

Fintech Awareness, Attitude, and Usage among Female Undergraduates: Evidence from Ludhiana

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Abstract

Fintech, or financial technology, is a term that describes the mobile applications, software and other technologies that enable users to access and manage their finances digitally. Today's generation live in an era where one-touch payments, scanning QR codes, and express delivery of pre-paid groceries, are the norm. Young people have extensive exposure to the ever-changing landscape of smart technology. Utilization of Fintech services increases the level of financial literacy and financial inclusion of women in the economy. This study investigates the level of awareness, attitude and usage of Fintech services among female undergraduate students in Ludhiana, Punjab. Primary data through structured questionnaire from 132 respondents (66 rural and 66 urban) was collected. Data analysis methods Descriptive statistics, independent sample t-test and Correlation analysis were employed. The results indicate that 92.4% of the respondents possess high awareness, while only 59.1% actively use Fintech services. There is no significant rural urban differences were observed. Correlation analysis reveals moderate relationship between Fintech awareness and attitude towards Fintech ($r=0.42$) and between Fintech awareness and usage ($r=0.34$). The findings highlight the need for targeted financial literacy initiatives to improve effective Fintech adoption among young women.

Keywords: Fintech awareness, Attitude towards Fintech, Fintech usage, Female undergraduate students

Introduction

Fintech comprises of two words 'Financial' and 'Technology'. Fintech term is used to describe the technology that is used to automate the delivery of financial services. In recent times, financial sector has undergone significant transformation through the collective influence of digital innovations and technological advancements which are primarily driven by financial technology (Fintech) (Candra Azaria, 2024). India has firmly placed itself as a global leader in the Fintech arena over the last decade, achieving an impressive 87% adoption rate supported by an ever-expanding digital infrastructure (Shamli Prabhakaran, 2023). The Fintech explosion in India gained significant push starting in 2015, when Fintech investments raised dramatically from \$247 million to \$1.5 billion, coinciding with the emergence of numerous Fintech startups and ranked India as the third largest smartphone user country globally (Kavitha Lal, 2020). Fintech is used to assist individuals, companies and business owners to manage their financial

operations and processes in better way. It consists of specialized software and algorithms of computers and mobile phones. It is a series of new business models, new technology applications, and new products and services that have a significant impact on the financial market and supply of financial services (Bo Li, 2021). It focuses on various kinds of services like retail banking, financial education, fundraising, cryptocurrencies, investment management and many more. Fintech has revolutionized how nowadays young generation is engage with their finances. It enhanced financial awareness and financial education among young people (Candra Azaria, 2024). The user friendly approach of technology encourage youth to explore financial aspects like budgeting, saving, investment, debt management etc. and fostering culture of financial inclusion at early age. Young adults aged 18-25 years constitute the most active user group of Fintech, and demonstrates greater awareness of money transfer services and other Fintech applications (Ratikanta Ray, 2023).

Exploring innovative apps and online platforms leads to promote financial literacy among the youth. User-friendly approach of Fintech applications makes financial education more accessible. It helps young generation to explore crucial topics like budgeting, saving, investing, mortgages, insurance, and debt management. Fintech applications are being adopted as a most preferred mode of financial transactions, especially for payments by the young people (Nahida Sultana, 2023). Despite widespread interaction and access with technology, individuals and demographic groups differ considerably in their awareness level of the range and functional capabilities of Fintech services. Such awareness is fundamental condition for adoption, which enable users to evaluate the benefits and risks of digital financial tools prior to their active use.

Gender disparities in financial literacy and access to digital financial services remain a persistent global issue. Research indicates that women generally demonstrate lower levels of financial confidence and financial product awareness compared to men, which often constraints their participation in formal financial systems (Squicciarini, 2018). These disparities also evident within the Fintech ecosystem, where female population is more likely to use basic Fintech services such as digital payments but less likely to engage with advanced Fintech products such as digital investments, online insurance platforms, or algorithm-based advisory services (Tavneet Suri, 2016). Such gaps highlight the importance for gender-focused research to better understand women's engagement with Fintech.

Female students at undergraduate level are in transitional phase of developing long-term financial habits and decision-making capabilities and constitute a particularly important group for studying Fintech awareness. Awareness of Fintech at this stage can contribute significantly to financial independence, improved money management, and informed participation in the digital economy (Annamaria Lusardi, 2013). Furthermore, enhanced Fintech awareness among young women can support broader goals of financial inclusion and women's economic empowerment by enabling access to savings, credit, insurance, and investment opportunities previously constrained by traditional financial systems.

