International Journal of Future Generation Communication and Networking
Vol. 14, No. 1, (2021), pp.2191–2200

The Impact Of Demographic Variables Of Customers Of NationalizedBanks On Online Banking

Asst. Prof. Sumita Joshi,

MIT- World Peace University, SOM –UG, PuneContact

Abstract

Currently, the Banking Sector is experiencing dynamics in technology. The reasons for these dynamics are endlessly varying customer expectations and enhanced technological proficiencies. The growing competition from Fin-tech start-ups has introduced the use of technology to create distinctive customer experiences in banking & financial services. This has enforced the large banks to respond by innovating new banking practices. Banks are providing online banking services, as this would improve their profits. Since internet banking in India is in its emerging stage, it is essential for e-banking institutions to enhance acceptance and usage of the internet by their customers. The threat of cyber-security has made banks to be alert during online transactions thanbefore. The banking sector is ready for disruption. Technological innovation is largely used by the banking sector to create competitive intelligence and competitive advantage as it helps banks to improve their services and cost-effectiveness as fewer employees and fewer traditional branches are needed. There is an utmost need that customers must learn and understandthe importance of online banking. Hence the researcher conducted a study to find out the impact of demographic variables on online banking.

Keywords: Disruption; Fin-Tech; Online Banking; Technological Innovation

1. Introduction:

The term innovative banking is being in use now-a-days. Innovation means something new which had not been done before; the same is applicable for the banking sector as well. Thus, to increase the business avenues and capture the new market banks are resorting to innovation.

Effectively achieving business goals; increasing productivity and thereby increasing profitability; effectively responding to industry disrupters; increasing market share; quickly responding to external challenges by developing human and technological resources to do things differently, are the important reasons for innovation.

[1]For a long, banks have been reluctant to update their systems. In the current systems, the banks are using the products of years of continued innovation to meet instant customer requirements. However, it is the need of an hour that the bank must invest, understand and implement the latest technologies to be competitive in the market. This would meet the increasing expectations of the customers and result in an improved level of satisfaction.

Today, the concepts such as Augmented Reality, Blockchain Technology, Robotic Process Automation, Artificial Intelligence, Hybrid Cloud are some of the advanced technologies disrupting banking and financial services.

In the last few years, E-banking is being widely used and one of the examples of innovations in banking. Electronic (Online) Banking has changed the face of the banking scenario.

E-banking is a fully automatic service offered by banks to their customers based on Information Technology platforms. E-banking services enable customers to access their accounts online, transfer of money between the accounts, and making payments through e-channels.

The customers can avail the desired banking services in no time on mobiles, laptops, or personal

ISSN: 2233-7857IJFGCN

computers. E-banking facilitates the customer to perform financial transactions on a secured website operated by the bank. Online banking offers services such as bank statements, loan applications, funds transfer, e-bill payments that allow customers to monitor their accounts in one place.
[2] In the last two decades, there has been a paradigm shift in the banking industry by the technology-based approach in business. Banks across the world are inspired to incorporate Information Technology (IT) into their daily operations.
[3] Online banking has evolved as one of the strategic tools of the banking industry. It refers to the delivery of banking products and services to customers through the internet, increased demand for sophisticated and convenient products, and also internet users. It enabled the bankers to increase their market share by saving time, cost and being free from geographical boundaries.
Online banking facilities offer many features as follows : [4]

[1] https://www.wowso.me/blog/technology-in-banking
[2] Siva Kumar Challa, 'IMPACT OF DEMOGRAPHIC VARIABLES OF CONSUMERS ON INTERNET', October, 2020.
[3] D. Vijayalakshmi and M. V. Rajasekhar, 'Impact of Demographics on Customer Satisfaction in Online Banking', International Journal of Applied Marketing & Management, 3.1 (2018), 8–19.
[4] https://en.wikipedia.org/wiki/Online_banking

