A Study on Influence of Fintech on Customer satisfaction with reference to Banking Industry

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Abstract

The recent innovations in FinTech has essentially transformed over the keeping money diligence, motivating to a worldview move in how banks work and associated with visitors. This paper examines the impact of FinTech on client fulfillment in the keeping money division. With the entry of innovations equal as versatile keeping money, block-chain, manufactured insights and advanced installments, conventional keeping money administrations have advanced, advertising advance comfort, adequacy, and substantiated gests to visitors. This investigation is to look at how the integration of FinTech developments influences colorful limits of client fulfillment, including benefit quality, ease of utilize, security, and generally client involvement. Complete a comprehensive writing survey and experimental examination, this ponders points to distinguish substantial variables that contribute to upgraded client satisfaction in the environment of FinTech relinquishment. This investigation concludes with reasonable suggestions for banks to upgrade client fulfillment using FinTech. By securing on tidy integration of innovation, culminating cybersecurity measures and advertising stoner-friendly interfacing, banks can encourage a more fulfilling client encounter. The think about too proposes ranges for unborn investigation, counting the long- term effect of FinTech on client devotion and the portion of emerging advances in forming the future of keeping money.

I) Introduction- An Overview:

Fintech stands as a dynamic change in one of the most important parts of our banking system. It shows an important disruptive power in banking services also change the future of the banking. It is likely to change future of how people and entities are involve with money and to create a new banking system that is more effective and robust

Fintech refers to the innovative processes and products that become accessible for financial services thanks to digital technological developments. More precisely, the Financial Stability Board defines fintech as ―technologically allowed financial innovation that could result in new-fangled business models, applications, processes or products with an allied material effect on financial markets and institutions and the provision of financial services.

II) The Evolution of Fintech Industry:

The fintech industry as we know it today did not exist before the late 1990s and early 2000s. However, fintech's origins can be drawn back to the start of computer systems and the growth

of electronic banking in the financial services industry in the 1970s and 1980s. These early innovations set the stage for fintech's expansion and development in the latter half of the 20th century and beyond. The evolution of the fintech industry has been rapid and dynamic, with significant changes taking place year after year.
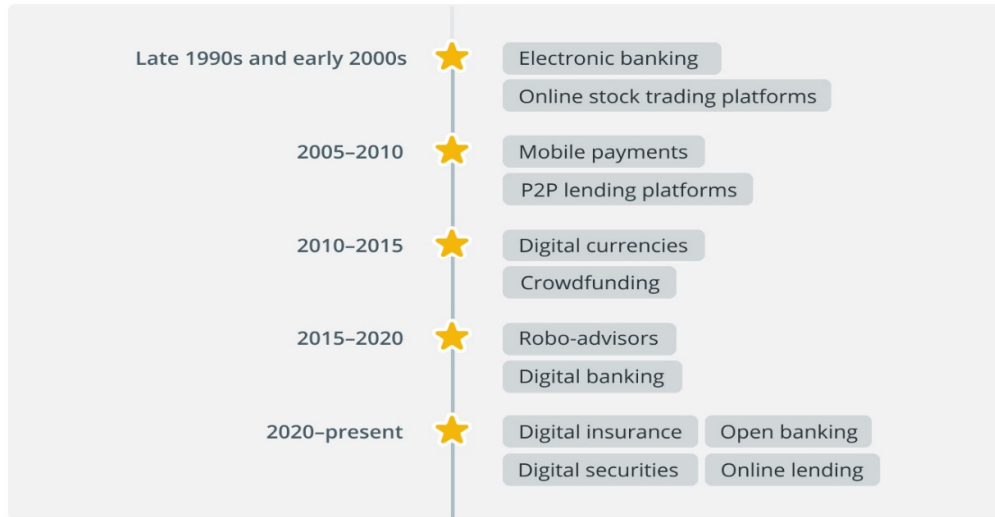
Year	Evolution
1860	The Pantelegraph was Invented
1880	Using Charge Plates and Charge Coins For Credit
1918 -1970	The Invention of Fedwire
1919	An Important Book Was Published Linking Finance and Technology
1950	Diner S Club Introduced a Credit Card
1958	American Express Introduced Their Credit Card
1960	Quotron Allowed Stock Market Quotes to be Shown on a Screen
1966	Telegraph Replaced by the Telex Network
1967	First ATM Installed By Barclays Bank
1971	NASDAQ Established
1982 -1983	Evolution of E – Trade and Online Banking
2009	Release of Bitcoin
2011	Google Pay Send Developed (Google Wallet)
2017	Smile To Pay Services Introduced by Alibaba

Due to the COVID-19 epidemic, many customers are currently using digital financial services for the first time, which has faster the growth of fintech. New technologies like artificial intelligence (AI) and machine learning (ML) are being used to improve financial services as the sector continues to develop and innovate. The regulatory landscape is similarly evolving to reflect the development and maturity of the fintech sector.

