

RESEARCH

# Attitude of customers towards the Facebook page-based business; analysis of the prospect of F-commerce in Bangladesh

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This research aims to examine how Facebook has a significant impact on online businesses. The study aims to describe the plots of Facebook page-based businesses in Bangladesh (BD), given their noticeable engagement. The author tries to investigate the prospects and challenges of Facebook-based business in BD. This research also discusses the factors that are favorable for Facebook page-based businesses and have a positive impact on this online business. Business skill, work-life balance, funding, payment method, educational background, social impact, usefulness, passion, ease of operation, and barriers were identified and analyzed in this study. In this research, the author applies the Technology Acceptance Model (TAM), regression analysis, and the Chi-square test to prove the hypothesis. This study found that the prospect of F-commerce is very prominent in BD, and TAM plays a very significant role in the development and acceptance of Facebook page-based business in this country.

**Keywords:** TAM, attitude, technology, Facebook page-based business, F-commerce, UTAUT

## Introduction

A Facebook Page is a cost-effective tool that businesses use to link with clients and users, share information, and promote their brand on Facebook. It's a public profile that allows businesses to engage with their audience, share updates, and even sell products. A Facebook page for a business offers several benefits, including a public profile, a professional appearance, two-way communication, building relationships, customer service, promoting products and services, advertising, driving traffic, analyzing performance, page insights, ease of use, accessibility, etc.

Facebook page-based business, or Facebook commerce (F-commerce), is a mode of business that primarily conducts retail transactions on a social networking platform. At present, the volume of F-commerce in Bangladesh (BD) is very appreciable; it is worth approximately Tk 312 crore. Again, more than 3,00,000 stores/shops in BD are

operating through Facebook pages. Fifty percent of these store owners are women.

Bangladesh is a developing and populous country. Now, the government of this country is very much encouraging and creating a platform for online page-based businesses. The internet revolution plays a significant role in Facebook page-based businesses. Now, several established business owners have opened online portals because the operating and marketing costs of a Facebook page-based business are comparatively lower than those of a traditional business.

## Objective of the research

The fundamental objective of this research is to analyze the prospects and problems of F-Commerce and Facebook page-based business in BD. The prime objectives of this

research are:

1. To evaluate the benefit of Facebook page-based business in BD.
2. To identify the factors that affect Facebook page-based businesses in BD.
3. To identify problems related to Facebook page-based business in BD.
4. To make some recommendations on the problem of Facebook page-based business in BD.

## Literature review

Creating a Facebook page for any business is an excellent way to engage with current and potential customers. It allows traders to target specific audiences and advertise to them cost-effectively. An accomplished business Facebook page can even be used to build a brand within a specific Facebook community.

Additionally, the rise of mobile technology and app development, artificial intelligence (AI) and automation, virtual and augmented reality, blockchain and cryptocurrency, cybersecurity and data protection, remote work and virtual teams, and the gig economy are all shaping the future of entrepreneurship and the digital age (1).

Accurate technology can help entrepreneurs automate their businesses and make their operations more efficient. Automating a business can help traders free up time to focus on more important tasks. It can also help reduce operational costs. Modern technology can also help boost our business efficiencies.

Direct engagement is the number one benefit of a Facebook business page. Social media platforms are designed to make interaction easy, and that's true for both personal and business goals. It fosters stronger relationships with your potential customers to bring them along the customer journey (2).

## F-commerce

F-Commerce refers to e-commerce on Facebook pages. It is a mode of the so-called Social Commerce that uses social networks to sell a wide range of products without requiring a large investment.

The main benefit of F-commerce is its low cost. The Facebook platform is beneficial for new and small companies that do not have enough budget to maintain another type of digital support. The Facebook page of a business recommends using this mechanism to sell daily necessities such as books, clothes, beauty products, homemade food, accessories (such as bags and suitcases), home furnishings, or children's products (3).

## Benefits of a Facebook business page

- Register essential contact information. If people wonder when the business phone line or storefront is open, they may visit the business Facebook Page for business to find out.
- Engage new and longtime customers.
- Know our audience.
- Reduce marketing costs.
- Promote web traffic.
- Raise/Upgrade search engine optimization (SEO).

## Role of the Facebook page of a business on customer service and feedback

A Facebook page for a business allows two-way communication between traders and their customers. Traders can use the messaging service to interact directly with their customers. Customer reviews and comments can be a valuable way to collect feedback and identify areas for improvement (4).

The small business owner or employee is expected to be well-versed in the never-ending to-do list and the sustained difficulties of managing growing workflows.

The upside is that there are many technology solutions designed specifically to assist small businesses, such as automating tasks and streamlining workflows. From communication management tools to specialized software for finance, marketing, and more, these solutions can help entrepreneurs stay organized, save time, and grow their businesses simultaneously (5).

## Challenges of F-commerce in Bangladesh

F-commerce faces several problems, of which the following are critical:

*Low-speed internet connection and coverage*

*Product Quality*

*Language barrier*

*Literacy rate*

*Delivery system*

*Nonuser Friendly Interface*

*Lack of Privacy policy*

*Achieving Client trust*

*Small Number of Debit/Credit Card Users*

*No legal framework*

*Insufficient business knowledge.*

## A brief introduction of TAM and UTUAT

The Technology Acceptance Model (TAM) is an information systems model that models how new users come to accept and use a new technology. The model suggests that when users are presented with a new technology, several factors influence their decision about when and how they will use it and accept it.