- A bank customer can perform non-financial transactions through online banking such as:
    - To check account balances
    - To view recent transactions
    - To download periodic account statements in PDF format
    - To view images of deposited cheques
    - To order cheque books
    - To download applications for M-banking, E-banking, etc.
- In addition to the above, bank customers can perform the following financial transactions:
    - Transfer of funds between various accounts of customers
    - Transfer of funds to third party
    - Sale and purchase of investments/shares
    - Repayments of loans
    - Applying for credit cards
    - Online Payment of utility bills

Technology disruption is inevitable in the banking sector. Hence, the banks should take efforts to create awareness of using online services amongst the customers, on the other hand, the customer should be techno-savvy to avail online services provided by banks.
In this research paper, the researcher has a primary focus on online banking services availed by customers of nationalized banks in Pune City. To evaluate online banking services availed, the researcher attempts to study the demographic profiles of the customers of selected nationalized

ISSN: 2233-7857IJFGCN

banks in Pune City through a structured questionnaire.

2. Review of Literature:

Internet banking in India emerged in the mid-nineties. The newly introduced private sector banks came up with a new business model revolving around Information Technology (IT). Internet banking in India was initiated by ICICI bank in 1998. Since then, a large number of Public Sector Banks, as well as private banks, have opted for internet banking services. The number of internet banking users has also been continued to grow (Malhotra and Singh, 2007). The growth and success of Internet Banking over the last decade has posed a strong competitive pressure on Private, Public, and Nationalized banks in India to opt for Internet Banking to remain competitive (Kannabiran & Narayan, 2009) [5]

(Das 2020) Shri Shaktikant Das, Governor of Reserve Bank of India in his speech at the Mint's Annual Banking Conclave, 2020 on February 24, 2020, on "Banking landscape in the 21st century" mentioned that as the regulator and supervisor of banks, the Reserve Bank of India is committed to ensuring a sound and the healthy banking system in the country. As far as Banking and Finance is concerned, modernization in technology and development of new business has opened up new avenues.

India is witnessing a paradigm shift in banking due to the technological revolution that promises risk management better customer experience and good shareholder returns.

More recently, due to the global growth slowdown in 2018, credit growth has slowed down across the major economies. This, in turn, has adversely affected the profitability of the banks. However, the capital position of the banks has improved constantly in major advanced and developing market economies as various regulatory reforms were introduced after the global financial crisis.

<u>New Dimensions of Online Banking:</u>

[6] Globally, banks are facing tough competition from non-traditional players who are the captivating benefit of digital innovation. Banking structures across the world are adapting to innovative impulses.

Many Fin-Tech startups have entered the banking and finance industry and rendering services of payments and remittance in the domain of peer-to-peer lending, insurance, trade finance, and wealth management. Through an agreement with Fin-Tech players, some banks are applying a hybrid model wherein the mobile services are interrelating with the banking services.

Banks are facing competition from Fintech companies as well as from large technology companies (BigTechs) who are entering into the banking and financial services industry. The entry of Fin-Tech and Big-Tech into financial services has a great potential to bring about quick transformation in the landscape of the financial sector.

[5] Kesharwani Ankit, 'Journal of Internet Banking and Commerce', Journal of Internet Banking and Commerce, 16.2(2011).

[6] Shaktikanta Das, 'Banking Landscape in the 21', 25.2015 (2020), 1–13.