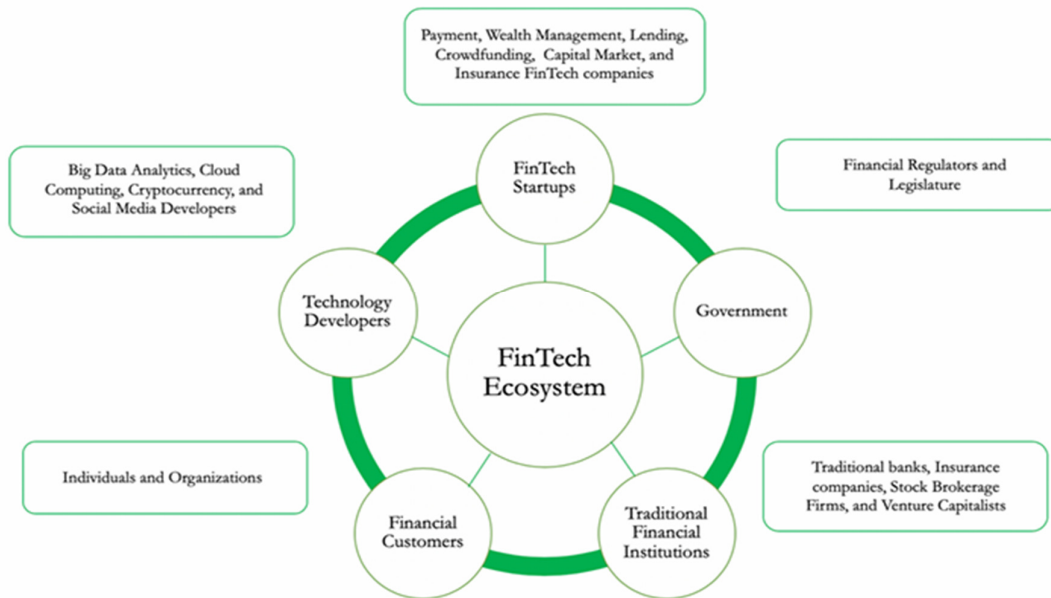Some examples of fintech products or companies that have emerged after 2020 include:

- Digital insurance: Lemonade, founded in 2015, became one of the leading "Insurtech" companies offering a digital platform for purchasing home and renters insurance.

- Digital securities: Companies such as Coinbase, Bakkt and Paxos, founded in 2012, 2018 and 2012, respectively, have emerged as leaders in the digital securities space, providing platforms for buying, selling and holding digital assets, such as cryptocurrencies and security tokens.

The timeline of the evolution of the fintech industry

| Late 1990s and early 2000s ★ | Electronic banking |
| | Online stock trading platforms |

- **2005–2010** ★
  - Mobile payments
  - P2P lending platforms
- **2010–2015** ★
  - Digital currencies
  - Crowdfunding
- **2015–2020** ★
  - Robo-advisors
  - Digital banking
- **2020–present** ★
  - Digital insurance · Open banking
  - Digital securities · Online lending

cointelegraph.com

III) Elements of Fintech: The five elements of a Fintech ecosystem based on Lee and Shin (2018).

Payment, Wealth Management, Lending, Crowdfunding, Capital Market, and Insurance FinTech companies

Big Data Analytics, Cloud Computing, Cryptocurrency, and Social Media Developers

Financial Regulators and Legislature

FinTech Startups

Technology Developers

Government

FinTech Ecosystem

Individuals and Organizations

Traditional banks, Insurance companies, Stock Brokerage Firms, and Venture Capitalists

Financial Customers

Traditional Financial Institutions

IV) Significance of Fintech Road Map 2030:

This Roadmap aimed to study the latest Research & innovations in Fintech and how they are going to increase the positive impact on future banking activities across world. It creates a platform for greater collaboration among people, entities and banks to build the connections that will enable responsible innovations for the future of banking. The future banking builds

on the Research & innovations fundamentals that are already established through the Fintech that will shape the future of banking services.

V) Fintech in Banking:

This study aimed to the latest Research & innovations in Fintech and how they are going to increase the positive impact on future banking activities across world. It creates a platform for greater collaboration among people, entities and banks to build the connections that will enable responsible innovations for the future of banking. The future banking builds on the Research & innovations fundamentals that are already established through the Fintech that will shape the future of banking services.

Banking Sector Trends in 2023:

1. Rising rates catalyse product innovation: Rising rates will be the rocket fuel that ignites banks' product innovation. It will come in the form of offerings like that of Amazon Prime.

2. Renaissance of the branch: Without in-person interaction most banks have struggled to maintain close relationships. 2023 will see a renewed focus on branches.

3. Metaverse demystifies: Just as mobile did, the metaverse is opening a new world of possibilities. It won't be without risk—but banks were invented to manage risk.

4. Right culture, right talent: Talent will make ever-increasing demands on banks' leadership. If it isn't given its due, it will become a burning platform.

