

Challenges of Women Entrepreneurship in F-Commerce: A Study on Rangpur Region

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ABSTRACT

F-Commerce, a blend of Facebook and commerce, refers to marketing and selling products or services via Facebook. Due to the platform's widespread popularity, it has rapidly influenced online shopping trends. Women, comprising nearly half the population, are actively engaging in F-Commerce, benefiting from the convenience of browsing and purchasing products from home. This study aims to identify the challenges faced by women entrepreneurs in F-Commerce in Rangpur. Specific objectives include examining demographic characteristics, assessing entrepreneurship challenges, and understanding the extent to which women adopt F-Commerce as an occupation. Using a descriptive and exploratory survey, structured and semi-structured questionnaires were administered to 300 women entrepreneurs from Rangpur and Dinajpur. Both probability and non-probability sampling methods were used, and data were analyzed using Microsoft Word, Excel, and SPSS 20.0. Findings reveal significant challenges for women in F-Commerce, including financial constraints (93.7%), difficulties obtaining business permissions (89.4%), societal stigma against Facebook commerce (95%), poor network access in remote areas (100%), emotional distress from online harassment (90.7%), and inappropriate messages on business pages (97%). Additionally, many women lack business education or training (96.9%) and face obstacles in acquiring trading licenses (88.3%). Such issues discourage women from continuing their businesses, with 92.7% citing Facebook-related difficulties as a reason for withdrawal. Statistical analyses confirmed the reliability of findings, with Cronbach's alpha at 0.701 and a Kaiser-Meyer-Olkin (KMO) measure of 0.708. Multiple regression analysis showed that 40.1% of variations in felt stress were explained by the identified challenges ($R^2 = .826$, $F(33, 266) = 38.301$, $p < .0001$). Addressing these challenges through proper training, financial support, and policy interventions can enhance women's participation in F-Commerce.

Keywords: f-commerce, business, Facebook, women entrepreneurship.

INTRODUCTION

Bangladesh's online business is booming, with "online shopping" ranking as the fourth most searched term. With over 28 million Facebook users, small-scale merchants use various strategies to increase their reach. Women entrepreneurs are leading the F-commerce (Facebook commerce) market, running 50% of Facebook stores, valued at Tk 312 crore. This platform helps women balance work and personal life while connecting with customers globally. However, trust issues often hinder business growth, discouraging investment in F-commerce. Additionally, network problems, especially in Rangpur, create challenges for women entrepreneurs. Despite these obstacles, Facebook-commerce continues to gain popularity, empowering women to overcome poverty and societal inequalities.

Related Works

Entrepreneurship has been defined in various ways. Schumpeter (1934) [18] describes it as any innovative function affecting an entrepreneur's well-being. However, modern entrepreneurship aims to transform the world by addressing major issues, such as societal change or disruptive innovation (Ferreira, 2021) [8].

Women constitute nearly half of Bangladesh's population, yet many remain disadvantaged, malnourished, and illiterate. In 2010, Bangladesh's labor force included over 16 million women, but job opportunities were scarce. As a result, self-employment has become essential for women. While female entrepreneurship is growing, their presence in business remains limited. Before 1985, Bangladesh had very few female entrepreneurs (Begum, 1993) [4]. The concept of women's empowerment emerged in the 1980s, encompassing self-reliance, personal choice, and decision-making power. However, women entrepreneurs still face unique challenges (Hatcher et al., 2007) [9]. In developing countries, barriers to economic participation are greater than in developed nations (Allen et al., 2008) [3]. Challenges include limited skills, training, access to finance, social networks, and industry options (Akanji, 2006) [2]. Access to capital remains a major hurdle for women (Buttner & Rosen, 1992) [6]. Women often face higher borrowing rates, stricter collateral requirements, and the need for a spouse's co-signature (Riding & Swift, 1990) [15]. In North America (1994-95), women launched 40% of businesses but received only 3-4% of venture capital (Strauss, 2000) [19].