ISSN: 2233-7857IJFGCN

The banks have to absorb new technology and emerging business practices to remain in tough competition. On the other hand, banking regulators should focus on attaining a balance between promoting innovation and applying a regulatory framework.
It means that the future of banking would be very different banking, in terms of business model and structure in upcoming years. The banking sector needs to include traditional players with a strong customer base as well as emerging technology-led players.
[7]Digital Disruptions:

Initiatives undertaken by the Government of India and the Reserve Bank of India have resulted in a drastic change towards rapid digitization and transformation in the banking sector as well as financial services. Rapid digitalization has resulted in tremendous growth in the number of digital payments.
Along with the traditional businesses, banks are focusing on newer areas such as insurance, brokerage, asset management, and so on.
Banks are formulating and implementing strategies to offer trust and innovation to the Indian consumer. These strategies would retain the market share of banks by offering more efficient and cost-effective services to the customers.
Considering the drastic developments in digitalization and modernization in banking services, fast digital payment systems such as United Payment Interface(UPI) and Immediate Payment Service (IMPS) are facilitated to provide immediate credit to beneficiaries and are available 24*7.
The Reserve Bank of India has recently introduced its retail payment system namely National Electronic Funds Transfer (NEFT) on a 24x7 basis. This is a game-changer and could place India amongst very few countries that offer this digital facility.
(Das 2020) The Bank for International Settlements (BIS) recently indicated that the UPI framework of India can be developed as an international model to facilitate seamless and quick and payments not only within the country but across the countries.

3. Objectives of the study:

1. To study the impact of demographic variables on Internet Banking.

2. To examine the relationship between demographic factors and availing online banking services.

[7] Reserve Bank of India - Speeches (rbi.org.in)

4. Research Methodology:

The study is based on both primary and secondary data. Primary data was collected from the customers of selected nationalized banks namely Bank of Maharashtra, Bank of India, State Bank of India and Bank of Baroda in Pune City who are online banking users. A structured questionnaire used to collect primary data is based on the demographic profile of the users and the frequency of availing online banking services. The convenience sampling method was used for choosing a sample of 265 respondents. Secondary data were collected through books, journals, conference proceedings, government reports, unpublished theses, research articles, and internet sources.
MS Excel is used for the analysis of the data. The Chi-square test is used to determine the statistical association of variables. Hence, the chi-square test was performed to examine the relationship

ISSN: 2233-7857IJFGCN

between independent factors (gender and age) and dependent factors (availing online banking services.)

5. Results:

The Demographic Profile of the Respondents is as follows:

The demographic information of the respondents is shown in Table 1. In this study, the respondents comprised 41.13% females (109) and 58.87% males (156). Out of which, 64.22 % females and 65.38% males have availed online banking services. About 35.85% (95) of the respondents are in the age group of 18 years to 25 years, 13.20% (35) are in the age group of 26 years to 35 years, 22.64 % (60) in the age group of 36 years to 45 years, 23.41% (35) of in the age group of 46 years to 60 years and remaining 4.90% above 60 yrs. From the data, it is observed that the majority of online banking users are males. Also, it is observed by the researcher that the majority of the bank users are availing online banking services regardless of age and gender.

Table 1: Demographic Profile of the Respondents (n= 265)

Variables	Category	Frequency (Total)	%	Online services not availed	%	Online services availed	%
Age in Years	18 – 25	95	35.85	29	30.52	66	69.48
	26 – 35	35	13.20	12	34.29	23	65.71
	36 – 45	60	22.64	18	30.00	42	70.00
	45 – 60	62	23.41	28	45.16	34	54.84
	60 and above	13	4.90	6	46.15	7	53.85
Gender	Female	109	41.13	39	35.78	70	64.22
	Male	156	58.87	54	34.62	102	65.38

6. Testing of Hypothesis:

Based on the collected data by the respondents, hypothesis testing was done by the researcher as follows:

Hypothesis 1: Availing online banking services is independent of age group.

To test the above hypothesis statistically, it has been reframed as follows;

Null hypothesis H0: There is no relationship between the banking services accessed and the age group of customer i.e. the two variables namely banking services accessed and customer age group

ISSN: 2233-7857IJFGCN

are independent

Alternate hypothesis H1: There is a relationship between the banking services accessed and the age group of customers i.e. the two variables namely banking services accessed and customer age group are not independent.

The hypothesis is tested by using the Chi-Square test.