5. Risk everywhere: As new risks emerge, banks that focus on helping customers solve their problems, rather than on collections, will outperform their peers.

6. Data becomes product: Treating data as a product is a shift in mindset that has the potential to transform the foundations of banking.

7. Fintechs: from disruptors to enablers: Incumbents are poised to reassert themselves as the "rightful owners of banking"—if they can find fintech-like offerings at reasonable prices.

8. Green gets real: Banks can't deliver net zero on their own—but pressure is rising to address the climate crisis. Consensus will be a priority in 2023.

9. From journeys to intent: As big techs and super-apps continue to grow, banks will look beyond customer journeys to address customers' holistic well-being.

10. Core modernization: Tech modernization is a "forever" process. But a convergence of forces will make 2023 the watershed for the start of core modernization.

Payments & transactions in Banks:
After introducing fintech innovations in Banking sector globally The way we pay for things is changing payments and transactions were referred to as the transfer of value, (either money, goods, or assets) in exchange for good and services. A move from physical exchanges to digital transactions, and identifies numerous momentous trends that could mean payments will change knowingly in years to come. These changes will have a major impact on the economy, and could also have a considerable impact on citizens and businesses.
Payments innovation such as Blockchain and Digital currencies is perceived by online survey participants as being an immediate tech priority over the next few years.

  a) **Digital currencies:** Digital currencies are Innovations in technology and the ability to transact electronically have created innovations that in the future could be alternatives

to physical currency. As we experience them today, we define digital currency as any currency that's available exclusively in digital form like
- Cryptocurrencies and stablecoins
- Distributed ledger technology

b) **Embedded payments**: The changing technology is proceeding the methods to embed payments in everyday experiences and allow customers and businesses to pay for purchases without entering bank details, credit, or debit card information.
- SME and business market
- Retail consumers

c) **Security for digital payments:** Knowing your money is safe is critical to everyone across the economy and society. Financial institutions across the US who act as custodians of citizens' and businesses' finances must ensure that those funds are protected and are available when needed.
- Cyber security
- Biometrics

Challenges & Issues faced by Banks globally by Payment Systems:
- Developing payment systems on mobile phones with biometric fingerprints Payment Systems or voice payments.
- The right framework or guidelines for a mobile/digital wallet.
- Requires standard definitions of mobile payments (including mobile banking, mobile money, mobile wallets, mobile commerce, mobile pos, and mobile finance).
- Fintech mobile payment services in the future will develop into a more secure service.
- Blockchain- The blockchain concept (including blockchain structures and payment transactions on the blockchain), Blockchain is a future technology.
- Bitcoin- Price conversion between bitcoin and the physical currency or other virtual currencies, Explore ideas about coins that have major crypto features.

Trends & Issues in Payment Systems:
- Bitcoin is a popular financial asset.
- Multi-perspective framework for mobile payment ecosystems.
- Comparing mobile payment systems for SMS (short message service), NFC (near field communication), and QR (quick response).
- The most severe barrier for crypto-acceptance is a lack of consumer demand.
- Development Portfolio for the Payment FinTech Company.
- Evolution of the mobile payments technology ecosystem.
- Fintech acceptance factors of e-wallet and digital cash.
- Ecosystem concepts as applied to the new payment landscape.

**The future of the fintech industry in banking:**
The future of fintech is likely to continue its rapid growth as technology continues to shape and transform the financial industry. Financial services will become more reachable, secure and innovative thanks to innovations like blockchain, AI and open banking. In addition, there will be a trend toward digitization as more and more customers choose mobile and online banking options. It can be anticipated that traditional financial institutions and fintech firms will increasingly integrate, which will result in the development of new financial services and products.

Fintech adoption in USA and Globally:

As of 2023, the fintech space is worth $179 billion. There are approximately 30,000 fintech startups. Around 90% of Chinese citizens use fintech banking. Visa is the largest fintech company with a valuation of almost half a trillion USD.

The fintech industry is worth approximately $194 billion (EMR). The fast-growing space is projected to reach $492 billion by 2028, growing at a CAGR of 16.8%.

