FinTech
The Persisting Gender Gap

Study to analyse and identify the reasons and solutions for the gender gap in FinTech in India

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Abstract

The gender gap in FinTech persists, and various researchers have related it to differences in the attitude of women towards FinTech (Chen et al., 2021). Hence, it becomes important to further analyze the reasons for the difference in attitude among women.

Purpose

The purpose of the paper is to identify the exact component of attitude that leads to the gender gap among Fintech users in India. Furthermore, the paper also pinpoints the specific reasons for the difference in the identified attitude component. Lastly, the paper outlines various solutions to reduce the gender gap.

Theoretical framework

The paper is based on the ABC model of attitude, which comprises the affect, behavior, and cognition components essential for the formation of attitude.

Research Method

Descriptive research methods were used for the study, based on primary data collected by surveying **400 men and women** across the country. Secondary data was used to gain a precise understanding of the current research in the field. The primary data collected was used to critically analyze exactly which component of attitude is responsible for the difference in women's attitude towards Fintech using hypothesis testing.

Conclusion

The paper concludes that the cognition and behavior components of attitude among women are responsible for the increasing gender gap in FinTech. Furthermore, the paper lists specific reasons and solutions for the same.

Keywords – *FinTech, Gender Gap, Women, Attitude, ABC Model*

Introduction

This chapter puts light on the background of the study and later discusses the problem which is addressed in the paper followed by the purpose of the study.

Background

Over the years, financial inclusion has proven to be essential for the growth of any economy. Financial inclusion implies that every individual in a country should have access to functional financial products and services at a reasonable price (Financial Inclusion, no date).

Every individual's need for payments, transactions, loans, insurance, etc., should be fulfilled (Financial Inclusion Overview, no date). The government, along with banking and financial institutions, has continuously worked to secure financial inclusion in the country but has always encountered various challenges (MIT Solve | Financial Inclusion Challenge - Overview, 2022). Fintech, with its dynamic and continuously evolving approach, is expected to overcome these challenges (Role of Fintech in Accelerating Financial Inclusion | OpenGrowth, 2022).

Fintech is the amalgamation of technology and financial services institutions to enhance the reach, application, and delivery of financial products and services to consumers (Feyen, Natarajan, and Saal, 2022). Thus, Fintech has a crucial role to play in the financial inclusion of the country (Feyen, Natarajan, and Saal, no date). The effectiveness of FinTech in financial inclusion greatly depends on its acceptance by the population of the country (Chuang, Liu, and Kao, no date). Consumers' acceptance of any product or service is seen to be influenced by their attitude towards that particular product or service (Jacoby, Johar, and Morrin, 1998). Attitude is a view of the consumer towards an object, behavior, or product that is mostly connoted with an evaluation and expectations (Wilcock et al., 2004).

Problem Discussion

India is a developing country and is committed to becoming one of the developed countries in the coming years (India is likely to be the world's fastest-growing big economy this year | The Economist, 2022). Among many influential factors, financial services are seen as one of the most influential factors (Economic Factors Affecting Economic Growth – Indian Economy Notes, 2023).

The growth of any economy is highly dependent on the financial services in the country. The healthier the financial services, the healthier the economy. Better access to financial services and products is seen to enhance employment, productivity, and the purchasing power of its population, leading towards prosperity (Puatwoe and Piabuo, 2017). The failure of the financial services sector has a very adverse effect on the economy and can drag it down with serious repercussions such as a recession. Thus, the effectiveness of the financial sector of the country is very important (Estrada, Park, and Ramayandi, 2010).

Furthermore, the effectiveness of the financial sector briefly depends on the reach, access, functionality, and affordability of the financial services and products. Hence, the government, along with banking and financial institutions, is seen to continuously strive to ensure access to functional and affordable financial services and products for every individual in the country under financial inclusion (A strong financial sector for a stronger India, no date). Financial inclusion is critical to boost empowerment, enhance individuals' financial capacity, and, in turn, the standard of living (Puatwoe and Piabuo, 2017). However, over time, it has been proven that achieving financial inclusion is not an easy task and comes with a huge demand for continuous new initiatives, reforms, and innovation in its application (Financial Service Industry Challenges (Banking, Retail & Global) | LiveVox, no date).

