ELP305

Semester II 2022-23

Report on Problem Statement 2

Tribe: Cosmopolitan
Version: 2.3
Week: 2
Date of Submission: 5 April 2023

Table of Contents

1. Tribe Member Information

Total number of members = 73

Sr. no.	Name	Entry Number	Email	Team (Designation)	Involvement Factor
1	Ayush Kumar	2020EE10481	ee1200481@iitd.ac.in	Coordinator	1
2	Anurag Gupta	2020EE10583	ee1200583@iitd.ac.in	Sub-Coordinator (Documentation)	1
3	Aditya Jaju	2020EE30574	ee3200574@iitd.ac.in	Documentation	1

Sr. no.	Name	Entry Number	Email	Team (Designation)	Involvement Factor
4	Akshita Mangal	2020MT10785	mt1200785@iitd.ac.in	Documentation	1
5	Dakshit Babbar	2020EE30163	ee3200163@iitd.ac.in	Documentation	1
6	Dhruv Agarwal	2020EE30592	ee3200592@iitd.ac.in	Documentation	1
7	Etiksha Jain	2020EE10491	ee1200491@iitd.ac.in	Documentation	1
8	Jain Ansh	2020EE30598	ee3200598@iitd.ac.in	Documentation	1
9	Nikita Khedar	2020EE10515	ee1200515@iitd.ac.in	Documentation	1
10	Pulkit Sharma	2020MT10887	mt1200887@iitd.ac.in	Documentation	1
11	Sampan Manna	2020EE10547	ee1200547@iitd.ac.in	Documentation	1
12	Sharda Kriti Modanwal	2020EE10552	ee1200552@iitd.ac.in	Documentation	1
13	Tushar Sethi	2020MT10858	mt1200858@iitd.ac.in	Documentation	1
14	Ashwendh Chowdhary	2020EE10478	ee1200478@iitd.ac.in	Sub-Coordinator (Chief Editor)	1
15	Ekansh Singh	2020EE10490	ee1200490@iitd.ac.in	Editor	1
16	Manas Jain	2020EE10511	ee1200511@iitd.ac.in	Editor	1
17	Pranjal Sachan	2020EE30615	ee3200615@iitd.ac.in	Editor	1
18	Atif Anwer	2020EE10479	ee1200479@iitd.ac.in	Sub-Coordinator (Implementation)	1
19	Aaryan Goyal	2020EE10454	ee1200454@iitd.ac.in	Implementation	1
20	Aadweek Verma	2020EE10206	ee1200206@iitd.ac.in	Implementation	1
21	Aditya Mathur	2020EE30575	ee3200575@iitd.ac.in	Implementation	1
22	Aditya Singh	2020EE10461	ee1200461@iitd.ac.in	Implementation	1
23	Ajeet Kumar	2020EE30577	ee3200577@iitd.ac.in	Implementation	1
24	Akash Sinha	2020MT10465	mt1200465@iitd.ac.in	Implementation	1
25	Amogh Vikram Agrawal	2020EE10467	ee1200467@iitd.ac.in	Implementation	1
26	Anish Majumder	2020EE30580	ee3200580@iitd.ac.in	Implementation	1

Sr. no.	Name	Entry Number	Email	Team (Designation)	Involvement Factor
27	Ansh Goel	2020EE10226	ee1200226@iitd.ac.in	Implementation	1
28	Anuj Pradhan	2020EE10473	ee1200473@iitd.ac.in	Implementation	1
29	Aryansh Bansal	2020MT10790	mt1200790@iitd.ac.in	Implementation	1
30	Ashish Jagrawal	2020EE30585	ee3200585@iitd.ac.in	Implementation	1
31	Ayush Kumar	2020EE30586	ee3200586@iitd.ac.in	Implementation	1
32	Bharat Kumar	2020EE10587	ee1200587@iitd.ac.in	Implementation	1
33	Bijanapally Tarun	2020EE30588	ee3200588@iitd.ac.in	Implementation	1
34	Bismandeep Singh	2020EE10589	ee1200589@iitd.ac.in	Implementation	1
35	Chaitanya Agrawal	2020EE10484	ee1200484@iitd.ac.in	Implementation	1
36	Divyans Yadav	2020EE30593	ee3200593@iitd.ac.in	Implementation	1
37	E Spandana	2020EE10489	ee1200489@iitd.ac.in	Implementation	1
38	Gautam Gosain	2020MT10804	mt1200804@iitd.ac.in	Implementation	1
39	Guttikonda Goutham Srinivas	2020EE10495	ee1200495@iitd.ac.in	Implementation	1
40	Ishan	2020EE10498	ee1200498@iitd.ac.in	Implementation	1
41	Jaideep	2020EE10500	ee1200500@iitd.ac.in	Implementation	1
42	Laksh Gupta	2020MT10816	mt1200816@iitd.ac.in	Implementation	1
43	Neeraj Kumar Meena	2020EE30606	ee3200606@iitd.ac.in	Implementation	1
44	Ojas Singh Malhi	2020MT10829	mt1200829@iitd.ac.in	Implementation	1
45	Parth Kamra	2020EE10519	ee1200519@iitd.ac.in	Implementation	1
46	Perugu Krishna Chaitanya Yadav	2020EE10521	ee1200521@iitd.ac.in	Implementation	1
47	Ritika Soni	2020MT10838	mt1200838@iitd.ac.in	Implementation	1