Global fintech industry revenue has nearly doubled since 2017 (Deloitte) In 2017, global Fintech industry revenue was approximately $90.5 billion. That figure has grown by over 100% since then.
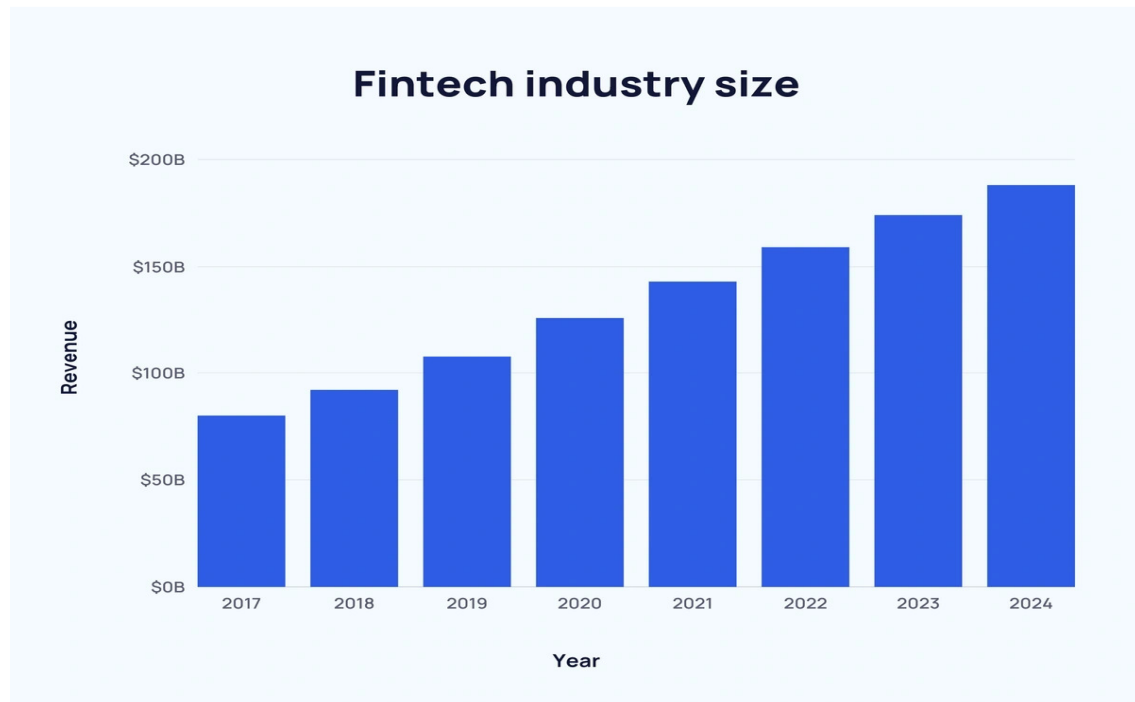
Breakdown of fintech industry revenue (converted from Euros) between 2017 and 2024: References:

Year	Americas	EMEA	Asia Pacific	Total	Change over the previous year
2017	$30.5 billion	$20 billion	$33.7 billion	$84.2 billion	-
2018	$36.2 billion	$21 billion	$40 billion	$97.2 billion	↑ 15.4%
2019	$44.2 billion*	$22 billion*	$47.3 billion*	$111.5 billion*	↑ 14.7%*
2020	$51.6 billion*	$24.2 billion*	$56.8 billion*	$132.6 billion*	↑ 18.9%*
2021	$57.9 billion*	$25.3 billion*	$67.3 billion*	$150.5 billion*	↑ 13.5%*
2022	$61 billion*	$27.4 billion*	$77.9 billion*	$166.3 billion*	↑ 10.5%*
2023	$64.2 billion*	$29.5 billion*	$89.4 billion*	$183.1 billion*	↑ 10.1%*
2024	$66.3 billion*	$30.5 billion*	$101 billion*	$197.8 billion*	↑ 8%*

Fintech Investment Statistics: There had been a overall upward trend over the last decade. In 2012, investment in fintech totaled $4 billion. This improved year-over-year until 2015, reaching $67.1 billion - a 17x increase. This figure then slowly declined before surging to $147.9 billion in 2018. And increasing further to $215.4 billion in 2019.

In the first half of 2021, investment in fintech companies reached a then-record-breaking $98 billion - a $19.9 billion increase in the second half of 2020. By the end of 2021, fintech investment reached $210 billion. But in H1 2023, investment fell 49% from around $46 billion in H2 2022 to $23 billion.

Leading Fintech Companies in the World:

Rank	Company	Country	Market Cap
1	Visa	United States	$500 billion
2	Mastercard	United States	$389 billion
3	Tencent	China	$158 billion
4	Intuit	United States	$152 billion
5	Ant Financial	China	$151 billion
6	Fiserv	United States	$74 billion
7	PayPal	United States	$69 billion
8	Stripe	Ireland	$55 billion
9	Nubank	Brazil	$42 billion
10	Checkout.com	United Kingdom	$40 billion
11	Square	United States	$35 billion
12	Revolut	United Kingdom	$33 billion
13	Adyen	Netherlands	$26 billion
14	Chime	United States	$25 billion
15	Polygon	India	$20 billion
16	Coinbase	United States	$19 billion
17	Rapyd	Israel	$15 billion
18	Ripple	United States	$15 billion
19	Grab	Singapore	$15 billion
20	Blockchain.com	Luxembourg	$14 billion

VI) Review of Literature:

Jagtiani and Lemieux (2018) -- Shaping financial and banking relationships: Lending Club‟s consumer lending activities have penetrated areas that may be underserved by traditional banks, such as in highly concentrated markets and areas that have fewer bank branches per capita. The portion of Lending Club loans increases in areas where the local economy is not performing well.