The TAM (6) posits that two factors determine whether a computer system will be accepted by its potential users: perceived usefulness and perceived ease of use. These factors influence users' attitudes and intentions towards the technology (7).

The UTAUT theoretical model suggests that actual technology use is determined by behavioral intention among potential users. The perceived likelihood of adopting the technology depends on the direct effects of four key factors: performance expectancy, effort expectancy, social influence, and facilitating conditions. The effects of predictors are moderated by age, gender, experience, and the involuntariness of use (8).

## Data analysis

### Data processing method

In this study, the author's collected data will be combined and validated. Additionally, data will be processed by establishing consistency, inspected with the help of a computer and relevant subject knowledge, and analyzed using statistical tools. Here, the author employed some manual techniques during the collection of opinions through the questionnaire.

First, select respondents who use Facebook, have a valid Facebook ID, and have some knowledge of English and Basic computer skills. Then ask them some questions about how they are happy to use a Facebook page-based business for F-Commerce transactions, and how many customers of Facebook page-based businesses face problems with F-Commerce transactions via Messenger and Facebook ID.

Here, the author used a questionnaire to evaluate the impact of the Facebook page on F-Commerce-related transactions. The author conducted face-to-face interviews with 450 customers.

The study was conducted from September 2023 to April 2024.

From the TAM and unified theory of acceptance and use of technology (UTUAT) perspectives, the perceived use fullness (PU), perceived effectiveness (PE), perceived benefit (PB), PEU, and search engine (SE) are fundamental factors encouraging the adoption and use of the latest technologies. In accordance with the variables in TAM and UTAUT, the following hypotheses were constructed:

Ho1: There is no crucial connection between perceived ease of use and the attitude of customers regarding a Facebook page-based business.

Ho2: There is no crucial connection between perceived usefulness and the attitude of Customers towards using a Facebook page-based business.

Ho3: There is no crucial connection that exists between customers' attitude regarding the Facebook page-based business and their intention to use it.

Ho4: There is no crucial connection between Age and the customer's intention to use a Facebook page-based business for F-commerce transactions.

Ho5: There is no crucial connection between the level of computer skill and intention to use a Facebook page-based business.

Ho6: There is no crucial connection between customer satisfaction and the attitude of Customers regarding a Facebook page-based business.

Ho7: There is no crucial connection between social impact and the intention of Customers regarding a Facebook page-based business.

Ho8: There is no crucial impact of Subjective Norm (SN) on the attitude of customers regarding Facebook page-based business.

Ho9: There is no crucial impact of SN on the intention of customers regarding Facebook page-based business.

H10: There is no crucial connection between gender and their attitude regarding the benefit of a Facebook page-based business.

H11: There is no crucial connection between employment status and their attitude towards the benefits of a Facebook page-based business.

Ho12: There is no crucial connection between residential status and their attitude towards the benefit of the Facebook page-based business.

Ho13: There is no crucial connection between marital status and their attitude towards the benefit of the Facebook page-based business.

Ho14: There is no crucial connection between education level and the type of Facebook page-based business.

## Data analysis

In this research, the author collected data from 450 respondents across BD. The author used intentional random sampling for samples selection. The author collected data via face-to-face interviews from the respondents. The author uses a 1–5 Likert-scale questionnaire for data collection. The author performed data analysis using the Correlation

R-test, regression analysis, independent t-test, validity test, and goodness-of-fit test. Respondents are asked to complete the questionnaire. The respondents filled out a questionnaire about their experience with a Facebook page-based business.

All questionnaires were automated. The testing process was completed when the participants finished their answers.

The research method used in this study is a quantitative descriptive method.

**Table 1** presents the demographic data for the respondents, showing that urban respondents are more accustomed to Facebook page-based businesses than rural respondents. This table also showed that undergraduate-level students mostly use Facebook page-based business. In this research, male respondents participated than females.

**Table 1** also shows that unmarried respondents are more engaged with F-commerce than married people. This table also showed that most of the respondents are housewives and businessmen. This table also showed that the maximum amount of the businessmen earned (11,000–25,000) BDT. This table also showed that most businessmen used the cash-on-delivery payment method.

**TABLE 1 |** Demographic attributes of the respondents.

Variables	Number of respondents
<b>Residence:</b>	
1. Rural	187
2. Urban	263
<b>Level of educational qualification:</b>	
1. Undergraduate	196
2. Graduate	151
3. Post Graduate	103
<b>Gender:</b>	
Male	281
Female	169
<b>Marital Status:</b>	
Unmarried	262
Married	188
<b>Occupation:</b>	
1. Student	74
2. Housewife	118
3. Banker	59
4. Businessman	109
5. Job holder	90
<b>Monthly income:</b>	
1. Below BDT 10,000/-	166
2. BDT (11,000–25,000)/-	181
3. BDT (26,000–50,000)/-	103
<b>Payment system:</b>	
1. Bank Transfer	69
2. Mobile money transfer, such as Nagad, Rocket, Bkash, M-Cash	156
3. Cash on delivery	225

**Table 2** shows that people in the tech industry are the largest group of respondents for Facebook page-based businesses.

Standard Deviation (SD) is a widely used method for testing data variability. SD expresses how much variation there is from the average (mean). The mean of 4.78 indicates that most respondents agree on that variable. The SD value of 7.90 indicates low stability of ideas for the specific variable.

Here, the maximum mean range is 3.5–5.0, indicating a positive attitude of the respondents. The high SD hints at disagreement among the answers.