F-Commerce, a fusion of "Facebook" and "e-commerce," is a business model that enables marketers to sell products or services through Facebook (Ente, 2011) [7]. It offers a convenient, integrated online shopping experience, making Facebook a key platform for digital marketing (Vertical, 2010) [23]. With its vast user base, Facebook has become a vital tool for maximizing financial returns (Mike, 2013) [13]. Sellers must understand various types of F-Commerce, collectively called the "F-Commerce Ecosphere" (Marsden, 2011) [12]. Social media has played a crucial role in shaping online commerce. The first social networking site, SixDegrees.com, was launched in 1997, followed by platforms like Friendster, LinkedIn, Hi5, Twitter, and Facebook, all of which rapidly gained popularity (Boyd & Ellison, 2008) [5]. Recognizing businesses' need for direct client interaction, Facebook opened its registration for groups, leading to over 4,000 signups within two weeks (Stampoulaki, 2012) [17]. It further provided businesses with promotional tools and pages to engage with customers. This allowed firms to create brand communities, strengthening their advertising efforts (Kaplan, 2010) [11].

F-Commerce has significantly impacted consumer behavior. Global statistics indicate it enhances consumer conversion (51%), customer loyalty (28%), and advocacy (41%) (Facebook FAQ, 2011) [16]. Bangladeshi marketers have also embraced F-Commerce. By 2013, around 130 online stores operated primarily on Facebook, selling products ranging from fashion and photography to books, electronics, and food. These businesses use a click-and-order system, accepting payments online or offline and delivering through couriers or personal selling (Tira, 2011) [20]. With its rising popularity, Facebook is evolving into a broader marketplace. Unlike traditional business models that attract customers to stores, F-Commerce places businesses directly in front of customers (Two, 2011) [21]. Leading global brands utilize F-Commerce for branding, promotions, customer relationship management, and distribution (Vendor Shop, 2011) [22]. Women's participation in entrepreneurship, particularly in F-Commerce, is an area of growing interest. Before 1985, female entrepreneurship in Bangladesh was minimal (Begum, 1993) [4]. A 2003 study found only 3,000 female entrepreneurs in the country, comprising just 2% of all entrepreneurs, despite women making up nearly half of the population (Ahmed, 2003) [1]. However, these studies primarily focused on the number of female entrepreneurs rather than the challenges they face. While research exists on barriers to women in traditional businesses, studies on women's challenges in F-Commerce remain scarce. Prior research has highlighted the benefits of e-commerce but overlooked its drawbacks. This study aims to explore the specific challenges faced by women in F-Commerce, shedding light on the obstacles they encounter in this growing sector.

The statement of the problem

This study explores the rise of F-Commerce as a key business platform, especially for women entrepreneurs. It examines societal barriers, entry challenges, and necessary support. The research aims to identify obstacles and

impacts of F-Commerce on women's entrepreneurship, offering insights to address these challenges effectively.

Objective of the Study

The main objective of this study is to find out the challenges of f-commerce in women entrepreneurship in Rangpur. Some other specific objectives are as follows-

- To know the demographic characteristics of women entrepreneurs.
- To examine the challenges of women entrepreneurship
- To find out how much women take f-commerce/business as an occupation

Conceptual Framework

Women entrepreneurs face unique challenges, especially in developing countries, where barriers to formal economic involvement are higher (Hatcher et al., 2007; Allen et al., 2008) [3&9]. Key obstacles include lack of training, funding, social networks, industry options, and managerial experience (Akanji, 2006) [2]. This study examines seven key challenges in F-commerce, analyzing frequency, content, timing, business type, investment, and overall entrepreneurial barriers.