Anagnostopoulos (2018) -- Regulators and banks: Disruptive innovation has the potential for welfare outcomes for consumers, regulatory, and supervisory gains as well as reputational gains for the financial services industry. It becomes even more important as the financial services industry evolves.

Buchak et al (2018) -- Shadow banks: Fintech lenders seem to use different information to set interest rates relative to other lenders. A quantitative model of mortgage lending suggests that regulation accounts for roughly 60% of shadow bank growth, while technology accounts for roughly 30%.

Drasch et al (2018) – Banking: Especially for policy makers, our taxonomy can serve as a helpful classification of cooperation cases and their specific characteristics. Policy makers may

examine and built upon the proposed cooperation patterns for the determination of legal actions. For instance, case-driven research approaches should match and analyze legislation for each of the proposed characteristics (e.g. banking licenses, antitrust legislation and patent law).

Thakor (2019) – Banking: A quickglance at the data shows that these platforms have recently not delivered the returns to investors that banks have. For example, in the last quarter of 2018, JP Morgan Chase had an ROE of 14.07%, whereas Lending Club had an ROE of –6.2%. A broader comparison shows aqualitatively similar result.

Acar and Citak (2019) – Banks: Fintech integration phases are constructed to mitigate risks and increase awareness of fintechs in the departments. In this way, most of the departments get in touch with fintechs and understand the importance of external collaboration.

VII) Research Methodology:

a) Research Gap: The integration of financial technology (FinTech) in the banking sector has led to significant transformations, offering innovations that enhance convenience, security, and customer service. However, despite the widespread adoption of FinTech, there remains a substantial research gap in understanding its nuanced impacts on customer satisfaction. Addressing this gap is crucial for banks to effectively harness FinTech and improve their customer service strategies. The key areas of this research gap include diverse customer demographics, the need for longitudinal studies, specific FinTech innovations, behavioral and psychological factors, impact on business performance, and regulatory and compliance issues.

b) Need for the Study: The financial technology (FinTech) revolution has profoundly reshaped the banking industry, introducing innovations that promise greater efficiency, enhanced customer experiences, and increased accessibility to financial services. Despite the widespread adoption of these technologies, there is a pressing need to comprehensively understand their impact on customer satisfaction. This study aims to fill this critical gap for several compelling reasons.

c) Problem Statement: In recent years, the banking sector has undergone significant transformation driven by the rapid advancement and adoption of financial technology (FinTech). Innovations such as mobile banking, blockchain technology, artificial intelligence (AI), and digital payment platforms have revolutionized how customers interact with financial institutions. While these technological advancements promise enhanced convenience, security, and personalized experiences, their actual impact on customer satisfaction remains underexplored and varies across different customer demographics.

d) Objectives of the Study:

- To study the impact of Fintech in Banking
- To study the applications of Fintech in Banking
- To study the customer satisfaction on Fintech services in Banking

e) Research Design: The research design is a systematic to guide a research project. It involves employing scientific methods to investigate a phenomenon and gain new knowledge by relating it to existing information. By the phase, the central problem resolves around the existence of hidden agenda for cross-cultural training programs, that may diverge from objectives and the impact over effectiveness of programs.

Research Type: Descriptive in nature

Sampling Technique: Random sampling technique was utilized for the purpose of the study.

Random Sampling: Random sampling is a technique where participants are selected from a population in a purely random manner, ensuring that each member has an equal chance of being included.

Data Collection Methods:
Primary data are those that have been personally collected or have been obtained with direct observation. It refers to original information collected specifically for a study from the filled of inquiry. It mainly obtained through the survey method using a questionnaire as the tool.

Population: 200

Sample: 100

Sample Unit: KUKATAPALLY

Questionnaire: For data collection, a well-designed questionnaire with clear questions was utilized. The survey instrument consisted of closed-ended questions, multiple-choice options and Likert-scale items.
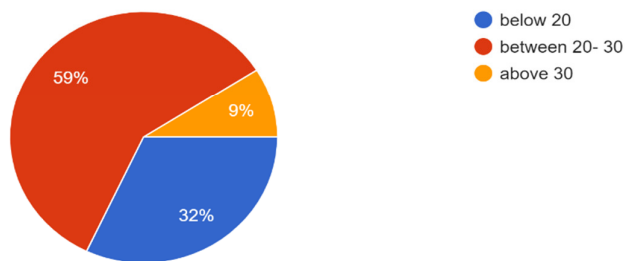
Hypothesis:
H0: There is no influence of fintech on customer satisfaction of banks.
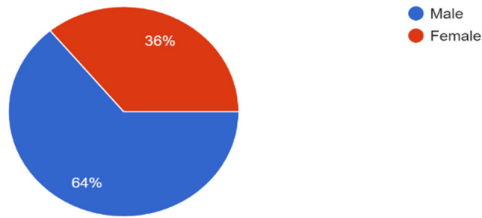H1: There is impact on influence of fintech on customer satisfaction of banks.