Sr. no.	Name	Entry Number	Email	Team (Designation)	Involvement Factor
48	Saksham Mangla	2020EE10544	ee1200544@iitd.ac.in	Implementation	1
49	Satyam Sagar	2020EE10551	ee1200551@iitd.ac.in	Implementation	1
50	Shashwat Gokhe	2020EE30127	ee3200127@iitd.ac.in	Implementation	1
51	Sourabh Agrawal	2020EE10556	ee1200556@iitd.ac.in	Implementation	1
52	Sumant Pareek	2020EE10558	ee1200558@iitd.ac.in	Implementation	1
53	Tushita Pandey	2020MT60307	mt6200307@iitd.ac.in	Implementation	1
54	Vansh Kachhwal	2020MT10143	mt1200143@iitd.ac.in	Implementation	1
55	Vanshita Garg	2020EE30144	ee3200144@iitd.ac.in	Implementation	1
56	Vatsal Malpani	2020MT10861	mt1200861@iitd.ac.in	Implementation	1
57	Vineet Kumar Pathak	2020EE30631	ee3200631@iitd.ac.in	Implementation	1
58	Yash Pravin Shirke	2020MT60986	mt6200986@iitd.ac.in	Implementation	1
59	Yashas Kedia	2020MT10863	mt1200863@iitd.ac.in	Implementation	1
60	Yuyutsu Saini	2020MT60571	mt6200571@iitd.ac.in	Implementation	1
61	Rashee Agarwal	2020EE10539	ee1200539@iitd.ac.in	Sub-coordinator (Research)	1
62	Prateek Mishra	2020EE10527	ee1200527@iitd.ac.in	Research	1
63	Abhyuday Bhargava	2020EE30214	ee3200214@iitd.ac.in	Research	1
64	Akshat Pratap Singh Chauhan	2020EE30578	ee3200578@iitd.ac.in	Research	1
65	Akshit Bhardwaj	2020EE10579	ee1200579@iitd.ac.in	Research	1
66	Anukriti	2020EE30582	ee3200582@iitd.ac.in	Research	1
67	Prahas Ranjan	2020EE10523	ee1200523@iitd.ac.in	Research	1
68	Priyanshu Jain	2020EE30617	ee3200617@iitd.ac.in	Research	1

Sr. no.	Name	Entry Number	Email	Team (Designation)	Involvement Factor
69	Risha Singh	2020EE10540	ee1200540@iitd.ac.in	Research	1
70	Sarrah Samaiyah	2020EE30624	ee3200624@iitd.ac.in	Research	1
71	Shashank Narain	2020EE10972	ee1200972@iitd.ac.in	Research	1
72	Tanish Singh Tak	2020EE10560	ee1200560@iitd.ac.in	Research	1
73	Yash Jayswal	2020EE10568	ee1200568@iitd.ac.in	Research	1

2. Documentation Statistics

2.1. Text Statistics

Word Count	# Unique Words	# Repeated Words	# Sentences	# Characters
2812	1184	1628	293	13723

# Syllables	Avg # of words per sentence	Avg # of characters per sentence	Avg # of characters per word	Avg # of syllables per word
4602	10	49	4.9	2

2.2. Readability Indices

Table 1. Readability Indices Values And Ideal Ranges

Index	Value	Range
Readibility	60	0-100
Gunning Fog Index	8.6	0-20
Flesch Reading Ease	39.4	0-100
Coleman-Liau Index	13.24	0 - (17+)
Automated Readability Index	11	5-22

The above results were obtained using https://readabilityformulas.com/freetests/six-readability-formulas.php.