Figure-1: Conceptual Framework for Challenges of Women Entrepreneurship in F-commerce

METHODOLOGY OF THE STUDY

This study employs a descriptive and exploratory sample survey using structured and semi-structured questionnaires. It covers demographics, socioeconomic factors, and e-commerce obstacles. Rangpur and Dinajpur were selected due to time and funding constraints. A total of 300 women entrepreneurs on Facebook participated. Both probability and non-probability sampling techniques were used. Data were analyzed using Microsoft Word, Excel, and SPSS 20.0.

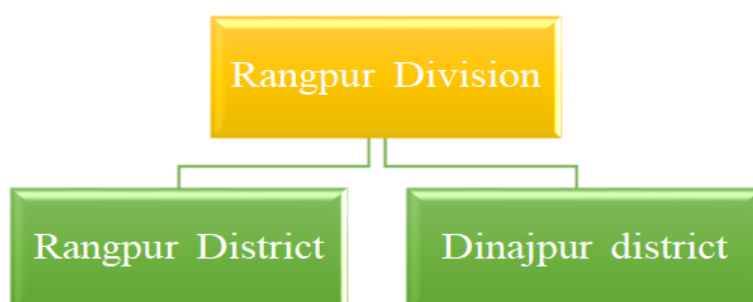


Figure2: Sampling procedure

RESULTS & DISCUSSION

Demographic Statistics of Respondents

Table-1: Descriptive Statistics of Respondents

Variable	Minimum	Maximum	Mean	Std. Deviation
Age	22	45	26.98	5.611
Number of friends in social media	450	5000	2393.11	1218.692
Starting time of Business	1	7	2.16	1.407
Starting time of F-Commerce	1	3	1.83	.816
Spending time in a day at Business	1	10	5.52	1.915
Primary Investment Amount	2000	45000	9708.67	10988.906

Table-2: Descriptive frequency of Respondents

Demographic information	Characteristics	Frequency	Percentage
Types of Business	Bootics	57	19.0
	Food Related	29	9.7
	Garments	115	38.3
	Handicraft	63	21.0
	Parlor	36	12.0
F-Commerce is only Occupation	No	224	74.7
	Yes	76	25.3
Other Occupation besides Business	Banker	4	1.3
	Business is only occupation	67	22.3
	Corporate Job	25	8.3
Source of Fund	Bank Loan	13	4.3
	Husband's Savings	30	10.0
	Own Savings	153	51.0
	Parent's Savings	77	25.7
	Siblings Money	27	9.0

Table 1 & 2 shows that the maximum age of respondents are 45 years and minimum are 22years and the mean deviation is 26.98. Respondent's minimum number of social media friends list is 450, maximum is 5000, mean deviation is 2393.11 and Std. Deviation is 1218.692. 19% women are involved in Bootics business, 9.7% women are involved in Food Related business, 38.3% women are involved in Garments business, 21% women are involved in Handicraft business, 12% women are involved in Parlor business. 74.7% women said that F-commerce is not their only occupation and their frequency is 224, 25.3% women said that F-commerce is their only occupation and their frequency is 76 and total frequency is 300. Respondent's minimum Primary Investment Amount is 2000 BDT, maximum is 45000BDT, mean deviation is 9708.67and Std. Deviation is 10988.906. 4.3% respondents' source of fund is Bank Loan, 10% respondents' source of fund is Husband's Savings, 51% respondents' source of fund is Own Savings, 25.7% respondents' source of fund is Parent's Savings, 9% respondents' source of fund is Siblings Money. Then the researcher tried to find out the challenges of women entrepreneurship in F-Commerce. For this the researcher set some questions in the questionnaire.