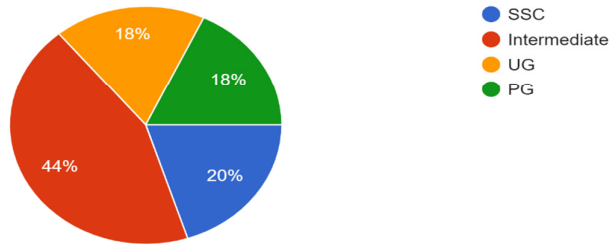**VIII) Data Analysis & Interpretation:**

Age
100 responses

AGE	Below 20	Between 20-30	Above 30	Total
Responses	32	59	9	100
Percentage	32%	59%	9%	100%

Gender
100 responses

GENDER	MALE	FEMALE	Total
Responses	64	36	100
Percentage	64%	36%	100%

Qualification
100 responses

QUALIFICATION	SSC	Intermediate	UG	PG	Total
Responses	20	44	18	18	100
Percentage	20%	44%	18%	18%	100%

Current Position
100 responses
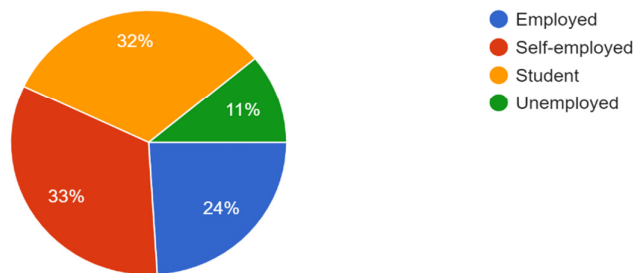
CURRENT POSITION	Employee	Self - Employee	Student	Unemployed	Total
Responses	24	33	32	11	100
Percentage	24%	33%	32%	11%	100%

1.How often do you use online or mobile banking services?
100 responses
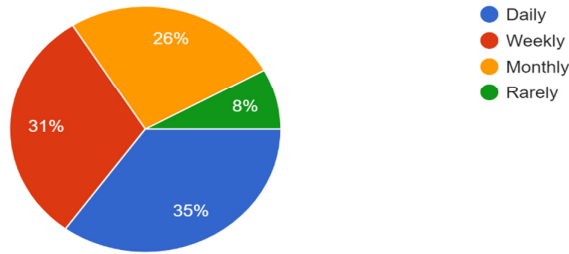
1. How often do you use online or mobile banking services?					
	Daily	**Weekly**	**Monthly**	**Rarely**	**Total**
Responses	35	31	26	8	100
Percentage	35%	31%	26%	8%	100%

2.Which banking services do you primarily use online or via mobile apps?
100 responses
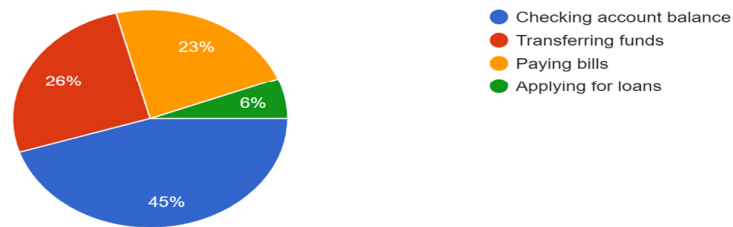
2. Which banking services do you primarily use online or via mobile apps?					
	Checking A/C balance	**Transferring funds**	**Paying bills**	**Applying for loans**	**Total**
Responses	45	26	23	6	100
Percentage	45%	26%	23%	6%	100%

3.How satisfied are you with the convenience provided by your bank's FinTech services?
100 responses
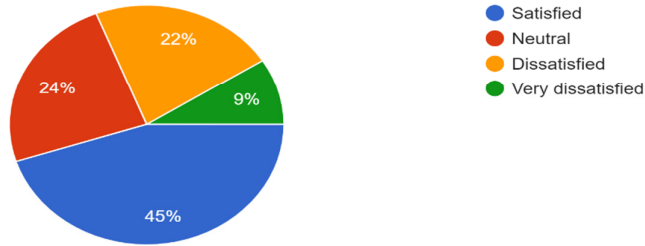
3. How satisfied are you with the convenience provided by your bank's FinTech services?					
	Satisfied	**Neutral**	**Dissatisfied**	**Very dissatisfied**	**Total**
Responses	45	24	22	9	100
Percentage	45%	24%	22%	9%	100%