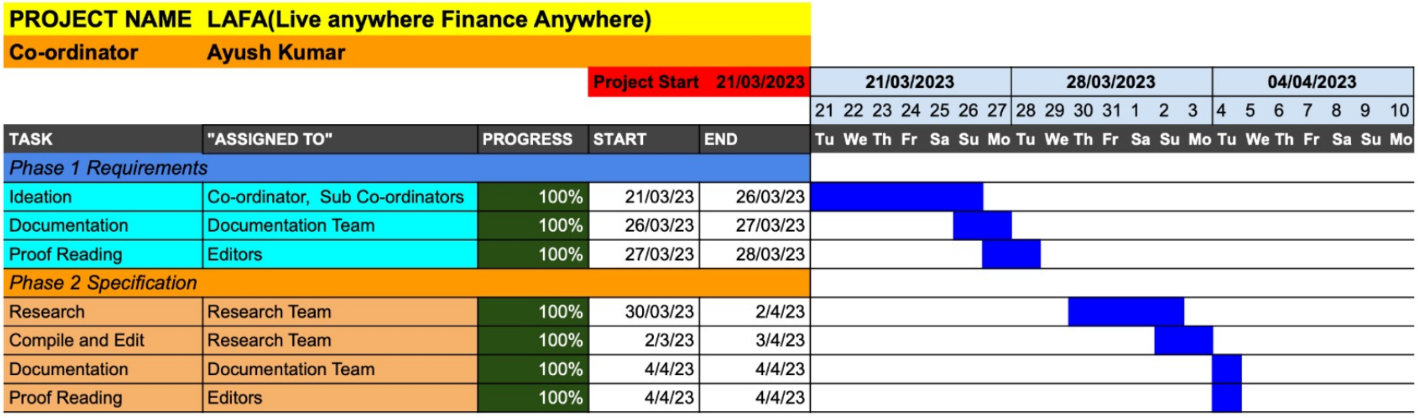
2.3. List of Abbreviations

Abbreviation	Meaning
LAFA	Live Anywhere finance Anywhere
TLE	Time Limit Exceeded
TCS	Tata Consultancy Services
CAGR	Compound Annual Growth Rate
Mbps	Megabits per second
KPMG	Klynveld Peat Marwick Goerdeler
TRAI	Telecom Regulatory Authority of India
IAMAI	Internet and Mobile Association of India
CIBIL	Credit Information Bureau (India) Limited
NPO	Non-Profit Organization
KYC	Know Your Customer
STS	Secure Transaction System
P2P	peer to peer
PAN	Permanent Account Number
Fintech	Financial Technology

2.4. List of Figures

2.5. List of Tables

2.6. Gantt Chart



PROJECT NAME LAFA(Live anywhere Finance Anywhere)

Co-ordinator Ayush Kumar

Project Start 21/03/2023

21/03/2023 28/03/2023 04/04/2023

21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10

Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo

TASK	"ASSIGNED TO"	PROGRESS	START	END
Phase 1 Requirements				
Ideation	Co-ordinator, Sub Co-ordinators	100%	21/03/23	26/03/23
Documentation	Documentation Team	100%	26/03/23	27/03/23
Proof Reading	Editors	100%	27/03/23	28/03/23
Phase 2 Specification				
Research	Research Team	100%	30/03/23	2/4/23
Compile and Edit	Research Team	100%	2/3/23	3/4/23
Documentation	Documentation Team	100%	4/4/23	4/4/23
Proof Reading	Editors	100%	4/4/23	4/4/23

Find the complete Gantt Chart here
(https://docs.google.com/spreadsheets/d/12Q0UmNZfXABKoocdvFklwXGPaaKWGjd57urB2vdoieY/edit?usp=sharing).

3. Abstract

DoXFroX is a problem statement that aims to empower users from any location to perform their work in India. It presents a unique challenge that requires a comprehensive solution that is accessible, secure, reliable, and scalable. The solution should also integrate seamlessly with existing systems, be customizable to user preferences, and comply with legal regulations. LAFA is a component of DoxFroX that focuses on Live anywhere Finance anywhere. LAFA enables users to trade from anywhere in India, providing them with the flexibility to manage their finances while on the go. The financial solution for the Indian population should fulfill several key requirements, including accessibility, integration, security, scalability, personalization, transparency, compliance, education, and reliability. This project intends to address these requirements by developing a comprehensive financial solution that enables users to manage their finances from anywhere in India.
The solution will offer users a range of features, including the ability to trade stocks, manage their portfolios, track expenses, and access financial education resources. The solution will be accessible through multiple channels, including web and mobile, and will incorporate the latest security measures to ensure user data remains protected. Overall, this project aims to provide Indian users with a reliable, secure, and scalable financial solution that meets their specific needs, enabling them to manage their finances from anywhere in the country.