Five Challenges of Business and F-commerce

Table-3: Frequency of Economical Challenges

Economic Challenges	Characteristics	Frequency	Percentage
Having Problem to get money to start a business (EC1)	Agreed	205	68.3
	Disagreed	41	13.7
	Pendulous	3	1.0
	Totally Agreed	47	15.7
	Totally Disagreed	4	1.3
Having not enough money to start a business (EC2)	Agreed	215	71.7
	Disagreed	12	4.0
	Pendulous	4	1.3
	Totally Agreed	66	22.0
	Totally Disagreed	3	1.0
Family reluctant to fund through Facebook because they have no faith in business (EC3)	Agreed	33	11.0
	Disagreed	156	52.0
	Pendulous	72	24.0
	Totally Agreed	34	11.3
	Totally Disagreed	5	1.7
Problem to get Loan (EC4)	Agreed	64	21.3
	Disagreed	96	32.0
	Pendulous	92	30.7
	Totally Agreed	33	11.0
	Totally Disagreed	15	5.0

Table-3 shows that 68.3% women are agreed that having problem to get money to start a business, 13.7% are disagreed, 1.0% women's decision is pendulous, 15.7% women are totally agreed, 1.3% women are totally disagreed with this statement. 71.7% women are agreed that having not enough money to start a business, 4.0% are disagreed, 1.3% women's decision is pendulous, 22.0% women are totally agreed, 1.0% women are totally disagreed with this statement. 11.0% women are agreed that family reluctant to fund through Facebook because they have no faith in business, 52.0% are disagreed, 24.0% women's decision is pendulous, 11.3% women are totally agreed, 1.7% women are totally disagreed with this statement.

21.3% women are agreed that Problem to get Loan, 32.0% are disagreed, 30% women's decision is pendulous, 11.0% women are totally agreed, 5.0% women are totally disagreed with this statement.

Table-4: Frequency of Family Related Challenges

Family Related Challenges	Characteristics	Frequency	Percentage
Problem to get permission to start business (FRC1)	Agreed	239	79.7
	Disagreed	11	3.7
	Pendulous	10	3.3
	Totally Agreed	29	9.7
	Totally Disagreed	11	3.7
Kids making problem to spend time in business (FRC2)	Agreed	45	15.0
	Disagreed	101	33.7
	Pendulous	68	22.7
	Totally Agreed	32	10.7
	Totally Disagreed	54	18.0
Household chores have negative impact on business (FRC3)	Agreed	210	70.0
	Disagreed	24	8.0
	Pendulous	10	3.3
	Totally Agreed	28	9.3
	Totally Disagreed	28	9.3

Family haven't faith in F-Commerce (FRC4)	Agreed	101	33.7
	Disagreed	37	12.3
	Pendulous	67	22.3
	Totally Agreed	92	30.7
	Totally Disagreed	3	1.0

Table-4 depicts that 79.7% women are agreed that Problem to get permission to start business, 3.7% are disagreed, 3.3% women's decision is pendulous, 9.7% women are totally agreed, 3.7% women are totally disagreed with this statement. 15.0% women are agreed that Kids making problem to spend time in business, 33.7% are disagreed, 22.7% women's decision is pendulous, 10.7% women are totally agreed, 18.0% women are totally disagreed with this statement. 70.0% women are agreed Household chores have negative impact on business, 8.0% are disagreed, 3.3% women's decision is pendulous, 9.3% women are totally agreed, 9.3% women are totally disagreed with this statement. 33.7% women are agreed that Family haven't faith in F-Commerce, 12.3% are disagreed, 22.3% women's decision is pendulous, 30.7% women are totally agreed, 1.0% women are totally disagreed with this statement.

Table-5: Frequency of Social Challenges

Social Challenges	Characteristics	Frequency	Percentage
Patriarchal society don't want women to be self-reliant (SC1)	Agreed	139	46.3
	Disagreed	129	43.0
	Pendulous	6	2.0
	Totally Agreed	12	4.0
	Totally Disagreed	14	4.7
Women come less into business (SC2)	Agreed	198	66.0
	Disagreed	16	5.3
	Pendulous	8	2.7
	Totally Agreed	72	24.0
	Totally Disagreed	6	2.0
Society can't accept the using Facebook by women (SC3)	Agreed	118	39.3
	Disagreed	44	14.7
	Pendulous	12	4.0
	Totally Agreed	22	7.3
	Totally Disagreed	104	34.7
Many of the society think that Facebook ruins the society (SC4)	Agreed	213	71.0
	Disagreed	5	1.7
	Pendulous	5	1.7
	Totally Agreed	72	24.0
	Totally Disagreed	5	1.7
Society thinks that business is bad for women (SC5)	Agreed	173	57.7
	Disagreed	5	1.7
	Pendulous	6	2.0
	Totally Agreed	108	36.0
	Totally Disagreed	8	2.7
Sometimes obstacle come because of religious (SC6)	Agreed	175	58.3
	Disagreed	41	13.7
	Pendulous	25	8.3
	Totally Agreed	54	18.0
	Totally Disagreed	5	1.7