4.How satisfied are you with the speed and efficiency of transactions using your bank's FinTech services?
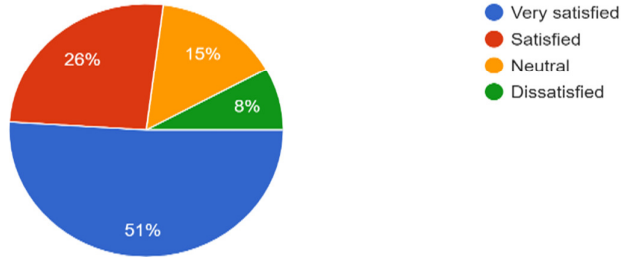100 responses
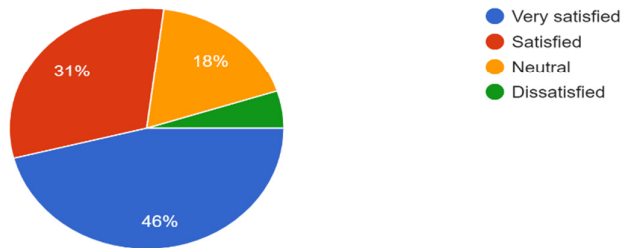
4. How satisfied are you with the speed and efficiency of transactions using your bank's FinTech services?					
	Very satisfied	**Satisfied**	**Neutral**	**Dissatisfied**	**Total**
Responses	46	31	18	5	100
Percentage	46%	31%	18%	5%	100%

5.How satisfied are you with the personalization of financial services provided by your bank through FinTech?

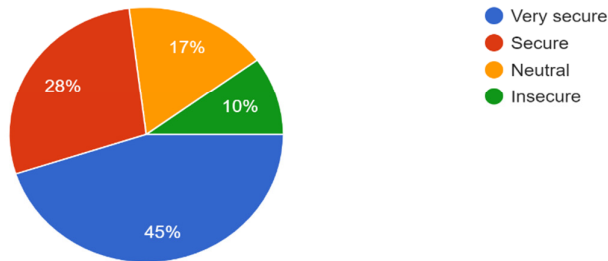100 responses

5. How satisfied are you with the personalization of financial services provided by your bank through FinTech?					
	Very satisfied	**Satisfied**	**Neutral**	**Dissatisfied**	**Total**
Responses	51	26	15	8	100
Percentage	51%	26%	15%	8%	100%

6.How secure do you feel when using your bank's FinTech services?

100 responses

6. How secure do you feel when using your bank's FinTech services?					
	Very secure	**Secure**	**Neutral**	**Insecure**	**Total**
Responses	45	28	17	10	100
Percentage	45%	28%	17%	10%	100%

7.What are the primary benefits of integrating FinTech into banking services?
100 responses

Legend:
- Increased efficiency
- Enhanced customer experience
- Cost reduction
- Improved security
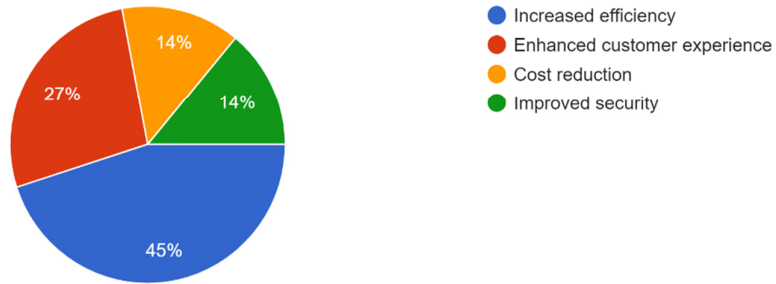
7. What are the primary benefits of integrating FinTech into banking services?					
	Increased efficiency	Enhanced customer expr	Cost reduction	Improved security	Total
Responses	45	27	14	14	100
Percentage	45%	27%	14%	14%	100%

8.How has the integration of FinTech affected customer feedback and satisfaction levels?
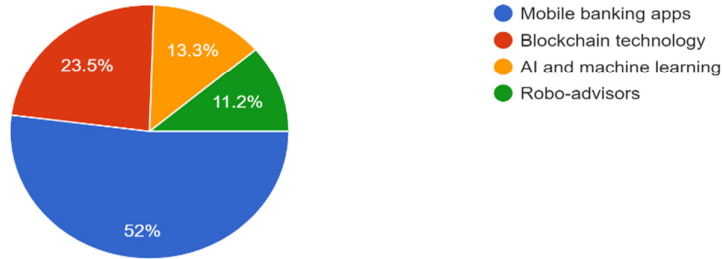99 responses

Legend:
- Significantly increased
- Increased
- No change
- Decreased
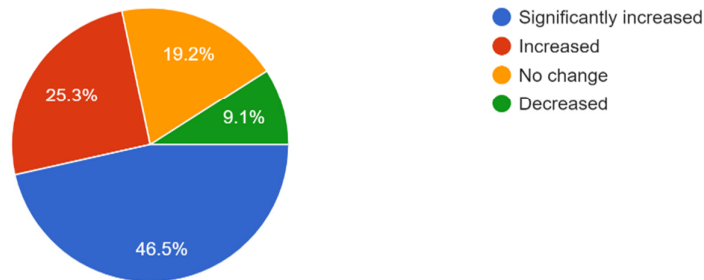
8. How has the integration of FinTech affected customer feedback and satisfaction levels?					
	Significantly increased	Increased	No change	Decreased	Total
Responses	46	25	19	9	99
Percentage	46.5%	25.3%	19.2%	9.1%	100%