The objective of this study is to explore several key aspects related to Fintech awareness, attitude and usage among female undergraduates. Further it explores the various Fintech services that have gained popularity among the college going students. It is essential for various stakeholders, including financial institutions, Fintech start-ups, policymakers, and consumer advocacy groups to understand the current Fintech landscape among young generation. By understanding the preferences and attitudes towards Fintech, financial service providers can better tailor their offerings to meet the specific needs and expectations of this generation. This research may also help policymakers to create an environment that fosters innovation in Fintech services especially for young female population.

Review of Literature

The integration of financial technology into traditional financial services has brought about transformative changes in financial awareness and financial education levels of today's college going students and young generations. This change has captured the attention of researchers, policymakers, and financial institutions worldwide. This literature review aims to provide an overview of existing research on Fintech awareness, Attitude towards Fintech and Fintech usage among female undergraduate students in various contexts.

Mitchell, Lusardi and Olivia (2013) recognized that financial knowledge is a crucial factor which has major welfare implications and provides directions for designing initiatives to improve financial literacy among the larger population.

ADB (2016) showed that the low level of financial literacy and low awareness of digital finance channels can reduce customers' patronage of digital financial channels to perform basic financial platforms.

Carlin, Olafsson, and Pagel (2017) stated that the main reason behind the highest Fintech adoption among Millennials and Gen Z is their highest awareness level in financial technology compared with older generations and their life expectancy.

Bhatia and Singh (2019) revealed that women with higher access and usage of financial services, such as opening bank account and availing insurance, are having higher social, political and economic empowerment. Such access enhances their bargaining power in society, allowing them greater ability to negotiate, exercise political choices, make financial decisions at work, and contribute to decision-making within the family, thereby advancing women's overall empowerment.

Rai and Sharma (2019) have revealed that college students lack financial awareness and expertise. India has a very low level of digital financial inclusion, which indicates that few individuals are aware of its services and products

Banu (2022) has reported that recent innovations are based on needs and wants of younger generation. Young people are more tech savvy as compared to older generations. They explore and experience world through technology which affects their attitude and preferences towards financial services.

Dr. R Nalini and Shreelaxmi (2024) found that Technological advancements into the financial services sector have brought in enormous changes to the sector. As per their findings over 3085 Fintech companies operating in India in year 2023 with market capital over USD 226 billion. Traditional financial services have been shifted to Fintech services.

K (2024) concluded that the fusion of financial education and Fintech is particularly effective for women. When financial literacy in its digital form is combined with Fintech products, it provides a driver for women's empowerment, especially in rural and semi-urban areas. The evidence indicates that the combination of Fintech instruments and targeted financial literacy interventions significantly boosts women's engagement with the financial system, leading to increased savings, more informed investment decisions, and increased participation in business enterprise.

Mahat (2024) stated that policymakers, financial institutions, and Fintech operators must develop inclusive policies that promote greater financial literacy and digital engagement through targeted education programs, as well as overcome challenges such as gendered social norms, cultural resistance, and inadequate digital infrastructure.

Mary and Sethupathy (2024) concluded that financial independence will give empowerment to women and weaker sections of society, which is embedded motive of financial inclusion and digital finance. Adopting digitization in financial services and including most of population in the net of banking will help in growth and development of country.

Need of the Study

The wide use of Fintech services has made financial transactions much easier, more efficient, and accessible. However, there is still a large gap between the degree of knowledge and use of Fintech services for the different demographic groups, especially the female group. Female undergraduate students are a critical population for the study Fintech awareness. Very few studies have explored the knowledge and understanding of Fintech services for this demographic group. Existing studies reveal persistent gaps in financial literacy and confidence, which often lead to lower level of engagement with digital financial systems among women. Addressing these inequalities at the undergraduate level can play a significant role in promoting long-term financial inclusion and economic empowerment. It would be valuable to assess the level of their awareness and usage patterns in order to know the constraints to their participation in the digital financial environment.

Further, in the context of increasing policy emphasis on digital payments and financial inclusion, particularly in developing economies, it is important to assess whether young women are adequately equipped with benefits from these policy initiatives. The effectiveness of government and institutional programs promoting digital finance largely depends on users' awareness, attitude and usage of Fintech services. This study can help to evaluate the reach and impact of such initiatives among female undergraduates.