## Test of hypotheses

### Hypothesis one

Ho1: There is no crucial connection between perceived ease of use and the attitude of customers regarding a Facebook page-based business.

Table: The author performed a linear regression analysis to examine the relationship between perceived ease of use and customers' attitudes toward a Facebook page-based business.

Consequently, **Table 13** demonstrates that a crucial relationship exists between perceived ease of use and customers' attitudes toward Facebook page-based businesses ( $P = 0.00 < 0.05$ ). The beta value ( $r = 0.99819958$ ) indicates a strong relationship between attitude and perceived ease of use. The R-Square value confirms that 0.996402405 of the total variance in attitude is explained by perceived ease of use. Hence, the null hypothesis is true.

Ho2: There is no crucial connection between perceived usefulness and the attitude of Customers regarding Facebook page-based business

The *t*-value results of **Table 14** showed that the null hypothesis is rejected.

Consequently, **Table 15** demonstrates that a crucial connection exists between perceived usefulness and the attitude of customers regarding the use of the Facebook page of a business, because ( $P = 0.00 < 0.05$ ). The beta value ( $r = 0.999706706$ ) also reveals that there is a robust connection exists between attitude and perceived usefulness. The R Square indicates that 99.94% of the total inequality in attitude is explained by perceived ease of use. Hence, a constructive relationship exists between customers' attitudes and their perceived usefulness of a business's Facebook page. For this reason, the null hypothesis is true.

Ho3: There is no crucial connection between customers' attitudes regarding the Facebook page-based business and their intention to use it.

The results in **Table 17** demonstrate that a vital connection exists between attitude and the intention to use a business's Facebook page. Particularly ( $P = 0.00 < 0.05$ ). The beta value ( $r = 0.999836315$ ) indicated a strong positive relationship

**TABLE 2 |** Distribution of respondents according to their business.

Type of entrepreneurship	Frequency of respondents	% total	Mean	Standard deviation (SD)
Fashion	87	19.33	4.78	7.90
Tech Industry	96	21.33		
Online over the counter (OTC) medicine shop.	47	10.44		
Website development, software development, app development.	83	18.44		
Graphic design, technical support.	53	11.78		
Social-good company—it works to enable an excellent ecosystem that promotes entrepreneurship.	56	12.44		
The Training Institute is a project aimed at providing digital and financial literacy training to entrepreneurs.	15	3.33		
Agriconcern venture	13	2.89		
Total	450	100		

**TABLE 3 |** Ease of use of the Facebook page of the business.

Statement scale (5–1)	Strongly agree	Agreed	No response	Disagree	Strongly disagree	Mean	SD
The Facebook page of a business makes it easy to handle of f-commerce.	159	181	57	32	21	3.94	11.48
I found it easy to use Facebook for a business page.	163	177	55	31	24	3.94	11.45
It is easy to visit Facebook for a business page on a mobile device.	166	175	48	28	33	3.92	11.44
The Facebook page of a business is enough for marketing an F-commerce business.	167	184	52	22	25	3.99	11.74
The Facebook for a business page is simple and easy to visit.	172	185	46	26	21	4.02	11.88

(Strongly agree = 5, Agree = 4, No response = 3, Disagree = 2, Strongly disagree = 1).  
N = 450.

**TABLE 4 |** Perceived usefulness of the Facebook page of the business.

Statement scale (5–1)	Strongly agree	Agreed	No response	Disagree	Strongly disagree	Mean	SD
I found it useful to visit the face book page of a business in order to purchase desired product at any time.	173	181	51	29	16	4.04	11.82
The service provided by the Facebook page for a business helped me complete the f-commerce activities smoothly.	177	183	44	24	22	4.04	11.95
The Facebook page for a business provides a variety of useful information and services at the same time.	173	179	52	27	19	4.02	11.76
The Facebook page for a business is useful in solving the problems of regular shopping.	177	184	46	22	21	4.04	11.97
The Facebook page for a business is useful for performing multiple activities simultaneously.	162	165	55	28	40	3.85	11.10

N = 450.

Here, the maximum mean range is 3.5–5.0, indicating a positive attitude of the respondents. The high SD hints at disagreement among the answers.

**TABLE 5 |** Purchase intention through Facebook page.

Intention towards the Facebook page	Strongly agree	Agreed	No response	Disagree	Strongly disagree	Mean	SD
I intend to use Facebook for business in my regular shopping.	177	184	49	26	14	4.08	12.01
I intend to engage with the Facebook page of a business as frequently as possible in order to purchase necessary commodities.	172	176	54	24	24	3.99	11.65
I intend to revisit the Facebook page for a business in the future for F-commerce transactions.	179	185	41	25	20	4.06	12.01
I would like the Facebook page for a business to be part of the F-Commerce transaction I do.	171	174	49	26	30	3.96	11.55
I inspire my relatives and intimates to use the Facebook page for a business to support daily shopping.	177	186	42	22	23	4.05	12.03

*N* = 450.

Here, the maximum mean range is 3.5–5.0, indicating a positive attitude of the respondents. The high SD hints at disagreement among the answers.

**TABLE 6 |** Attitude towards using Facebook page for business.

Attitude towards the Facebook page of a business	Strongly agree	Agreed	No response	Disagree	Strongly disagree	Mean	SD
It is an excellent idea for a business to use its Facebook page for regular shopping.	154	151	55	53	37	3.74	10.59
The Facebook page of a business is very interesting to visit.	167	174	48	33	28	3.93	11.44
I enjoyed interacting with the messenger of a Facebook-based business.	172	176	51	27	24	3.99	11.64
I guess it is a good idea to visit the Facebook page for a business to choose a daily product.	169	173	56	29	23	3.97	11.50
People feel it is necessary to regularly visiting the Facebook page of a business to update on the latest products.	172	175	45	26	32	3.95	11.59

*N* = 450.