The digital revolution and modern technology have accelerated the journey of financial inclusion, transforming the complete financial services sector (Impact of digital revolution in the financial sector | Valtech, no date). Fintech, which is the amalgamation of modern digital technology and financial services, is seen to further promote financial inclusion (Feyen, Natarajan, and Saal, no date). In the past 10 years, about **1.2 billion** individuals have had access to financial products and services, which represents about a **35%** decrease in the unbanked population (Role of Fintech in Accelerating Financial Inclusion | OpenGrowth, 2022).

Despite rapid growth in access to financial services, there is still a persistent gender gap. It is observed that only **20%** of women in India have access to a bank account (Kumar, 2022), and there are about **30%** more men with accounts in financial institutions compared to women in India (Paula Sioson and Ju Kim, 2017). Fintech, with its modern technology and approach, is expected to close this gap but has yet to be successful in doing so (On FinTech and Financial Inclusion, 2021). The study on the gender gap in fintech reveals a serious issue, with only **21%** of the female population having used Fintech compared to **29%** of men (Chen et al., 2021). There is a significant 8% gap between men and women users (Chen et al., 2021). This suggests a persistent gender gap that needs a quick and effective solution. To discover an effective solution, it is essential to identify the exact reason for the persisting gender gap. Various studies conducted to identify the reasons for the persisting gender gap have concluded that attitudes are the major reason for the gender gap. These studies have found that the difference in attitudes of men and women towards Fintech products and services is responsible for the persistent gender gap (Chen et al., 2021).

Attitude is a view of the consumer towards an object, behavior, or product that is mostly associated with an evaluation and expectations (Wilcock et al., 2004). The ABC model of attitude states that attitude is formed of three components: affect (consumer's emotions and feelings), behavior (behavior towards the product or service), and cognition (consumer's knowledge) (Khalil, Horgan eta Zeuthen, 2020). Thus, to understand the exact reasons for the persisting gender gap, it is not enough to simply state attitude as the reason; it is also necessary to identify the exact component of attitude responsible for the gender gap.

Therefore, this study attempts to identify the exact component(s) of attitude that is/are responsible for the persisting gender gap among Fintech users in India. Furthermore, the paper also pinpoints the specific reasons for the difference in the identified component of attitude among women compared to men. Lastly, the paper outlines various solutions to reduce the gender gap.

Research Objective

The objective of the study was to identify the exact component of attitude responsible for the gender gap based on the primary data collected from various respondents in India.

To substantiate that the results of the data collected were genuine and significant, and not merely due to chance, hypothesis testing was conducted for each component of attitude among men and women at a significance level of **5%**. The paper also sheds light on the precise reasons for the differences in attitude between men and women. Additionally, the paper also presents solutions to address these differences.

Research Questions

1. Is the affect component of attitude significantly responsible for the difference in attitude of women towards fintech?

2. Is the cognition component of attitude significantly responsible for the difference in attitude of women towards fintech?

3. Is the behavior component of attitude significantly responsible for the difference in attitude of women towards fintech?

4. What are the reasons for the difference in the identified component among men and women?

5. What are the solutions to overcome the gender gap?

Theoretical Framework

Attitude

Attitude is described as a consumer's view toward an object, behavior, or product that is mostly associated with an evaluation and expectations (Solomon et al., 2016). According to the ABC model of Attitude, attitude is said to be formed by three components which are affected, behavior, and cognition (Khalil, Horgan, and Zeuthen, 2020).

ABC Model of Attitude

Attitude is comprised of three components: affect, behavior, and cognition (Khalil, Horgan, and Zeuthen, 2020). Each component is considered responsible for the formation of an attitude and needs to be considered while forming or inculcating an attitude (Khalil, Horgan, and Zeuthen, 2020).
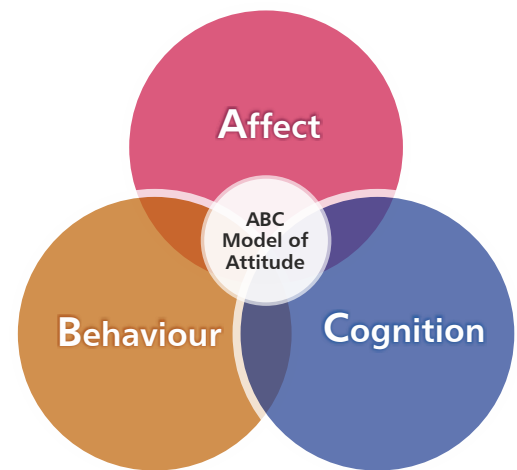
Affect

Affect is an individual's feeling towards an object. It is related to consumers' judgment toward the product, and what they feel about the product. Consumers' emotions are attached to it, and that's the basis of attitude. Consumers use this feeling to decide which product to choose and which not to. Effects can be positive as well as negative. Positive affect portrays a positive image of an object, while negative affect portrays a negative image. Hence, a positive effect helps attract people to the product (Mizokawa, 2000).