The findings of this study are expected to be valuable for multiple stakeholders like educators, policymakers, financial institutions, and Fintech service providers. Insights from the research can assist in designing targeted financial literacy programs, gender-sensitive Fintech solutions, and awareness campaigns tailored to the needs of female students. Ultimately, the study seeks to contribute to the literature on Fintech adoption and gender inclusion while supporting the development of an inclusive, informed, and digitally empowered generation of women.

Objectives of the Study

1. To explore the level of awareness and usage of Fintech services among female undergraduates of Ludhiana.
2. To compare the mean score of Fintech awareness among female undergraduates with respect to their locale (Urban and Rural).
3. To compare the mean score of attitude towards Fintech among female undergraduates with respect to their locale (Urban and Rural).
4. To compare the mean score of Fintech usage among female undergraduates with respect to their locale (Urban and Rural).
5. To analyze relationship between Fintech awareness and attitude towards Fintech services in young female population.
6. To analyze relationship between attitude towards Fintech services and its usage in young female population.
7. To analyze relationship between Fintech awareness and its usage in young female population.

Hypothesis

1. There is no significant difference in mean scores of Fintech awareness of urban and rural female undergraduate students.

2. There is no significant difference in mean scores of attitude towards Fintech of urban and rural female undergraduate students.
3. There is no significant difference in mean scores of Fintech usage of urban and rural female undergraduate students.
4. There is no significant relationship exists in Fintech awareness and attitude towards Fintech services in young female population.
5. There is no significant relationship exists in attitude towards Fintech services and its usage in young female population.
6. There is no significant relationship exists in Fintech awareness and its usage in young female population.

Research Methodology

1. **Research Design:** This study adopted a method of quantitative research design approach to comprehensively evaluate Fintech awareness, attitude and usage among female undergraduate students.
2. **Sampling:** The sample of this research comprises of 132 undergraduate students studying in different colleges of Ludhiana city of Punjab. A combination of purposive and random sampling techniques was adopted to select the sample. Purposive sampling was used to represent the demographic gender based study and area belongings of respondents. For urban area intercity colleges of Ludhiana were chosen and for rural area colleges of villages of Ludhiana were chosen. Undergraduate respondents were selected randomly from different colleges.
3. **Research Instrument:** A Structured questionnaire was constructed using Google form for the purpose of research. The questionnaire consists of four sections; the first section focused on demographics to gather essential information about respondents including their name, age, gender, class, area, institute name. Second section is about Fintech Awareness level containing close ended (dichotomous) questions. This section was designed to assess respondents' familiarity with various Fintech. Next section is about attitude towards Fintech which contains 5 point Likert scale questions. Last section is about Fintech usage containing close ended (dichotomous) questions.
4. **Data Collection:** An online questionnaire survey conducted by the researchers to collect the data. Questionnaire was distributed via Whatsapp groups of students of different colleges located in Ludhiana city of Punjab. The researchers also used secondary data resources like journal articles, books, reports etc.
5. **Data Analysis:** The data was analyzed with the help of Descriptive statistics, t-test and Correlation analysis. Descriptive statistics were employed to summarize the demographic data and assess the overall level of Fintech awareness among female undergraduates. To investigate area wise difference between Fintech awareness levels, attitude towards Fintech, Fintech usage t-test was applied. To analyze relationship between Fintech awareness levels, attitude towards Fintech and Fintech usage correlation analysis conducted.

Data Analysis and Interpretation

1. Percentage Analysis:

The first objective was to explore the level of awareness and usage of Fintech services among female undergraduates of Ludhiana.

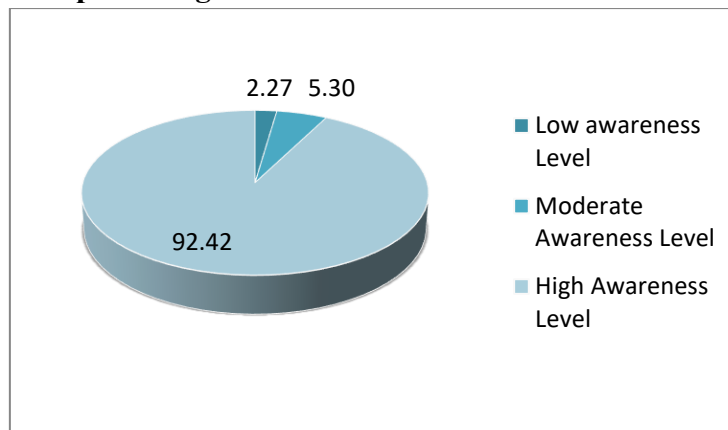
Analysis of Fintech awareness level: The group of students whose scores are 4 and above is considered to have high level of Fintech awareness. Likewise, the students whose scores are between 0 and 2 are considered to have low level of Fintech awareness. The students who scored 3 are considered to have moderate level of Fintech awareness. The percentage of students at different levels of Fintech awareness is shown in the following table 1:

Table 1: Showing percentage of students at different levels of Fintech awareness (N=132)

Level of awareness	No of students	Percentage
Low awareness Level	3	2.27
Moderate Awareness Level	7	5.30
High Awareness Level	122	92.42
Total	132	100

The analysis in the table 1 shows that 92.42% of students were found to have high level of Fintech awareness, 7% of students have moderate level of Fintech awareness and only 3% of students were found to have low level Fintech awareness.

Graphical presentation of percentage of students at different levels of Fintech awareness (N=132)



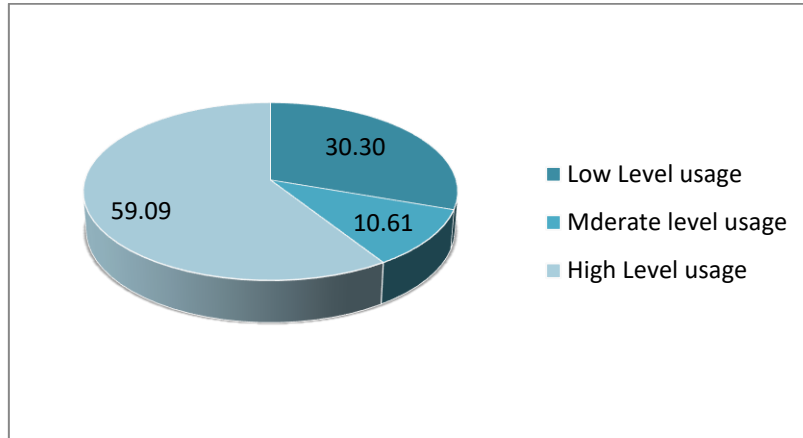
Analysis of Fintech usage level: The group of students whose scores are 4 and above is considered to have high level of Fintech usage. Likewise, the students whose scores are between 0 and 2 are considered to have low level of Fintech usage. The students who scored 3 are considered to have moderate level of Fintech usage. The percentage of students at different levels of Fintech usage is shown in the following table 2:

Table 2: Showing percentage of students at different levels of Fintech usage (N=132)

Level of usage	No of students	Percentage
Low Level usage	40	30.30
Moderate level usage	14	10.61
High Level usage	78	59.09
Total	132	100

The analysis in the table 1 shows that 59.09% of students were found to have high level of Fintech usage, 14% of students have moderate level of Fintech usage and only 40% of students were found to have low level Fintech usage.

Graphical presentation of percentage of students at different levels of Fintech awareness (N=132)



2. T-Test: Area wise comparison of Fintech awareness, attitude towards Fintech, Fintech usage
 The Second objective is to compare the mean score of Fintech awareness among female undergraduates with respect to their locale (Urban and Rural). The data was analyzed with the help of t-test and results are given in Table 3

Table 3: Area wise Mean, variance, N and t-value of Fintech awareness level of female undergraduates

Area	Mean	Variance	N	t-value
Rural	4.68	0.68	66	0.37
Urban	4.73	0.32	66	

From Table 3 can be seen that the t-value is 0.37 ($P > 0.05$) which is not significant, and shows that the mean scores of Fintech awareness level of undergraduate students do not differ significantly with respect to their area. Therefore, the null hypothesis that there is no significant difference in mean scores of Fintech awareness level of female undergraduate students is not rejected. It may, therefore, be said that both rural and urban female undergraduate students were found to the same level of Fintech awareness to some extent.