Here, the maximum mean range is 3.5–5.0, indicating a positive attitude of the respondents. The high SD hints at disagreement among the answers.

**TABLE 7 |** Perceived benefit of Facebook page for business.

Statement scale (5–1)	Strongly agree	Agreed	No response	Disagree	Strongly disagree	Mean	SD
A Facebook page for a business can help an entrepreneur digitize their products and improve overall customer service.	175	183	44	23	25	4.02	11.89
The Facebook page of a business provides customers with trustworthy reporting.	145	141	53	48	63	3.57	10.20
A business Facebook page can connect stakeholders, customers, and the billions of people who use Facebook.	177	185	41	22	25	4.04	11.99
A business Facebook page establishes trustworthiness with current and potential future customers.	175	182	39	27	27	4.00	11.85
A Facebook page boosts sales of products, drives more traffic to the website, or finds new contacts for business.	177	185	42	24	22	4.05	12.00

*N* = 450.

Here, the maximum mean range is 3.5–5.0, indicating a positive attitude of the respondents. The high SD hints at disagreement among the answers.

**TABLE 8 |** Technology adoption of Facebook page.

Statement scale (5–1)	Strongly agree	Agreed	No response	Disagree	Strongly disagree	Mean	SD
The relative advantage of a Facebook page of a business is measured not only by profits but also by factors such as ease of use, storage, speed, availability, etc.	171	176	53	28	22	3.99	11.62
The compatibility of Facebook page for a business signifies the conformity of the innovation to societal values.	165	161	42	38	44	3.81	11.05
The Facebook page is simple; it is easy for customers to visit and use.	176	181	48	26	19	4.04	11.88
The trial of a business Facebook page is very easy to access in Bangladesh (BD).	171	169	55	29	26	3.96	11.44
The observability of a Facebook page-based business is very clear and easily visible to the customers.	177	183	45	26	19	4.05	11.96

*N* = 450.

Here, the maximum mean range is 3.5–5.0, indicating a positive attitude of the respondents. The high SD hints at disagreement among the answers.

**TABLE 9 |** Subjective norm (SN) of the Facebook page for the business.

Statement scale (5–1)	Strongly agree	Agreed	No response	Disagree	Strongly disagree	Mean	SD
If I use the Facebook page for a business, it would give a higher standard among colleagues.	164	161	53	34	38	3.94	11.03
If I use the Facebook page for a business, I would be more prudent than my peers who have not used it.	175	179	48	21	27	4.01	11.80
If I use the Facebook page of a business, I would be smarter than my peers who have not used it.	178	183	51	23	15	4.08	12.01
The SN of the Facebook page of a business increases the transactions of F-commerce.	165	164	41	36	44	3.82	11.12
It would be trendy to use the Facebook page for a business.	163	168	44	34	41	3.84	11.17

*N* = 450.

Here, the maximum mean range is 3.5–5.0, indicating a positive attitude of the respondents. The high SD hints at disagreement among the answers.

**TABLE 10 |** Customer satisfaction towards Facebook page-based business.

Statement scale (5–1)	Strongly agree	Agreed	No response	Disagree	Strongly disagree	Mean	SD
The customer gets the desired product from Facebook page-based business	177	181	57	19	16	4.08	11.96
The customers get all types of products in a short time from the Facebook page-based business	165	174	51	23	37	3.90	11.41
The clients receive an authentic product from a Facebook page-based business at no extra cost.	169	171	55	26	29	3.94	11.44
Customers visit the business's Facebook page, with simple English and basic technology skills.	175	181	49	28	17	4.04	11.86
The Facebook page of a business meets all the necessities to perform a F-commerce-related transaction.	181	184	51	16	18	4.10	12.13

*N* = 450.

Here, the maximum mean range is 3.5–5.0, indicating a positive attitude of the respondents. The high SD hints at disagreement among the answers.

**TABLE 11** | Social impact of Facebook page-based business.

Statement scale (5–1)	Strongly agree	Agreed	No response	Disagree	Strongly disagree	Mean	SD
The Facebook page for a business is the best social platform because it allows users to choose a product, select a mode of payment and delivery, cancel an order, etc.	182	186	44	19	19	4.10	12.18
A Facebook page-based business saves the time of the customer, because they buy the product without going to the shopping mall.	187	191	47	14	11	4.18	12.50
A Facebook page-based business saves its owner money.	188	196	36	17	13	4.18	12.63
A Facebook page-based business is a source of income for housewives and unemployed people.	194	198	39	12	07	4.24	12.89
Facebook page-based business creates employment in BD.	191	188	43	19	09	4.18	12.51

$N = 450$ .

Here, the maximum mean range is 3.5–5.0, indicating a positive attitude of the respondents. The high SD hints at disagreement among the answers.

**TABLE 12** | Correlation between perceived ease of use and attitude.

Model	Unstandardized coefficient		Standardized coefficient	<i>t</i>	Significance
	<i>B</i>	Std. error	Beta		
Constant	5.59	15.17		1.98	0.000
Perceived ease of use	5.26	16.14	0.99819958	2.01	0.000

The outcomes of the *t*-value in Table 12 indicate that the null hypothesis is rejected.