9.Which FinTech innovations do you believe have had the most significant impact on customer satisfaction in the banking sector?
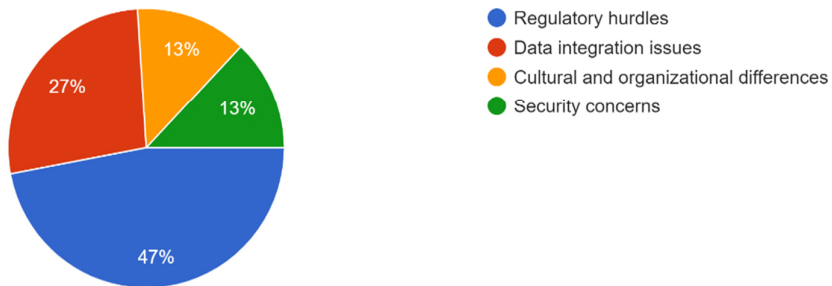
98 responses

- Mobile banking apps
- Blockchain technology
- AI and machine learning
- Robo-advisors

9. Which FinTech innovations do you believe have had the most significant impact on customer satisfaction in the banking sector?					
	Mobile banking apps	Blockchain technology	AI& Machine learning	Robe - advisors	Total
Responses	52	23	13	11	99
Percentage	52%	23.5%	13.3%	11.2%	100%

10.What are the major challenges FinTech firms face when partnering with traditional banks?

100 responses

- Regulatory hurdles
- Data integration issues
- Cultural and organizational differences
- Security concerns

10. What are the major challenges FinTech firms face when partnering with traditional banks?					
	Regulatory hurdles	Data integration issues	Cultural &organizational	Concerns	Total
Responses	47	27	13	13	100
Percentage	47%	27%	13%	13%	100%

IX) Findings:

The findings of this study exfoliate light on the intricate relationship between fiscal technology (FinTech) and client satisfaction in the banking sector. Through a combination of quantitative checks and qualitative interviews, several crucial perceptivities have surfaced, pressing the transformative impact of FinTech on colorful confines of client experience. This section presents a detailed disquisition of the findings, organized around crucial themes similar as convenience, security, personalization, challenges, and counteraccusations for banks.

1. Enhanced Convenience and Accessibility: Fintech innovations such as mobile banking and digital payments have significantly increased the convenience and accessibility of banking services. Customers can now perform transactions, manage accounts, and access financial services anytime and anywhere, leading to higher satisfaction levels.

2. Improved Service Quality and Efficiency: Technologies like AI and machine learning have enabled banks to offer personalized services, faster processing times, and more efficient customer support. This has positively impacted customer satisfaction by addressing their needs more effectively.

3. Increased Security and Trust: The adoption of blockchain technology and advanced security measures in fintech has enhanced the security and transparency of banking transactions. Customers feel more secure and trust the digital services provided by banks, contributing to their overall satisfaction.

4. Access to Credit and Financial Inclusion: Online lending platforms have made it easier for customers to access credit, especially for those who were previously underserved by traditional banking. This has broadened financial inclusion and increased customer satisfaction.

5. Challenges and Risks: Despite the benefits, there are challenges such as privacy concerns, technological barriers, and the digital divide. Not all customers are equally comfortable with or have access to digital banking solutions, which can affect their satisfaction negatively.

X) Implications

1. Strategic Integration of Fintech: Banks need to strategically integrate fintech solutions to enhance customer satisfaction. This includes investing in user-friendly technologies, ensuring robust security measures, and providing comprehensive customer support.

2. Customer-Centric Approach: Banks should focus on understanding customer needs and preferences to tailor fintech services accordingly. Personalized experiences and efficient service delivery are key drivers of customer satisfaction.

3. Policy and Regulation: Policymakers should create a supportive regulatory environment that fosters fintech innovation while protecting consumer interests. Regulations should address privacy concerns and ensure that fintech solutions are accessible to all segments of the population.

4. Continuous Improvement and Innovation: The banking industry must stay abreast of technological advancements and continuously innovate to meet evolving customer expectations. Regular feedback mechanisms can help banks understand customer pain points and improve their services.

X) Conclusion:

The integration of fintech into the banking sector has brought about significant improvements in customer satisfaction by enhancing convenience, service quality, security, and financial inclusion. However, to fully realize the benefits, banks must address the associated challenges and ensure that fintech solutions are accessible and user-friendly for all customers. As technology continues to evolve, the future of banking will likely see even more sophisticated and personalized fintech services, further transforming the customer experience. Banks that embrace these innovations and adopt a customer-centric approach will be well-positioned to thrive in the competitive financial landscape.

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