Behaviour

Behavior is a person's intentions of behavior toward the product. Behavior is how he acts. The behavior component is related to affect and the cognitive component. Here, the behavior of the consumer is what influences his attitude toward a product. Behavior is what decides how consumers will respond to a situation or product, whether they will buy the product or not (Khalil, Horgan, and Zeuthen, 2020).

Cognition

Cognition is all about the beliefs of the consumer. It is what the consumer believes about the product. This is basically a knowledge-based component. Here, a consumer has information or knowledge about the product, and that's the basis of the attitude formed. It has no emotions attached to it. Even if a consumer does not have a viewpoint toward the product, it's just his knowledge that he possesses (Mizokawa, 2000).

Research Methodology

The research method chosen for the research methodology was the descriptive research method. The descriptive research method focuses on the characteristics of the population and aims to describe the identified problem, situation, scenario, etc., based on the data collected using different techniques such as surveys, questionnaires, polls, etc. (Babbie, Earl, 2010).

Data Collection

The research is based on both primary and secondary data. Secondary data were collected from various already published scientific journals, reports, and research articles. The secondary data were used to gain an exact understanding of the current situation. The primary data were collected through the interview method of data collection.

To better understand the targeted respondents and reach the maximum number of participants, the convenience sampling method was chosen for the survey. The convenience sampling method is a technique where research data are collected from a conveniently available pool of respondents (Sedgwick, 2013). A total of 400 men and women were interviewed and assessed for each component of attitude based on their emotions, knowledge, and behavior toward Fintech.

To collect the most relevant and real-time data, respondents were selected from different categories and criteria of social groups (age, urban and rural regions, income, etc.). However, it is still challenging to conduct a precise analysis of the population with such a small number of respondents compared to the size of the population in India. Hence, to demonstrate that the observed results are genuine and significant, and not simply due to chance or random fluctuations, hypothesis testing was performed on the collected data.

Data Analysis and Interpretation

To analyze and interpret data on the persisting gender gap in fintech which involves collecting and examining relevant statistics, identifying disparities, and understanding their underlying causes.

1. Affect

Respondents were rated based on their feelings and emotions towards Fintech (Where 1 was considered to be least positive (Negative) and 10 the most positive feeling).

Below is the data collected:

Table 1: Ratings of the men and women for, affect component of attitude toward Fintech.

Rating	No of women respondents for a particular rating	No. of men respondents for a particular rating
1	2	1
2	5	4
3	15	14
4	42	40
5	51	47
6	39	41
7	27	29
8	13	15
9	4	6
10	2	3

After analysing above data below interpretation was formulated

Gender	Mean x	Standard Deviation	Sample Population
Women	5.31 (x_1)	1.63 (σ_1)	200 (n_1)
Men	5.5 (x_2)	1.68 (σ_2)	200 (n_2)

The table above shows that the affect component of attitude among men is more positive compared to that of women toward Fintech.

However, this more positive affect component among men is based on a small sample of 400 respondents, which is relatively small compared to the total population of the country.

Therefore, the observed result may be due to a fluke or random chance. Hence, it is necessary to establish that the observed results are indeed genuine and significant, rather than being attributed to mere chance or randomness.

As a result, hypothesis testing was conducted on the collected data with a significance level of 5%, which is considered a standard value. Z Test for two means was carried out as below

To carry out the Z Test Null and alternate hypothesis were as below -

H0: Mean of ratings of the affect component of attitude towards Fintech of men is not significantly more positive than women and thus the difference is not significant.

Thus, **H0**: $\underline{x}_1 = \underline{x}_2$

H1: Mean of ratings of the affect component of attitude towards fintech of men is significantly more positive than women and thus the difference is significant.