**TABLE 13** | Regression between perceived ease of use and attitude<sup>a,b</sup>.

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	0.99819958	0.996402405	0.996361891	25.77

<sup>a</sup>Predictors: (constant), perceived ease of use.

<sup>b</sup>Dependent variable: attitude.

**TABLE 14** | Correlation between perceived usefulness and attitudes.

Model	Unstandardized coefficient		Standardized coefficient	<i>t</i>	Significance
	<i>B</i>	Std. error	Beta		
Constant	5.59	15.17		1.73	0.000
Perceived usefulness	5.12	16.58	0.999706706	1.81	0.000

**TABLE 15** | Regression between perceived usefulness and attitudes<sup>a,b</sup>.

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	0.999706706	0.999413499	0.999406894	25.95

<sup>a</sup>Predictors: (constant), perceived usefulness.

<sup>b</sup>Dependent variable: attitudes.

**TABLE 16** | Correlation between intention to use and attitude.

Model	Unstandardized coefficient		Standardized coefficient	<i>t</i>	Significance
	<i>B</i>	Std. error	Beta		
Constant	5.59	15.17		2.98	0.000
Intention to use	4.97	17.08	0.999836315	2.85	0.000

**TABLE 17** | Regression between intention to use and attitude<sup>a,b</sup>.

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	0.999836315	0.999672658	0.999668972	26.16

<sup>a</sup>Predictors: (constant), intention to use.

<sup>b</sup>Dependent variable: attitude.

**TABLE 18** | Analysis of Variance (ANOVA) test of age and intention to use.

Model	Sum of squares	Df	Mean square	F-statistic	Sig
Between groups sum of squares	4,867.8343	4	1,216.96	17.41	0.814
Within-group sum of squares	31,101.25	445	69.89		
Total	35,969.0843	449			

**TABLE 19** | Mean and SD of age.

Age group	N	Mean	SD
16–25	96		
26–35	185		
36–45	77	35.23	7.88
46–55	44		
56–65	48		
Total	450		

between attitude and the intention to use a Facebook page-based business. The R-square value discloses that 99.96% of the entire disparity of attitude is explained by the intention to use the Facebook page of a business. So the null hypothesis is true.

Ho4: There is no crucial connection between age and customers' intention to use a Facebook page-based business for F-commerce transactions.

**Tables 18 and 19:** One-Way Analysis of Variance (ANOVA) test between the age of the participants and their intention to use face Facebook page-based business for F-commerce transactions:

The consequences in **Table 19** indicate that a crucial connection exists between the age of the interviewee and their intention to use the business's Facebook page. Because the *P*-value of 0.814 is smaller than the level of significance ( $P = 0.814 > 0.05$ ). So the null hypothesis is neither true nor false, and the alternative hypothesis is true.

The mean of 35.23 indicates that most respondents do not agree on that variable. The SD value is 7.88 indicates that there is a low stability of ideas on the specific variable.

## Hypothesis five

Ho5: There is no crucial connection between the level of computer literacy and customers' intention to use a Facebook page-based business.

**Table 20:** One-way ANOVA test between the level of computer skill and customer's intention to use a Facebook page-based business:

The consequence in **Table 21** indicates that a significant relationship exists between the level of computer experience and the intention to use a business's Facebook page, as the *P*-value of 0.252 is smaller than the significance level of 0.05 ( $P = 0.252 > 0.05$ ). So, the author rejects the null hypothesis, that there is no crucial connection that exists between the level of computer skill and the intention to use face Facebook page of a business, and accepts the alternative hypothesis.

The mean of 1.96 indicates that most respondents agree on that variable. The SD value is 10.82 indicates that there is a low stability of ideas on the specific variable.

**Null Hypothesis 06:** There is no crucial connection between customer satisfaction and the attitude of Customers regarding a Facebook page-based business.

The consequences in **Table 23** indicate that a crucial connection exists between customer satisfaction and customers' attitudes toward using a Facebook page-based business, because ( $P = 0.00 < 0.05$ ).

The beta value ( $r = 0.998745711$ ) also indicates a robust relationship between attitude and customer satisfaction. The R Square showed that 99.87% of the total variation in attitude is accounted for by satisfaction. So, a positive relationship exists between customer attitude and satisfaction

**TABLE 20** | ANOVA test of the level of computer skill and customer's intention to use Facebook page-based business.

Model	Sum of squares	Df	Mean square	F-statistic	Sig
Between groups sum of squares	20.5742	4	5.14355	228.71	0.252
Within-group sum of squares	10.008	445	0.022489887		
Total		449			

**TABLE 21** | Mean and SD of the level of computer skill.

Level of computer skill	N	Mean	SD
No skill	36		
Beginner	113		
Intermediate	182	1.96	10.82
Expert	69		
Advance	50		
Total	450		

**TABLE 22** | Correlation between customer satisfaction and the attitude of customers.

Model	Unstandardized coefficient		Standardized coefficient	<i>t</i>	Significance
	<i>B</i>	Std. error	Beta		
Constant	5.59	15.17		3.01	0.000
Customer's satisfaction	5.08	16.71	0.998745711	2.69	0.000

**TABLE 23** | Regression between customer satisfaction and attitude of customers<sup>a,b</sup>.

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	0.998745711	0.997492995	0.997464763	26.01

<sup>a</sup>Predictors: (constant), customer's satisfaction.

<sup>b</sup>Dependent variable: attitude.