Table-5 illustrates that 46.3% women are agreed that Patriarchal society don't want women to be self-reliant, 43.0% are disagreed, 2.0% women's decision is pendulous, 4.0% women are totally agreed, 4.7% women are totally disagreed with this statement. 66.0% women are agreed Women come less into business, 5.3% are disagreed, 2.7% women's decision is pendulous, 24.0% women are totally agreed, 2.0% women are totally

disagreed with this statement. 39.3% women are agreed that Society can't accept the using Facebook by women, 14.7% are disagreed, 4.0% women's decision is pendulous, 7.3% women are totally agreed, 34.7% women are totally disagreed with this statement. 71.0% women are agreed that Many of the society think that Facebook ruins the society, 1.7% are disagreed, 1.7% women's decision is pendulous, 24.0% women are totally agreed, 1.7% women are totally disagreed with this statement. 57.7% women are agreed that Society thinks that business is bad for women, 1.7% are disagreed, 2.0% women's decision is pendulous, 36.0% women are totally agreed, 2.7% women are totally disagreed with this statement. 58.3% women are agreed that Sometimes obstacle come because of religious, 13.7% are disagreed, 8.3% women's decision is pendulous, 18.0% women are totally agreed, 1.7% women are totally disagreed with this statement.

Table-6: Frequency of Training, Education and technical Challenges

Training, Education and technical Challenges	Characteristics	Frequency	Percentage
Women are lagging in business due to lack of adequate education and knowledge in business (TETC1)	Agreed	146	48.7
	Disagreed	8	2.7
	Pendulous	15	5.0
	Totally Agreed	117	39.0
	Totally Disagreed	14	4.7
Women don't get business related adequate education or training (TETC2)	Agreed	145	48.3
	Disagreed	10	3.3
	Pendulous	0	0
	Totally Agreed	145	48.3
	Totally Disagreed	0	0
Lacking of knowledge about online women are lagging in F-commerce (TETC3)	Agreed	82	27.3
	Disagreed	124	41.3
	Pendulous	4	1.3
	Totally Agreed	62	20.7
	Totally Disagreed	28	9.3
Women in remote areas can't join F-commerce due to poor network issues (TETC4)	Agreed	98	32.7
	Disagreed	0	0
	Pendulous	0	0
	Totally Agreed	202	67.3
	Totally Disagreed	0	0
For bad comments women losing their interest in F-commerce (TETC5)	Agreed	93	31.0
	Disagreed	0	0
	Pendulous	0	0
	Totally Agreed	207	69.0
	Totally Disagreed	0	0

Table-6 provides that 48.7% women are agreed that Women are lagging in business due to lack of adequate education and knowledge in business, 2.7% are disagreed, 5.0% women's decision is pendulous, 39.0% women are totally agreed, 4.7% women are totally disagreed with this statement.

48.3% women are agreed that Women don't get business related adequate education or training, 3.3% are disagreed, 48.3% women are totally agreed with this statement. 27.3% women are agreed that Lacking of knowledge about online women are lagging in F-commerce, 41.3% are disagreed, 1.3% women's decision is pendulous, 20.7% women are totally agreed, 9.3% women are totally disagreed with this statement. 32.7% women are agreed Women in remote areas can't join F-commerce due to poor network issues, 67.3% women are totally agreed with this statement. 31.0% women are agreed that for bad comments women losing their interest in F-commerce, 69.0% women are totally agreed with this statement.

