic needs of rural and urban women entrepreneurs.

This research found that the husband's business perfectly correlated with either the parents' or the husband's businesses in BD women entrepreneurs. This research found that most of the women entrepreneurs have different businesses from their husbands and parents (**Table 51**).

The research showed that (**Table 52**) there is a notable connection between year-wise business type and business documents, which indicates that different women business organizations have the same type of business documents. In BD, all types of women businesses need the same documents such as trade license, tax identification number (TIN), value added tax (VAT) Registration, showrooms, and the like.

The research proved that initial capital has no impact on the current capital of SMEF businesses in BD, which indicates that the maximum number of women entrepreneurs in BD started their SMEF business with a small initial capital, but their current capital varies from their initial capital. It also refers that the initial or primary capital does not affect the current capital of women entrepreneurs. The research found that if the women entrepreneurs started their business from their own source/fund and bank, then their current capital is very high from their initial capital, which indicates that women entrepreneurs performed well. The research also disclosed that if the source of initial capital is husband/parents' money or friend/relatives' funds, then the current capital is decreased from the initial capital, and the women entrepreneurs make a loss.

In **Table 45**, the author analysis the Location vs. monthly food expenditure of women entrepreneurs of Bangladesh. This research also found that initial capital has an impact on current capital of BIDS business, so in terms of BIDS business, the initial capital has a significant impact on the current capital (**Table 54**).

This research found that the current investments of SMEF are positively related to the current investments of BIDS. There is a weak positive correlation between the current investment of SMEF 2009 and BIDS 2017. So, if the initial capital increases, the current capital of women entrepreneurs also increases (**Table 54**).

The research found that there is a significant association between the IT document of business and the type of business organizations in BD, which indicates that different businesses under BIDS and SMEF need the same IT documents. So, all types of businesses, including cottage, micro, agriculture, handicrafts, retail, wholesale, and jute products, need similar

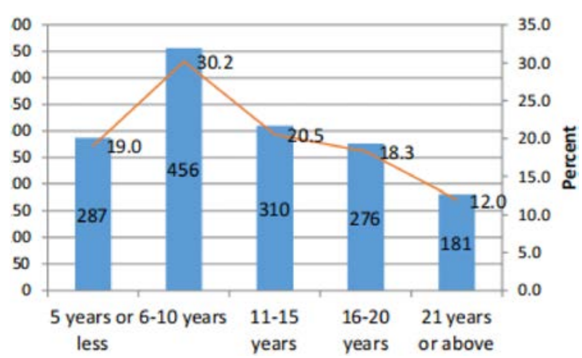

FIGURE 12 | Year-wise source of capital.

IT documents, such as a computer, internet access, an email account, a business website, and membership in a business association (**Table 55**).

Additionally, this research found that there is a significant association between the types of impediments faced and the types of business organizations run by women in BD. SMEF businesses encounter more impediments from both family and society, whereas BIDS business organizations face fewer family and social problems (**Table 56**).

In **Table 53**, the author analysis the source of capital vs. type of women enterprise of Bangladesh. Here, the researche also describes (**Figure 1**) the percentage of CMSMESs categorized by type. This figure shows that 55% of women entrepreneurs are engaged in micro industries, 33% in cottage industries, 10% in small businesses, and only 2% in medium-sized enterprises.

In **Figure 2**, the author describes the sources of investment for women-run CMSMEs. Here, the author found that 49% of women rely on NGOs as their primary source of investment. Additionally, 44.7% of women entrepreneurs use personal savings for their businesses, while 27.7% receive income from family. Sources such as banks and other credit options account for 13% of their investments, and. 10% of female entrepreneurs also rely on bank funding. Furthermore, 6% of women invested their income into other businesses.

The author also describes the subsector-wise reduction in income among women entrepreneurs in **Figure 3**. This figure indicates that income in the garment accessories sector has decreased by 75%. Beauty parlor owners experienced a 72% drop in income, while tailors' income has reduced by 59%. Other sectors, including agricultural products, retail shops, online businesses, health-related services, and IT, have also seen more income reductions.