**TABLE 24** | Correlation between social impact and intention of customers.

Model	Unstandardized coefficient		Standardized coefficient	<i>t</i>	Significance
	<i>B</i>	Std. error	Beta		
Constant	4.97	17.08		2.97	0.000
Social impact	4.37	19.42	0.999894889	2.89	0.000

with a Facebook page-based business. Hence, the null hypothesis is true.

**Null Hypothesis 07:** There is no crucial connection between social impact and intention of respondents regarding Facebook page-based business.

**Table 25** presents that there is a notable association between social impact and customers' intention to use a Facebook page-based business ( $P = 0.00 < 0.05$ ). The beta value ( $r = 0.999894889$ ) also showed that a robust connection exists between Intention and social impact. The

R Square indicates that 99.97% of the total variation in intention is explained by social impact. Therefore, there is a strong connection between customer intention and the social impact of a Facebook page-based business. So, the null hypothesis is true.

H13: There is no vital influence/impact of SN on the attitude of customers towards a Facebook page-based business.

Here, the author applied an independent *t*-test, The calculated *t*-value =  $-5.23$ .

**TABLE 25** | Regression between social impact and intention of customers<sup>a,b</sup>.

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	0.999894889	0.99978979	0.999787423	27.83

<sup>a</sup>Predictors: (constant), social impact.

<sup>b</sup>Dependent variable: intention.

Negative values mean that the observed difference between the means is in the opposite direction to what we thought it would be.

Although a negative *t*-value indicates a reversal in the direction of the effect being studied, it does not affect the significance of the difference between groups. So, the null hypothesis that there is no significant influence/impact of SN on customers' attitudes towards a Facebook page-based business is rejected.

H14: There is no vital impact of SN on the intention of customers towards a Facebook page-based business.

Now the author applies an independent *t*-test,

The calculated *t*-value =  $-0.396$ .

Here, the calculated *t*-value is negative, so the null hypothesis is rejected. Thus, the null hypothesis that there is no significant influence of SN on customers' intention towards Facebook page-based businesses is rejected. There is a significant influence of SN on customers' intentions towards a Facebook page-based business.

## Goodness of fit-test

**Null Hypothesis 08:** There is no crucial connection between gender and their attitude towards the benefit of the Facebook page-based business.

Now the researcher applies the Chi-Square test,

The calculated Chi-square value is =  $3.77$ .

So  $\text{chi-square cal} < \text{chi-square table}$ .

So the null hypothesis that there is no crucial connection between gender and their attitude towards the benefits of Facebook page-based business is not rejected, or it is true. Females have a more positive attitude towards the benefits of the favorite book page-based business than males in BD.

**Null Hypothesis 09:** There is no crucial connection between occupation and their attitude towards the benefit of the Facebook page-based business.

Here, the researcher applies the Chi-Square test,

The calculated Chi-square value is =  $17.54$ .

So  $\text{chi-square cal} > \text{chi-square tab}$ .

So, for the null hypothesis that there is no significant relationship between occupation and their attitude towards the benefits of a Facebook page-based business, is the null hypothesis rejected or not true? So there is a vital connection between occupation and their attitude towards the benefit of the Facebook page-based business.

**Null Hypothesis 10:** There is no crucial connection between residential status and their attitude towards the benefit of the Facebook page-based business.

Here, the researcher applies the Chi-Square test,

The calculated Chi-square value is =  $18.86$ .

So  $\text{chi-square cal} > \text{Chi-square table}$ .

So, for the null hypothesis, there is no significant relationship between residential status and their attitude towards the benefits of a Facebook page-based business, which is rejected or not true. So there is a significant relationship between residential status and their attitude towards the benefits of a Facebook page-based business. Urban people have a more positive attitude towards the benefits of Facebook page-based businesses than rural people in BD.

**Null Hypothesis 11:** There is no crucial connection between marital status and their attitude towards the benefits of the Facebook page-based business.

Here, the author used the Chi-Square test,

The calculated Chi-square value is =  $3.08$ .

So  $\text{chi-square cal} < \text{Chi-square table value}$ .

So the null hypothesis that there is no crucial connection between marital status and their attitude towards the benefits of a Facebook page-based business is true or accepted.

**Null Hypothesis 12:** There is no crucial connection between education level and the type of Facebook page-based business.

Here, the author used the Chi-Square test,

The calculated Chi-square value is =  $190.92$ .

So  $\text{Chi-square cal} > \text{chi-square tab}$ .

So, for the null hypothesis, there is no crucial connection that exists between education level and the type of Facebook page-based business, whether it is true or not. Hence, a significant association exists between education level and the type of Facebook page-based business.

## Validity test

### Content validity

To perform a content validity test, the researcher provided the following questionnaire to respondents.

We know,

$$\text{CVR} = (N_e - N/2) / (N/2)$$

Where  $N_e$  = number of participants voting essential

**TABLE 26** | Gender vs attitude.

Gender	Respondent's attitude towards the benefit of a Facebook page based business		Total
	Positive	Negative	
Male	162	119	281
Female	113	56	169
Total	275	175	450

**TABLE 27** | Occupation vs attitude.

Occupation	Customer attitude towards the benefits of Facebook-based business		Total
	Positive	Negative	
Student	56	18	74
Housewife	98	20	118
Banker	32	27	59
Businessman	83	26	109
Job holder	66	24	90
Total	335	115	450

$N$  = total number of participants

Now, Content Validity Rate =  $(366-225)/225 = 0.63$ .