Table-7: Frequency of Legal Challenges

Legal Challenges	Characteristics	Frequency	Percentage
Facing Complexity in legal issues (LC1)	Agreed	14	4.7
	Disagreed	122	40.7
	Pendulous	74	24.7
	Totally Agreed	28	9.3
	Totally Disagreed	62	20.7
Harassed to get trading license (LC2)	Agreed	256	85.3
	Disagreed	5	1.7
	Pendulous	14	4.7
	Totally Agreed	9	3.0
	Totally Disagreed	16	5.3
Facing various threats in Facebook (LC3)	Agreed	206	68.7
	Disagreed	25	8.3
	Pendulous	21	7.0
	Totally Agreed	32	10.7
	Totally Disagreed	16	5.3

Table-7 shows that 4.7% women are agreed that Facing Complexity in legal issues, 40.7% are disagreed, 24.7% women's decision is pendulous, 9.3% women are totally agreed, 20.7% women are totally disagreed with this statement. 85.3% women are agreed that harassed to get trading license, 1.7% are disagreed, 4.7% women's decision is pendulous, 3.0% women are totally agreed, 5.3% women are totally disagreed with this statement. 68.7% women are agreed that facing various threats in Facebook, 8.3% are disagreed, 7.0% women's decision is pendulous, 10.7% women are totally agreed, 5.3% women are totally disagreed with this statement.

Table-8: Frequency of Psychological Challenges

Psychological Challenges	Characteristics	Frequency	Percentage
Women afraid to start business herself (PC1)	Agreed	136	45.3
	Disagreed	10	3.3
	Pendulous	15	5.0
	Totally Agreed	127	42.3
	Totally Disagreed	12	4.0
Women don't want to do business cause of facing problem in Facebook (PC2)	Agreed	68	22.7
	Disagreed	6	2.0
	Pendulous	11	3.7
	Totally Agreed	210	70.0
	Totally Disagreed	5	1.7
Women losing interest in F-Commerce for online complexity (PC3)	Agreed	100	33.3
	Disagreed	8	2.7
	Pendulous	23	7.7
	Totally Agreed	160	53.3
	Totally Disagreed	9	3.0
Women don't get emotional support (PC4)	Agreed	69	23.0
	Disagreed	94	31.3
	Pendulous	13	4.3
	Totally Agreed	32	10.7
	Totally Disagreed	92	30.7
Broken emotionally for online harassment (PC5)	Agreed	99	33.0
	Disagreed	11	3.7
	Pendulous	12	4.0

	Totally Agreed	173	57.7
	Totally Disagreed	5	1.7
Don't understand to choose product (PC6)	Agreed	127	42.3
	Disagreed	6	2.0
	Pendulous	6	2.0
	Totally Agreed	158	52.7
	Totally Disagreed	3	1.0
Don't take risk because of in-law's threats (PC7)	Agreed	68	22.7
	Disagreed	2	.7
	Pendulous	1	.3
	Totally Agreed	227	75.7
	Totally Disagreed	2	.7

Here, Table-8 explains that 45.3% women are agreed that Women afraid to start business herself, 3.3% are disagreed, 5.0% women's decision is pendulous, 42.3% women are totally agreed, 4.0% women are totally disagreed with this statement. 22.7% women are agreed that Women don't want to do business cause of facing problem in Facebook, 2.0% are disagreed, 3.7% women's decision is pendulous, 70.0% women are totally agreed, 1.7% women are totally disagreed with this statement. 33.3% women are agreed that Women losing interest in F-Commerce for online complexity, 2.7% are disagreed, 7.7% women's decision is pendulous, 53.3% women are totally agreed, 3.0% women are totally disagreed with this statement. 23.0% women are agreed that Women don't get emotional support, 31.3% are disagreed, 4.3% women's decision is pendulous, 10.7% women are totally agreed, 30.7% women are totally disagreed with this statement. 33.0% women are agreed that broken emotionally for online harassment, 3.7% are disagreed, 4.0% women's decision is pendulous, 57.7% women are totally agreed, 1.7% women are totally disagreed with this statement. 42.3% women are agreed that they don't understand to choose product, 2.0% are disagreed, 2.0% women's decision is pendulous, 52.7% women are totally agreed, 1.0% women are totally disagreed with this statement. 22.7% women are agreed that they don't take risk because of in-law's threats, .7% are disagreed, .3% women's decision is pendulous, 75.7% women are totally agreed, .7% women are totally disagreed with this statement.