The third objective is to compare the mean score of attitude towards Fintech services among female undergraduates with respect to their locale (Urban and Rural). The data was analyzed with the help of t-test and results are given in Table 4

Table 4: Area wise Mean, variance, N and t-value of attitude towards Fintech services of female undergraduates

Area	Mean	Variance	N	t-value
Rural	19.53	10.10	66	0.53
Urban	19.85	13.92	66	

From Table 4 can be seen that the t-value is 0.53 ($p > 0.05$) which is not significant, and shows that the mean scores of attitude towards Fintech services of female undergraduate students do not differ significantly with respect to their area. Therefore, the null hypothesis that there is no significant difference in mean scores of attitude towards Fintech services of female undergraduate students is not rejected. It may, therefore, be said that both rural and urban female undergraduate students were found to have same attitude towards Fintech services to some extent.

The fourth objective is to compare the mean score of Fintech usage among female undergraduates with respect to their locale (Urban and Rural). The data was analyzed with the help of t-test and results are given in Table 5

Table 5: Area wise Mean, variance, N and t-value of Fintech usage among female undergraduates

Area	Mean	Variance	N	t-value
Rural	3.25	3.17	66	0.49
Urban	3.40	2.61	66	

From Table 5 it can be seen that the t-value is 0.49 ($p > 0.05$) which is not significant, and shows that the mean scores of Fintech usage among female undergraduate students do not differ significantly with respect to their area. Therefore, the null hypothesis that there is no significant difference in mean scores of Fintech usage among female undergraduate students is not rejected. It may, therefore, be said that both rural and urban female undergraduate students were found to have same level of Fintech usage to some extent.

3. Correlation Analysis:

The fifth objective is to analyze relationship between Fintech awareness and attitude towards Fintech services in young female population. The data was analyzed with the help of correlation and results are given in Table 6

Table 6: Coefficient of correlation of Fintech awareness and Attitude towards Fintech (N=132)

Variables	Coefficient of correlation (r)
1. Fintech Awareness 2. Attitude towards Fintech	0.42

From Table 6 it can be seen that the correlation value $r = 0.42$ with $N = 132$, is statistically significant ($p < 0.05$) between Fintech awareness and attitude towards Fintech. Therefore, the null hypothesis that there is no significant relationship exists in Fintech awareness and attitude towards Fintech services in young female population is rejected. It may, therefore, be said that Fintech awareness and attitude towards Fintech services are moderately correlated.

The sixth objective is to analyze relationship between Attitude towards Fintech services and Fintech usage in young female population. The data was analyzed with the help of correlation and results are given in Table 7

Table 7: Coefficient of correlation of Attitude towards Fintech and Fintech usage (N=132)

Variables	Coefficient of correlation (r)
Attitude towards Fintech	0.2

Fintech usage	
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From Table 7 it can be seen that the correlation value $r = 0.2$ with $N = 132$, is statistically significant ($p < 0.05$) between attitude towards Fintech and Fintech usage. Therefore, the null hypothesis that there is no significant relationship exists in attitude towards Fintech services and Fintech usage in young female population is rejected. It may, therefore, be said that attitude towards Fintech services and Fintech usage are correlated to some extent.

The seventh objective is to analyze relationship between Fintech awareness and Fintech usage in young female population. The data was analyzed with the help of correlation and results are given in Table 8

Table 8: Coefficient of correlation of Fintech awareness and Fintech usage (N=132)

Variables	Coefficient of correlation (r)
Fintech awareness	
Fintech usage	0.34

From Table 8 it can be seen that the correlation value $r = 0.34$ with $N = 132$, is statistically significant ($p < 0.05$) between Fintech awareness and Fintech usage. Therefore, the null hypothesis that there is no significant relationship exists in Fintech awareness and Fintech usage in young female population is rejected. It may, therefore, be said that Fintech awareness and Fintech usage are moderately correlated.

Conclusion

This study provides a comprehensive understanding of the level of Fintech awareness, attitude towards Fintech, and Fintech usage among female undergraduates of Ludhiana city by employing percentage analysis, t-test, and correlation techniques. The percentage analysis revealed 92% of the respondents have Fintech awareness and 59% of respondents are involved in Fintech usage. T-test highlighted no significant differences in Fintech awareness, Attitude towards Fintech, and Fintech usage among rural and urban areas. Further, the correlation analysis highlighted the moderate level of relationship among awareness, attitude, and usage. Overall, the findings of this study provide valuable insights for service providers and policymakers, highlighting the need for user centric approaches to improve Fintech usage. As FinTech continues to reshape the financial landscape, this study contributes to a holistic understanding of the Fintech awareness, Attitude towards Fintech and Fintech usage.

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