4. Requirements

In this document, we present our proposed DoXFroX solution, named **Poonji**, which enables the users of India to finance from anywhere they choose to be within India, transcending factors such as geography, origin, birth, and economic disparity. Our solution will enable the user to LAFA (Live Anywhere Finance Anywhere), and in order to achieve that, we have identified various requirements.

To ensure that our financial solution is effective and meets the needs of citizens in India, it should fulfill the following requirements:

1. **Accessibility**: India is a land of diversity; hence any solution targeting the complete Indian populace must take the factor of accessibility into account. The solution should be easily accessible to citizens across different regions and socioeconomic backgrounds. This may require developing a user-friendly interface and providing support for multiple languages, as well as ensuring that the solution is accessible through a variety of devices and internet connections.
2. **Integration**: For a huge market like India, a huge variety of vendors already exist in every domain dealing with necessities, which we will have to work with for our solution. The same applies to the financial domain too. Our solution should integrate with multiple financial institutions and government services to enable seamless transactions and access to services.
3. **Security**: Every provider of a financial service must first and foremost ensure that they are capable of providing necessary and sufficient security to their customers at all times and are capable of protecting the customer's money. The solution should provide robust security measures to protect users' sensitive financial information and prevent fraud and unauthorized access.
4. **Scalability**: Naturally, a solution working on the national scale must always be capable of handling sufficiently large amounts of traffic so that the scaling factor does not render it useless. The solution should be designed to handle a large volume of transactions and users, with the ability to scale up as the user base grows. Thus, having a sufficiently developed base server that is capable of further upscaling is necessary.
5. **Personalization**: The solution should be tailored to the specific needs and goals of individual users, with personalized financial advice and resources. Since each and every user is different, with different needs, usage requirements, and patterns, our solution should be able to incorporate these factors and be flexible with its interface so that it may provide the best experience to the user.
6. **Transparency**: Transparency is also important for any financial solution in India, as citizens need clear and accurate information on fees, charges, and other financial details to make informed decisions. The solution should provide clear and transparent information on fees, charges, and other financial details to ensure that users can make informed decisions. Since our solution is going to involve all kinds of transactions of immense importance to the users, ensuring transparency in the entire process is very important for us.
7. **Compliance**: Providing financial services and acting as a link between customers and other customers, or between The solution should adhere to regulatory requirements and compliance standards to ensure legal and ethical operation. The solution should adhere to all relevant legal and ethical requirements, as well as any other regulations or standards that apply to financial services in India.
8. **Education**: The solution should provide education and resources to help users develop financial literacy and understanding of basic financial concepts. For this purpose, a help guide could be provided to make the user understand the working of the application more concretely. It should relay all the necessary as well as lawfully required information that should be shared with the user, as well as additional ways that the solution can be used by the user should also be provided.
9. **Reliability**: The solution should be reliable and available to the users at all times, with minimal downtime and interruptions. This requires a robust and scalable infrastructure, as well as effective monitoring and maintenance processes, to ensure that the solution is always available and functioning as intended. To ensure this, there could be a limited server downtime daily at odd hours like 2 AM – 4 AM for server maintenance to ensure minimal interruptions.
10. **Innovation**: The solution should leverage emerging technologies and trends to continuously improve and innovate, providing new features and functionality to meet evolving user needs.