Thus, **H1**: $\underline{x}_1 < \underline{x}_2$

Level of significance $= \alpha = 0.05$

$$Z = \frac{x_1 - x_2}{\sqrt{\dfrac{\sigma_1^2}{n_1} + \dfrac{\sigma_2^2}{n_2}}}$$

$\therefore Z = -0.19/0.14$

$\therefore Z = -1.35$ and P-value $= 0.177$

Level of significance $= \alpha = 0.05$

Thus, as P-value $> \alpha$

Null hypothesis fails to be rejected, and Alternate hypothesis is rejected.

Thus, it can be said that the affect component of attitude toward fintech among men is not significantly more positive than that among women toward fintech, and thus the difference is not significant.

Hence, the affect component of attitude towards fintech amongst men is not significantly more positive than women.

2. Cognition

Respondents were rated based on their knowledge towards Fintech (Where 1 was considered to be least positive (Negative) and 10 the most positive feeling).

Below is the data collected:

Table 1: Ratings of the men and women for, cognition component of attitude toward Fintech.

Rating	No of women respondents for a particular rating	No. of men respondents for a particular rating
1	0	0
2	11	4
3	25	7
4	48	13
5	35	33
6	33	64
7	31	48
8	13	19
9	3	7
10	1	5

After analysing above data below interpretation was formulated

Gender	Mean $\underline{x}$	Standard Deviation	Sample Population
Women	5.1 ($\underline{x}_1$)	1.72 (σ_1)	200 (n_1)
Men	6.2 ($\underline{x}_2$)	1.54 (σ_2)	200 (n_2)

The table above shows that the cognition component of attitude among men is more positive compared to that among women toward Fintech.

However, this more positive cognition component among men is based on a small sample of 400 respondents, which is relatively small compared to the total population of the country.

Therefore, the observed result may be due to a fluke or random chance. Hence, it is necessary to establish that the observed results are indeed genuine and significant, rather than being attributed to mere chance or randomness.

As a result, hypothesis testing was conducted on the collected data with a significance level of 5%, which is considered a standard value. Z Test for two means was carried out as below:

To carry out the Z Test Null and alternate hypothesis were as below –

H0: Mean of ratings of the cognition component of attitude towards Fintech of men is not significantly more positive than women and thus the difference is not significant.

Thus, **H0**: $\underline{x}_1 = \underline{x}_2$

H1: Mean of ratings of the cognition component of attitude towards fintech of men is significantly more positive than women and thus the difference is significant.

Thus, **H1**: $\underline{x}_1 < \underline{x}_2$

Level of significance $= \alpha = 0.05$

$$Z = \frac{x_1 - x_2}{\sqrt{\dfrac{\sigma_1^2}{n_1} + \dfrac{\sigma_2^2}{n_2}}}$$

$\therefore Z = -1.04/0.14$

$\therefore Z = -7.43$ and P-value $= 0.00001$

Level of significance $= \alpha = 0.05$

Thus, as P-value $< \alpha$

Null hypothesis is rejected, and Alternate hypothesis is accepted.

Thus, it can be said that the cognition component of attitude towards fintech of men is significantly more positive than women and thus the difference is significant.

Hence, the cognition component of attitude towards fintech amongst men is significantly more positive than women.

3. Behaviour

Respondents were rated based on their behaviour towards Fintech (Where 1 was considered to be least positive (Negative) and 10 the most positive feeling).

Below is the data collected:

Table 1: Ratings of the men and women for, behaviour component of attitude toward Fintech.

Rating	No of women respondents for a particular rating	No. of men respondents for a particular rating
1	9	4
2	28	17
3	45	24
4	39	46
5	28	29
6	25	31
7	15	25
8	8	15
9	3	7
10	0	2

After analysing above data below interpretation was formulated

Gender	Mean $\underline{x}$	Standard Deviation	Sample Population
Women	4.21 ($\underline{x}_1$)	1.86 (σ_1)	200 (n_1)
Men	5.01 ($\underline{x}_2$)	1.98 (σ_2)	200 (n_2)

The table above shows that the behavior component of attitude among men is more positive compared to that among women toward Fintech. However, this more positive behavior component among men is based on a small sample of 400 respondents, which is relatively small compared to the total population of the country.

Therefore, the observed result may be due to a fluke or random chance. Hence, it is necessary to establish that the observed results are indeed genuine and significant, rather than being attributed to mere chance or randomness.

As a result, hypothesis testing was conducted on the collected data with a significance level of 5%, which is considered a standard value.