Observed Frequency

O_{ij}	Online Banking services not accessed	Online Banking services accessed	Total
18-25 yrs	29	66	95
26-35 yrs	12	23	35
36-45 yrs	18	42	60
45-60yrs	28	34	62
60 & above	6	7	13
Total	**93**	**172**	**265**

Where O_{ij} is the observed frequency count for the ith row and jth column of the categorical variable

Expected Frequency

E_{ij}	Online Banking services not accessed	Online Banking services accessed	Total
18-25 yrs	33.34	61.66	95.00
26-35 yrs	12.28	22.72	35.00
36-45 yrs	21.06	38.94	60.00
45-60yrs	21.76	40.24	62.00
60 & above	4.21	7.79	12.00
Total	**93.00**	**172.00**	**265.00**

Where, E_{ij}= is the expected frequency count for the ith row and jth column of the categorical variable = Sum (i^{th} row) * Sum (jth column)/N, and N is the total.

Test Statistic χ^2 is as follows;

Test statistic = $\chi^2 = \Sigma [(O_{ij} - E_{ij})^2 / E_i]$

$(Oij-Eij)^2/Ej$	Online Banking services not accessed	Online Banking services accessed	Total

ISSN: 2233-7857IJFGCN

18-25 yrs	0.56	0.31	0.87
26-35 yrs	0.01	0.00	0.01
36-45 yrs	0.44	0.24	0.68
45-60yrs	1.79	0.97	2.76
60 & above	0.76	0.41	1.17
Total	**3.57**	**1.93**	**5.49**

Chi sq. observed = 5.49

Chi sq. table value (4, 0.05) = 9.488

Conclusion

As chi-square observed is less than chi sq. table value we accept H0 i.e. the two variables namely banking service access is independent of the age group which means there does not exist any relationship between the age group of the customers and banking services availed by them.

Hence it is concluded that availing of banking services is independent of the age group of the customer.

Hypothesis 2: Availing online banking services is independent of the gender of the customers.

To test the above hypothesis statistically, it has been reframed as follows;

Null hypothesis H0: There is no relationship between the banking services accessed and the gender of the customer i.e. the two variables namely banking services accessed and gender of the customer are independent.

Alternate hypothesis H1: There is a relationship between the banking services accessed and the gender of the customer i.e. the two variables namely banking services accessed and gender customer are not independent.

The hypothesis is tested by using the Chi-Square test.

Observed Frequency

O_{ij}	**Online Banking services not accessed**	**Online Banking services accessed**	**Total**
Female	39	70	109
Male	54	102	156
Total	**93**	**172**	**265**

Where O_{ij} is the observed frequency count for the ith row and jth column of the categorical variable

Expected Frequency

ISSN: 2233-7857IJFGCN

E_{ij}	Online Banking services not accessed	Online Banking services accessed	Total
Female	38.25	70.75	109
Male	54.75	101.25	156
Total	**93.00**	**172.00**	**265.00**

Where, E_{ij}= is the expected frequency count for the ith row and jth column of the categorical variable = Sum (i^{th} row) * Sum (jth column)/N, and N is the total.

Test Statistic χ^2 is as follows;

Test statistic = $\chi^2 = \Sigma [(O_{ij} - E_{ij})^2 / E_i]$

$(Oij-Eij)^2/Ej$	Banking services not accessed	Banking services accessed	Total
Female	0.01	0.01	0.02
Male	0.01	0.01	0.02
Total	0.02	0.01	0.04

Chi sq. observed = 0.04

Chi sq. table value (1, 0.05) = 9.488

Conclusion

As chi-square observed is less than chi sq. table value we accept H0 i.e. the two variables namely banking service access is independent of the gender of the customer which means there does not exist any relationship between the gender of the customers and banking services availed by them. **Hence it is concluded that availing of banking services is independent of the gender of the customer.**