This formula yields values ranging from +1 to -1; positive values indicate that at least half of the respondents rated the item as essential. The mean content validity ratio (CVR) across items may be used as an indicator of overall test content validity.

### Convergent validity

To measure convergent validity, the author used two related scales: profit from a Facebook page-based business and the number of views of a Facebook page-based business.

Here, the researcher applied the Pearson  $r$ -test, and the calculated  $r = 0.524939819 = 52.5\%$ ,

Convergent validity indicates whether a test that is designed to measure a particular construct correlates with other tests that assess the same or similar construct.

Convergent validity is generally considered adequate if  $>75\%$  of hypotheses are correct, or if a correlation with an instrument measuring the same construct is  $>0.50$ .

### Discriminant validity

To test discriminant validity, the researcher provides respondents with another questionnaire. Here, the researcher wants to establish a relationship between respondents' intelligence level and the type of Facebook page-based business.

Now the researcher applied the Pearson  $r$ -test,

The calculated  $r = -0.524694835 = -0.52$ ,

The resulting  $r$ -value is negative,

It appears to align with their assumption about the association between the constructs, which is good.

### Limitation

There are some limitations to achieving the research objective. In this research, the author considered some selected Facebook page-based businesses as a sample. Moreover, in this research, the author used face-to-face interviews, questionnaire surveys, and a literature review, but excluded the case study method.

### Discussion and analysis

Here, the researcher divides respondents by residential status, occupation, education level, and marital status. Here, the researcher found that urban people are more likely than rural people to use Facebook page-based businesses. Here, the researcher divides respondents into three education levels: undergraduate, graduate, and postgraduate. The researcher also showed that men are more engaged in Facebook-based businesses than women. The researcher divided the respondents into three groups: students, businessmen, and housewives. Here, the researcher found that Facebook page-based businessmen use various payment systems, including cash on delivery, online payment systems, Rocket, M-cash, Bkash, and others (Table 1).

Here, the researcher distributed respondents by business. The researcher found that the main businesses of the respondents are fashion, the Tech industry, online over the counter (OTC), medicine shop, website development,

**TABLE 28** | Residential status vs attitude.

Residential status	Customer attitude towards the benefit of the Facebook page-based business		Total
	Positive	Negative	
Rural	97	90	187
Urban	189	74	263
Total	286	164	450

**TABLE 29** | Marital status vs attitude.

Marital status	Customer attitude towards the benefit of the Facebook page-based business		Total
	Positive	Negative	
Unmarried	169	93	262
Married	136	52	188
Total	305	145	450

**TABLE 30** | Education level vs type of Facebook page-based business.

Education level	Type of Facebook page-based business					Total
	Fashion	Tech industry	Online OTC	Website development, graphic	Training, a social good company	
Below graduate	67	32	36	43	18	196
Graduate	16	60	8	22	45	151
Post graduate	4	4	3	71	21	103
Total	87	96	47	136	84	450

**TABLE 31** | Perceptions towards Facebook page-based business.

Perceptions	Answers
A Facebook page for a business is not necessary for F-commerce transactions.	31
A Facebook page for a business is useful but not essential for F-commerce transactions.	53
A business Facebook page is essential for F-commerce transactions.	366
Total	450

**TABLE 32** | Profit rate vs number of views.

Profit rate of a Facebook page-based business	Number of views of the Facebook page-based business
Loss	48
Low profit	76
Lower middle profit	124
Upper middle profit	119
High profit	83
Total	450

app development, Graphic development, graphic design, technical support, social good company, training institute, etc. (Table 2).

Here, the researcher showed that the maximum number of respondents agreed that the Perceived Ease of Use of a Facebook page-based business is very high. The researcher

also found that there is high disagreement among the answers to the questions regarding the Perceived Ease of Use of a Facebook page-based business (Table 3).

The study also showed that most respondents reported that the perceived usefulness of Facebook page-based businesses

**TABLE 33** | Intelligence level vs type of Facebook page-based business.

Respondent's intelligence level		Type of Facebook page-based business	
Upper extreme	47	Fashion	87
Well above average	66	Tech Industry	96
Average	151	Online OTC	47
Well below average	91	Website development, graphic	136
Lower extreme	95	Training, social good company	84
Total	450	Total	450

is very high (Table 4). Here, the author also found that the purchase intention through Facebook is very high (Table 5).

In this study, the author found that the majority of respondents had a positive attitude towards a Facebook page-based business (Table 6). The researcher also found that most respondents agreed that the perceived benefits of a Facebook page-based business are very high (Table 7). Most of the respondents found that the storage coverage, speed, availability, compatibility, and trialability of a Facebook page-based business are satisfactory (Table 8).

A majority of respondents agreed that it is a very prudent idea to use and purchase through F-commerce and Facebook page-based businesses (Table 9). Most respondents expressed satisfaction with the Facebook page and F-commerce (Table 10).

In this research, most respondents agreed that Facebook is the best social platform for choosing products, selecting a payment method, receiving confirmation, and canceling orders (Table 11).

The above study shows a connection between perceived ease of use and respondents' attitudes toward Facebook page-based businesses. In this research, the Beta value ( $r = 0.99819958$ ) indicates a robust positive correlation between attitude and perceived ease of use. Again, in this research, the R Square indicated that 0.996402405 of the total variance in attitude is explained by perceived ease of use, so the null hypothesis that there is no significant relationship between perceived ease of use and customers' attitudes toward a Facebook page-based business is accepted (Table 13).