Z Test for two means was carried out as below

To carry out the Z Test Null and alternate hypothesis were as below -

H0: Mean of ratings of the behaviour component of attitude towards Fintech of men is not significantly more positive than women and thus the difference is not significant.

Thus, **H0**: $\underline{x}_1 = \underline{x}_2$

H1: Mean of ratings of the behaviour component of attitude towards fintech of men is significantly more positive than women and thus the difference is significant.

Thus, **H1**: $\underline{x}_1 < \underline{x}_2$

Level of significance $= \alpha = 0.05$

$$Z = \frac{x_1 - x_2}{\sqrt{\dfrac{\sigma_1^2}{n_1} + \dfrac{\sigma_2^2}{n_2}}}$$

$\therefore Z = -0.8/0.2$

$\therefore Z = -4$ and P-value $= 0.000063$

Level of significance $= \alpha = 0.05$

Thus, as P-value $< \alpha$

Null hypothesis is rejected, and Alternate hypothesis is accepted..

Thus, it can be said that the behaviour component of attitude towards fintech of men is significantly more positive than women and thus the difference is significant.

Hence, the behaviour component of attitude towards fintech amongst men is significantly more positive than women.

Findings

1. The affect component of attitude toward Fintech among men is not significantly more positive than that among women.

2. The behavior component of attitude toward Fintech among men is significantly more positive than that among women.

3. The behavior component of attitude toward Fintech among men is significantly more positive than that among women.

Reasons For Difference in the Attitude Based on Interviews

- Men are considered to be more risk-taking compared to women (Byrnes, Miller, and Schafer, 1999), which allows them to explore new Fintech entrants in the market with much less fear, a trait not commonly seen among women. Women are often viewed as more anxious when choosing their products.

- Security and reliability characteristics are seen to be more ingrained among women compared to men, making them less inclined to trust FinTech services easily.

- Lack of adequate financial knowledge was also identified as a major reason for the gender gap, as women are often unaware of various financial services and products, affecting the cognition component.

- Women were observed to be more dependent on other family members, particularly their husbands, for their financial needs, leading them to overlook FinTech products.

- Persistent social norms and traditional gender roles still exist, with men being considered responsible for managing finances and women for household duties.

- Not being the primary earner in the family was also noted as one of the reasons women may feel the need to use FinTech products.

- One possible reason for the gender gap could be that FinTech products are designed with a more male-specific audience in mind.

- The lack of adequate support provided by FinTech companies to women in the initial phases of their FinTech journey is another contributing factor.

- Women are often seen as less tech-savvy compared to men.

- Women tend to be more reluctant to adopt new technologies, products, and services compared to men.

Conclusion

> After thorough analysis of data and conducting hypothesis testing, it can be concluded that cognition and behavior are the most prominent components of attitude responsible for the persisting gender gap.

Moving ahead, the lack of support from financial institutions, financial illiteracy, limited women-specific products, dependency on family members for financial needs, and age-old social norms are seen as major reasons for the difference in attitude among women. It can also be said that although the identified reasons for the gender gap in FinTech are challenging to overcome, with innovative initiatives and reforms, the government and FinTech companies can certainly reduce the persisting gender gap. Finally, here are a few solutions to reduce the persisting gender gap:

Solutions to Reduce the Persisting Gender Gap

The government, along with FinTech companies, can conduct financial literacy campaigns, especially in rural areas of the country.

- FinTech companies need to provide in-person or over-the-phone support to new women consumers, ensuring their security and data privacy.

- More women should be encouraged to achieve financial independence, with the help of various government empowerment opportunities.

- FinTech companies should initiate new promotion and marketing campaigns designed specifically for female consumers.

- Banks and FinTech companies should not be competitors but should complement each other and work together to promote financial inclusion.

- Satisfactory, prompt, and proactive customer service should be provided to help women build trust.
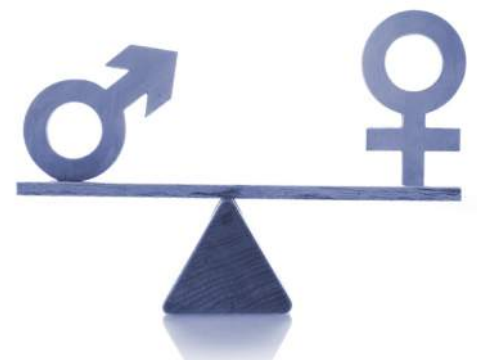
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