2nd method: Chi-square using Yates' correction

Variables	O_{ij}	E_{ij}	Yates' correction (Oij-Eij)-0.5	Square of corrected difference/ Eij
Banking services availed by female customers	70	70.75	-1.25	0.0220
Banking services not availed by female customers	39	38.25	0.25	0.0016
Banking services availed by male customers	102	101.25	0.25	0.0006
Banking services not availed by male customers	54	54.75	-1.25	0.0284
Total				**0.0526**

ISSN: 2233-7857IJFGCN

The critical value of chi-squared at 5% significance and 1 degree of freedom is **3.84**.
Our calculated value is **0.0526**.
Conclusion:

The calculated value is smaller than the critical value at the 5% level of probability. Hence the null hypothesis is accepted i.e. there is no relationship between the gender of the customers and banking services availed by them.

7. Discussion:

The research revealed that about 65% of the respondents in the age group 18 Years to 45 Years prefer and avail online banking services regardless of gender. However, only 55% of the respondents in the age group 45 years to 60 and above have availed online banking services. The researcher feels there is a need to arrange awareness programs on the use of Information Technology for this segment. At the same time, all users should be informed about safety and security measures taken by banks to protect their confidential information.

Online banking services availed by the respondents are studied in this research have an association with the gender and age of the customers. The current study revealed that demographic profiles of respondents such as gender and age play a significant role in their usage of Internet banking services in India. Hence, the banker should not ignore the demographics of the customers while framing and adopting new ideas and approaches. By concentrating on the factors that have significant relation with gender and age of the customers, banks can make better decisions in segmentation of the market and targeting of customers.

8. Conclusions:

The researcher feels that the banks can increase the number of online users by focusing on certain significant factors such as awareness programs, friendly usage, low charges, enhanced security, and quick response. The researcher investigated that the most significant factors influencing the use of online banking services are accessibility of the Internet, customers' awareness levels, attitude, proper assistance for using the website, security issues, trust, perceptions, and problem-solving attitudes of bank employees. It is of utmost need for banks to understand the concerns of the users related to security and privacy. This can be done by building a high level of trust between the bank's website and its customers. The researcher identified that factors such as convenience, privacy, security, ease of use, real-time accessibility, and accuracy are of prime importance for banking technology adoption by the users. The current study also reported that technical failure, slower transfer speed, cybercrimes, lack of awareness about the use of IT are considered as obstacles to avail online banking services.

9. Way Ahead - Innovations in Technology:

In the changing landscape of the banking industry, the challenging task for the banks is the best use of technology and innovation. Machine Learning (ML), Artificial Intelligence (AI), and Big Data are becoming essential innovations in banking and financial services. These innovative

ISSN: 2233-7857IJFGCN

technological developments would help in fraud detection, in identifying better ways of checking the use of funds by borrowers, in tracking suspicious transactions by processing large datasets.
In developing countries especially in India, it is very much essential to ensure that innovations in the banking sector are cost-effective and maintain the financial safety of the customers. As the Indian banking sector is forced forward to use high-end technology and face tough competition, banks must struggle hard to remain relevant in the dynamic business environment by reworking their business strategies, designing products demanded by the customers, and should focus on improving the productivity of services offered.

References:

1. Ankit, Kesharwani, 'Journal of Internet Banking and Commerce', Journal of Internet Banking and Commerce, 16.2 (2011)
2. Challa, Siva Kumar, 'IMPACT OF DEMOGRAPHIC VARIABLES OF CONSUMERS ON INTERNET', October, 2020
3. Das, Shaktikanta, 'Banking Landscape in the 21', 25.2015 (2020), 1–13
4. Vijayalakshmi, D., and M. V. Rajasekhar, 'Impact of Demographics on Customer Satisfaction in Online Banking', International Journal of Applied Marketing & Management, 3.1 (2018), 8–19
5. Das, Shaktikant-2020. "www.rbi.org.in." February24.

ISSN: 2233-7857IJFGCN