5. Specifications

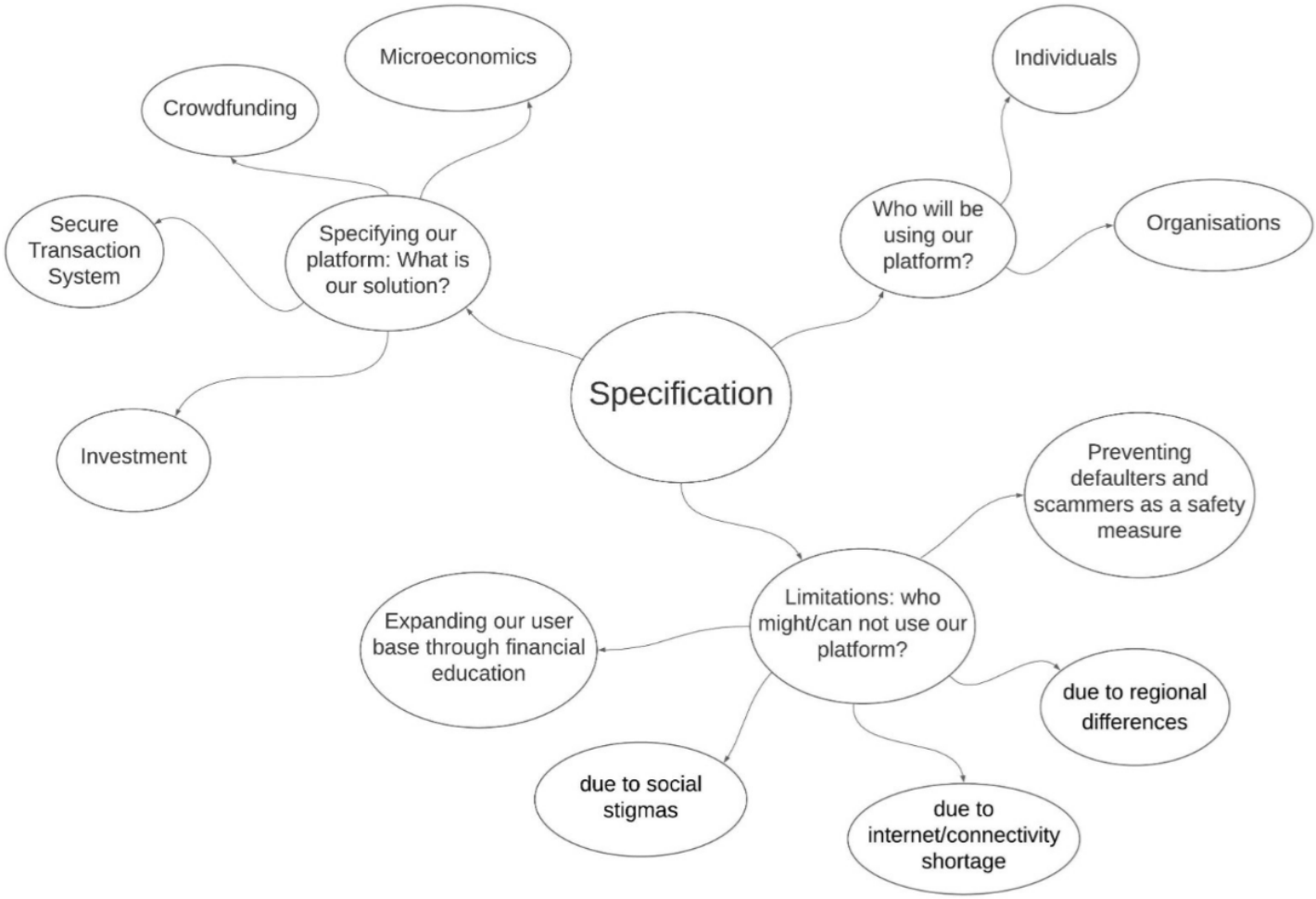
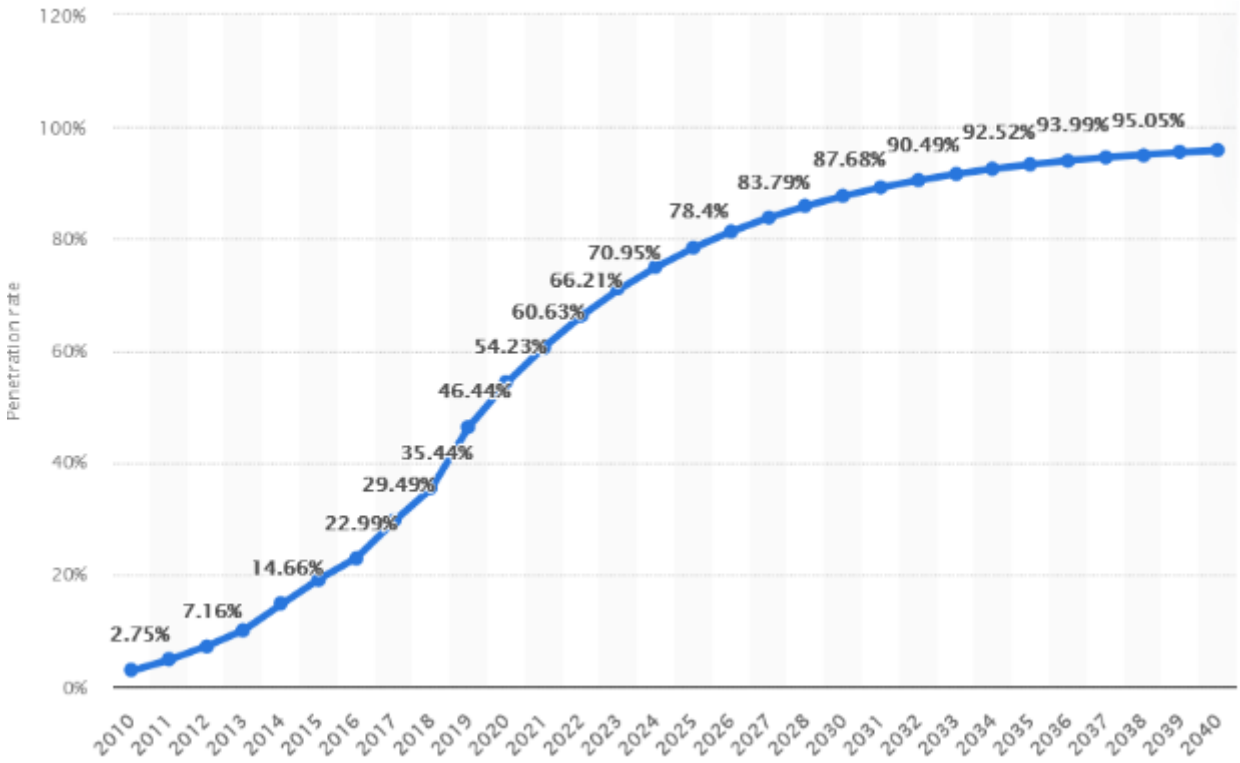