Association is a concept, but correlation is a measure of association, and mathematical tools are provided to measure the magnitude of the association. So, customers' ease of use of a Facebook page-based business can't affect their attitude towards it (Table 12).

Again, in this research, the author found no significant association between perceived usefulness and respondents' attitudes toward a Facebook page-based business. So, if the customers do not get enough usefulness through the Facebook page-based business, it affects the attitude of respondents (Table 15)

The author also found that there is no significant relationship between customers' attitudes toward Facebook page-based businesses and their intention to use them. However, the beta value ( $r = 0.999442235$ ) in the table

indicates a strong positive correlation between attitude and the intention to use Facebook page-based businesses. These two statements contradict each other, suggesting that customers' attitudes and their intention to use Facebook page-based businesses are strongly positively correlated, but customers' level of aggressiveness or politeness does not influence their intention to use Facebook page-based businesses for F-Commerce transactions (Table 16).

In this research, the author also found an important link between age and customers' intention to use a Facebook page-based business. Younger customers indeed have a positive intention to use Facebook page-based businesses in BD (Table 18).

This research also shows that there is no significant association between computer literacy and customers' intention to use Facebook page-based businesses, which is false. Therefore, respondents' computer skills affect their intention to use a business Facebook page for F-Commerce transactions (Table 20).

The research also expresses that there is no significant connection between customer satisfaction and their attitude towards Facebook page-based businesses. So, if customers are less satisfied with Facebook page-based business services, they may use F-commerce less (Table 22).

This research found that businesses with Facebook pages exert a positive social influence. The study also shows that social impact and customer intention have no significant relationship. So, if the social impact of a Facebook page-based business is reduced, it cannot decrease customers' intention toward the Facebook page of a business (Table 24).

The research also found a significant association between gender and customers' attitudes toward Facebook page-based businesses (Table 26).

The research also found no significant link between employment status and attitude toward Facebook page-based business (Table 27).

The research also shows that residential status and customers' attitudes towards businesses on Facebook pages are significantly related. Urban residents have a more positive attitude towards Facebook page-based businesses because such systems are less common in rural areas of BD. The research also establishes a significant relationship between education level and the type of Facebook page-based business in BD (Table 28).

The research found no significant correlation between marital status and attitude towards Facebook page-based businesses. Married and unmarried people have the same level of attitude towards Facebook page-based businesses (Table 29).

The researcher found that a remarkable association exists between education level and the type of Facebook page-based business. Respondents at the graduate level and below are mostly engaged in fashion, tech, online OTC, and website development. Graduate-level respondents are mainly interested in training and social good companies. Postgraduate-level respondents primarily engage with website development and graphic design (Table 30).

For validity test purposes, the author shows that content validity proves that half of the customers rated the Facebook page of a business as essential for performing F-commerce related transactions (Table 31). Convergent validity shows that making a profit through Facebook page-based businesses and the number of views of Facebook page-based businesses are positively related (Table 32).

In this research, the discriminant validity is negative. To assess discriminant validity, the author selected two criteria: the customer's intelligence level and the type of Facebook-based business. Here, the author used the Pearson r-test, which yields a negative value ( $-0.52$ ). Therefore, the intelligence level is negatively related to the type of Facebook page-based business (Table 33).

## Recommendations

To address the limitations of Facebook page-based businesses, the government and the private sector in BD should implement effective measures. Additionally, our policymakers should take certain steps and establish guidelines to help make F-commerce more successful. The main guidelines are:

1. *Cost of bandwidth.*
2. *Clear guidelines for smooth online transaction.*
3. *Dual Language Translation.*
4. *Establishment of regulatory body.*
5. *Improvement of Delivery Channel.*
6. *Legal Guideline.*

## Conclusion

This research aims to identify the proportion of Facebook page-based business owners who use Facebook as their primary means of doing business. In this study, the author attempts to identify the factors that affect the prospects and

problems of F-commerce, which is conducted through the social network platform Facebook. This study also identifies some social and cultural factors that enhance the success of F-commerce transactions. Additionally, this research reveals notable impediments, including intense competition, delivery barriers, customer and supplier interactions, and the use of imported materials, that hinder the growth of Facebook page-based businesses in BD.

The positive effect of operating a Facebook-based business in BD is that these businesses can run in any situation because they are inherently organized and maintain a broad network of friends.

This research clearly outlines the features, usefulness, ease of use, social impact, financial benefits, and types of businesses in the field of Facebook page-based businesses. The research also analyzes how various characteristics of people, such as age, gender, education level, and locality, can influence the intention to use Facebook page-based businesses or to become a Facebook page business owner. Currently, virtual social networks are playing a prominent role in online business in BD. There are some crucial problems faced by online businesspeople in BD, such as delivery issues and issues with imported materials, which can be easily reduced if the government and other organizations collaborate to support Facebook page-based business owners.

## Implication and future study

The discussion section concludes that the author has identified some recommendations for implementing this study.

### 1. For companies:

The author expects that this research can serve as a resource to enhance the bond between customers and shopping channels, bringing many benefits to Facebook page-based entrepreneurs.

### 2. For the Academic field:

This study may serve as a source for students researching the positive impact of Facebook, business websites, advertising, and TAM.

### 3. For future studies:

Future researchers might focus on new business locations or countries, such as India, Pakistan, Afghanistan, and other Asian countries. Future research could analyze customer expectations for online business and investigate the influence of TAM and technology adoption in greater detail, while collecting more precise data.

## Conflict of interest

The authors report no conflict of interest concerning the materials or methods used in this study or the findings specified in this paper.

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