Table-9: Frequency of Online Challenges

Online Challenges	Characteristics	Frequency	Percentage
Men make harassing Comments in bellow of advertisements (OC1)	Agreed	121	40.3
	Disagreed	2	.7
	Pendulous	7	2.3
	Totally Agreed	168	56.0
	Totally Disagreed	2	.7
Bad messages come at women's business page (OC2)	Agreed	145	48.3
	Disagreed	3	1.0
	Pendulous	4	1.3
	Totally Agreed	146	48.7
	Totally Disagreed	2	.7
Unnecessary messages come at woman's personal ID and Business page (OC3)	Agreed	127	42.3
	Disagreed	2	.7
	Pendulous	2	.7
	Totally Agreed	163	54.3
	Totally Disagreed	6	2.0
Threatened through online (OC4)	Agreed	96	32.0
	Disagreed	103	34.3
	Pendulous	19	6.3
	Totally Agreed	16	5.3
	Totally Disagreed	66	22.0

Insecurity of personal information (OC5)	Agreed	120	40.0
	Disagreed	6	2.0
	Pendulous	39	13.0
	Totally Agreed	132	44.0
	Totally Disagreed	3	1.0

Table-9 gives that 40.3% women are agreed that Men make harassing Comments in bellow of advertisements,.7% are disagreed, 2.3% women's decision is pendulous, 56.0% women are totally agreed, .7% women are totally disagreed with this statement. 48.3% women are agreed that Bad messages come at women's business page, 1.0% are disagreed, 1.3% women's decision is pendulous, 48.7% women are totally agreed, .7% women are totally disagreed with this statement. 42.3% women are agreed that Unnecessary messages come at woman's personal ID and Business page, .7% are disagreed, .7% women's decision is pendulous, 54.3% women are totally agreed, 2.0% women are totally disagreed with this statement. 32.0% women are agreed that threatened through online, 34.3% are disagreed, 6.3% women's decision is pendulous, 5.3% women are totally agreed, 22.0% women are totally disagreed with this statement. 40.0% women are agreed that Insecurity of personal information, 2.0% are disagreed, 13.0% women's decision is pendulous, 44.0% women are totally agreed, 1.0% women are totally disagreed with this statement.

Reliability Test

Table-10: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.701	.699	34

Table 10 shows that, the Internal consistency reliability of the 34-item Internet Addiction Scale was investigated using Cronbach's alpha (Nunnally,1978) [14]. Results indicated that the alpha for the total scale was equal to .701. Examination of individual item statistics suggested that elimination of several items would increase the reliability of the scale. Most psychometricians agreed with the notion that a Cronbach alpha value of .70 as acceptable. So, the alpha value proves the adequate internal consistency for the 34 item Internal Addiction Scale and are consistence with the Bangla adaptation.

Exploratory Factor Analysis and Principal Components Analysis

Exploratory Factor Analysis (EFA) and Principal Components Analysis (PCA) simplify complex correlations among scale variables. Both identify groups of items that respond similarly. EFA, defined as a structured technique, analyzes endogenous components at the interval or ratio level. PCA, a data reduction method, assesses variable significance in large samples. PCA results determine the number of components and retained items. We evaluated latent determinants using factor loadings, as shown in Table 9.