Figure 1. mindmap of Specifications

5.1. Who all can use the platform?

India is the second-largest smartphone market globally and has a substantial number of laptop users. Accurately estimating the number of mobile phones and laptops in the country is challenging due to various factors, such as uneven technology access across different regions and the rapidly evolving technology landscape. Below, we discuss briefly about the current smartphone and internet reach in India through various other means such as cybercafes, and thus our complete set of potential users based on recent surveys.

Current Smartphone Market : As of 2021, India has 1.2 billion mobile phone users and 750 million smartphone users, with a smartphone penetration rate of 54%, estimated to reach 96% by 2040. In rural India, smartphones are becoming the primary consumption devices, with 45% mobile data usage in rural to 55% in urban areas. The number of rural households with access to computers is only 4.4% compared to 23.4% of urban households.

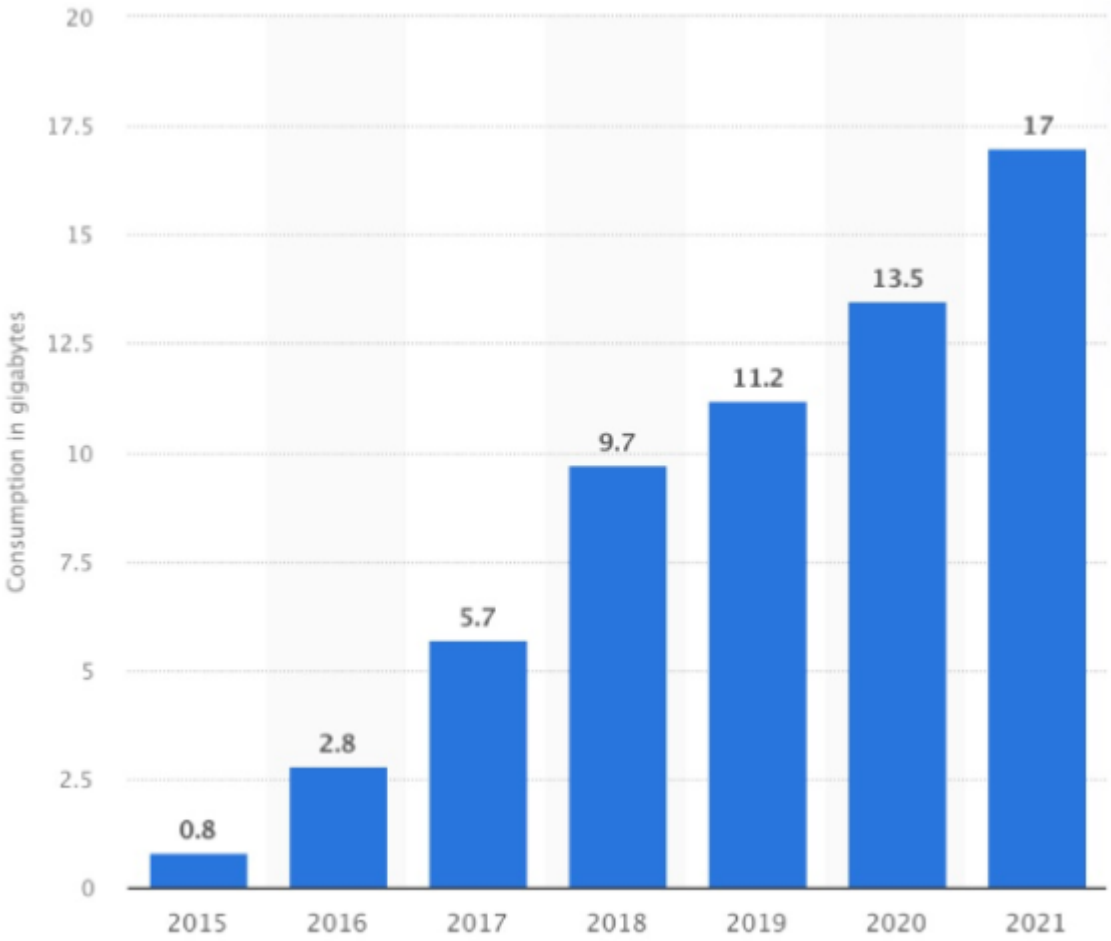


Cybercafés : According to a recent study by TCS and the Cybercafé Association of India, just 5% of Indian internet users visited cybercafés in 2021, compared to 46% in 2009. This decrease in user base caused the number of internet cafés to decrease from 200,000 in 2009 to a mere 72,000 in 2021. During this period, internet use at home rose from 58% to 78%.

Future Projections : India's mobile phone production more than doubled in FY22, making it the second-largest manufacturer of these devices globally. India manufactured mobile phones worth Rs. 5,277 crores in FY22, up from Rs. 2,334 crores in FY21. The market size for laptops in India reached over Rs. 452 crores in 2022, expected to grow at a CAGR of 6.7% between 2023 and 2028, reaching a value of Rs. 666 crores by 2028.

Internet Access :

1. As of 2023, the internet penetration rate in India is around 43%, a significant increase from just 4% in 2007. The average monthly data consumption per user across 3G and 4G networks in India was 17 GB in 2021, with 99% of the overall data traffic being contributed by 4G.
2. Social media and entertainment are the most popular mobile internet activities in India. Online shopping and mobile payments are also gaining popularity due to the increasing adoption of digital payments and the convenience of online shopping.