In **Figure 4**, the author graphically represents potential measures taken by women entrepreneurs.

Conversely, the challenges faced by women entrepreneurs are also illustrated in **Figure 5**. About 48% women cite a lack of proper information as a major challenge. Additionally, 29% women expressed that high interest rates pose another barrier to becoming sustainable entrepreneurs. Furthermore, 19% noted that stringent terms imposed by banks hinder business operations. Other challenges faced by women entrepreneurs in BD include discriminatory behavior (13%) and a lack of required documentation (7%).

Figure 6 visually explains the reduction in income among women workers. According to this figure, the income of tailors has decreased by 60%, while construction workers have experienced a 78% reduction. Agricultural workers' income has dropped by 70%, followed by decreases in income for those in handicrafts, hawking, food processing, and other areas.

Finally, **Figure 7** graphically depicts the spending sectors of women entrepreneurs in BD. This graph shows that food expenditure constitutes the largest portion of expenses for female entrepreneurs, accounting for approximately 57.40%. Additionally, women entrepreneurs allocate 7.30% of their income to their children's expenses. Other expenditure categories include health expenditure, personal expenditure, savings, and so on.

The author analyzes the immediate impact of income reduction on families of women informal sector workers through **Figure 8**. This figure shows that family tension is the most significant consequence of income reduction, affecting about 56% of families. Other impacts include mental stress, unfavorable attitudes from family members, and instances of mental and physical abuse, including harsh words directed at family members.

In **Figure 9**, the author explains the support needed for women informal sector workers to survive. This figure indicates that 83% women entrepreneurs require cash assistance. Additionally, other needs include work opportunities (31%), food support (28%), and training (4%).

Figure 10 describes the potential challenges women face when joining the labor market. Almost 12% of women report facing no work-related challenges, while 3% encounter family obstacles, 1% deal with accommodation problems, and another 3% face transportation issues.

Figure 11 outlines the basic needs of rural and urban women entrepreneurs in BD. It reveals that 69% of women need work opportunities, 35% require health and safety, 24% emphasize the importance of ensuring social distancing in the workplace, and 22% seek a safe work environment. Additionally, 2% desire a safe transportation system.

The author analyzes the year-wise capital needs of women entrepreneurs in BD through **Figure 12**. This figure shows that 19% of women entrepreneurs need capital for 5 years, 30.2% require capital for 6–10 years, 20.5% need 11–15 years, and 12% need 21 or above years of capital.

Conclusion

Women's entrepreneurship plays a very significant role in the economic upliftment of BD. Both rural and urban women entrepreneurs contribute by creating jobs, generating income, and increasing the tax base. While the growth of women entrepreneurship faces several challenges, numerous opportunities also exist. With the support of the government and other organizations through financial collaboration, training and instruction, guidance, and the removal of legal and documentation obstacles, women entrepreneurs in BD can become more successful. This support will help combat gender discrimination and empower women.

In rural BD villages, women have the potential to foster an entrepreneurial culture in an underdeveloped area. These rural women contribute to our economy through self-employment and by creating business opportunities for other underprivileged women. This research highlights the pivotal characteristics and perceptive attributes of both village and urban female entrepreneurs in BD.

This research disclosed the unique and intellectual factors, together with moneymaking and non-economic inspiration, risk-taking reliance, capabilities, competence, decision-making ability, and creativity of rural and urban women in BD, that influence the intention of rural and urban women to become sustainable entrepreneurs. These factors enhance their determination to access the business world and effectively operate their enterprises. The research outcomes indicate that challenges such as the mode of sale, credit systems, educational status, inadequate facilities, technical problems, and promotional complexities affect urban and rural women in the micro, small, and medium sectors. As a consequence, women entrepreneurs face greater vulnerabilities compared to their male counterparts. Finally, these hurdles detrimentally influence women entrepreneurs. especially those in rural areas, hindering their ability to operate successfully. The evaluative outcomes of this research may also apply to other sectors such as RMG, textile, and tannery industries in BD and other countries.

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Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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