Before conducting the PCA, Kaiser-Maier -Olkin (KMO) (1970) and Bartlett's sphericity tests (1954) were applied to confirm the necessity of this analysis. The results of the KMO >0.5 (the KMO value was 0.708 in this research) and the significance of Bartlett's sphericity test at $p < 0.01$ verified our datasets to be fitted for the PCA (Islam et al., 2020) [10]. The number of factors chosen was based on the Kaiser's normalization principle, where the only factors with eigenvalues>1.0 were regarded.

KMO and Bartlett's Test

Table-11: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.708
Bartlett's Test of Sphericity	Approx. Chi-Square	6785.355
	Df	561
	Sig.	.000

Table-11, Exploratory factor analysis The Kaiser-Meyer Olkin (KMO) measure of the indicators has been found as 0.708, which denotes more than the required minimum values of 0.6 (Lindell and Whitney, 2001; Torabizadeh et al., 2020). Bartlett's test of sphericity of significance ($P=0.00$) implies that the research could have been perceived by a credible measurement model with statistical importance of $p<0.05$, as suggested by Lindell & Whitney (2001). The preliminary report (table 9) also implies that the indicators have Bartlett's sphericity (χ^2) score (6785.355), with a 56.1% degree of freedom and significance level of 0.000.

Total Variance Explained

Table-12: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.359	18.702	18.702	6.359	18.702	18.702
2	4.754	13.981	32.683	4.754	13.981	32.683
3	3.373	9.920	42.603	3.373	9.920	42.603
4	2.328	6.846	49.449	2.328	6.846	49.449
5	2.058	6.052	55.501	2.058	6.052	55.501
6	1.598	4.699	60.199	1.598	4.699	60.199
7	1.345	3.957	64.156	1.345	3.957	64.156
8	1.191	3.504	67.660	1.191	3.504	67.660
9	1.002	2.948	70.608	1.002	2.948	70.608

Extraction Method: Principal Component Analysis.

Table 12 shows that the variance is divided among the 9 possible factors. All of 9 factors have eigenvalues (a measure of explained variance) greater than 1.0, which is a common criterion for a factor to be useful. When the eigenvalue is less than 1.0 the factor explains less information than a single item would have explained. Here the highest initial Eigenvalues are 70.608% and lowest is 18.702%.

Regression

Multiple regression was used to assess the ability of 33 control measures to predict challenges in business and f-commerce. Preliminary investigations were carried out to ensure that the normalcy, linearity, multicollinearity, and homoscedasticity assumptions were not violated. The assumptions of normality, linearity, and homoscedasticity of residuals were met, according to the normal probability plot of standardized residuals and the scatterplot of standardized residuals against standardized projected values. In combination, all named accounted for 40.1% of the variability in perceived stress, $R^2 = .826$, adjusted $R^2 = .805$, $F(33, 266) = 38.301$, $p < .0001$.

RECOMMENDATION

In the part of what support need to overcome the challenges the recommendation is given. From this segment it can be easily understood that what kind of steps should be taken to remove or overcome the situation. Besides those there also give some recommendation to take to overcome the challenges.

- ✓ Women should aware about their self-empowerment.
- ✓ Society should understand that business is not a bad work for women. Its just a work like other occupation.
- ✓ Facebook authority can take a crucial step to stop the harassment.
- ✓ Family should play a vital role to help women in business.

CONCLUSION

The study highlights the significant challenges women entrepreneurs face in F-commerce, particularly in Rangpur. Economic barriers, social stigma, family constraints, and a lack of training hinder their success. Issues such as limited funding, online harassment, and societal resistance deter women from fully engaging in online business. Despite the obstacles, F-commerce remains a viable opportunity for women's empowerment. Addressing these barriers through financial support, digital literacy, and policy reforms can enhance their participation. Future research should explore targeted interventions to foster a more inclusive digital business environment for women entrepreneurs.

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APPENDIX

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