3. Broadband internet access on laptops remains an essential means of internet access, particularly for businesses and professionals, with around 34% of all internet users in India accessing the internet through laptops or desktops. As of August 2022, India had around 29.47 million wired broadband subscribers and 783.57 million wireless broadband subscribers.
4. As of 2021, India is 80th in the average fixed broadband download speed of 62.45 Mbps and 131st in the average mobile download speed of 12.07 Mbps. The rollout of 5G networks is expected to provide faster and more reliable internet connectivity.



India is experiencing a rapid expansion of its smartphone and mobile internet user base, bolstered by significant mobile phone and laptop production capabilities and a thriving e-commerce market.
What kind of institutions will be utilizing our platform; (such as Colleges, Hospitals, firms, or even the Govt.)

Banks : Banks can use the solution to offer their customers access to their accounts and financial services from anywhere in the world.

1. According to a report by Statista, the global banking industry's assets reached $138.7 trillion in 2020, indicating a significant market for such solutions.
2. A cashless society with digital transactions is much more efficient and it allows for much better management of your financial resources. It's a real time-saver.
3. Security protocols enabled in such kinds of solutions are why these have had success in the first place. Many mobile banking apps now allow you to use biometric authentication to log in. Axis Bank's app, for instance, provides three different biometric login options—fingerprint, voiceprint and facial recognition

Fintech startups : Fintech startups can leverage the solution to provide their customers with a seamless and secure way to access financial services. According to a report by KPMG, global fintech investment reached $105 billion in 2020, indicating a growing market for fintech solutions.

Insurance companies: Insurance companies can use the solution to offer their customers access to their policies and claims from anywhere in the world. According to a report by Market Research Future, the global insurance industry is expected to reach $7.5 trillion by 2025, indicating a significant market for such solutions.

Governments and public institutions: Governments and public institutions can use the solution to promote financial inclusion and enable people to access financial services, regardless of their location. According to a report by the World Bank, an estimated 1.7 billion adults worldwide do not have access to formal financial services, highlighting the need for innovative solutions that can address this issue.

1. The World Bank says financial services reduce poverty and boost growth. 2017 witnessed 1.7 billion unbanked. Banks support financial inclusion globally.
2. Jan Dhan Yojana gave universal bank accounts, insurance, and pensions in 2014. By 2021, the project produced 430 million bank accounts, 70% of them women. Financial inclusion reduced India's poverty.
3. Financial services expand opportunity. Government helps the poor. These methods raised bank account ownership, financial inclusion, and poverty.

Non-profit organizations : Non-profit organizations can use the solution to promote financial literacy and enable people to manage their finances more effectively. According to a report by The Balance, nearly 70% of Americans struggle with at least one aspect of financial literacy, highlighting the need for solutions that can help improve financial literacy.

1. Better financial management: Donations and grants limit NPOs. Financial management may help people make smarter judgments and utilize resources. NPOs may gain.
2. NPOs pay significant money transfer fees. Online payment processing may save money and release resources for programmes and operations.
3. Remote fund management, donor interaction, and transaction costs benefit NPOs. Capabilities describe advantages and applications.

5.2. Limitations to our user base due to various factors-

5.2.1 Limitations in access to our platform due to regional differences

India is a vast country with a gigantic variety of geographic and cultural variety. Some of these regions make it hard for some people to use online finance platforms. Here are a few reasons why:

1. **Insufficient digital infrastructure**: The two most significant issues are a steady electricity source and high-speed internet. Internet Penetration in India by 2022 was 48.7% of the total population. Rural regions have poor access because there are only 600 corridors, or about the top 50 to 100 Indian towns, where broadband is currently available. In states like Rajasthan, Goa, Gujrat, Uttarakhand, and many more, there are over 10,000 villages that still need mobile and internet connectivity. Almost 2.4% of the total population still has no electricity supply, and 13% still do not have grid-connected electricity.
2. **Digital literacy**: Some regions may have a low level of digital literacy, making it difficult for people to access and utilize online finance learning platforms.
3. **Device compatibility**: Certain regions may have a high prevalence of older devices or limited access to newer technology, which can limit access to finance learning platforms that require newer or more advanced technology.
4. **Cultural Setbacks**: A platform developed in a specific region of the country may have limited information prevalent mostly to regions of similar status quo, posing difficulties for other regions. For instance, impoverished individuals in rural areas may need access to banking services, making it challenging to apply the financial concepts and strategies taught in the platform.

5.2.2 Limitation in access to our platform due to internet/connectivity shortages

Data on Internet Users for respective bands (by 2021) :

1. **The population of India** : According to the latest data from the World Bank, as of 2021, the population of India is approximately 1.366 billion.
2. **Number of Internet Subscribers**: According to the latest data from the Telecom Regulatory Authority of India (TRAI), as of January 2022, the total number of internet subscribers in India is 802.15 million.
3. If the above information is accurate, then there are approximately 560 million people in India who do not have access to the internet. According to a report by the Internet and Mobile Association of India (IAMAI) and Nielsen, there were about 329 million 2G data users in India as of November 2020. However, it is important to note that this data is from 2020, and the number of 2G data users in India may have changed since then due to various factors, such as the adoption of 4G and 5G technologies. If we subtract 100 million to account for the rapid expansion of 4G and 5G, we can reasonably assume that India has around 200 million users accessing data via 2G networks. Hence a total of ~800 million (~61%) users in India will suffer from the consequences.

For the smooth sailing operation of our platform for the greatest efficiency, access to 4G and above (4G+,5G) band of the internet is a recommendation. In case of lack of proper internet access below described problems may be faced :

1. In case the network is in the 3G band, the data management and changes on our platform will be considerably lower leading to longer processing times and even cancellation of an initiated program due to TLE. This may result in the display of some unwanted results at times which could jeopardize the user's finances.
2. In the case of network bands 2G and below (including no internet access) , the platform will likely switch to the message-based transmission of information. This provides these three limitations :
    - The slower speed of transmission of data to and fro from the user and also slower speed in updating the database.
    - The inconvenient user interface as a messaging system would require some serious and strict rules for services offered which may cause unwanted errors on the user's part in case there is a lack of knowledge.
    - Risk of a security breach as it wouldn't be possible to use real-time encryption-decryption techniques for some of the services provided by the platform.

5.2.3 Limitations in access to our platform due to social stigmas

1. **Limited access to education**: People in rural areas or those from lower socioeconomic classes may not have access to quality education. This can limit their ability to use the DoXFroX platform effectively, as they may not have the necessary skills and knowledge to operate the technology.
2. **Lack of digital literacy**: People who are not familiar with technology may find it difficult to use the DoXFroX platform. This may be due to a lack of exposure to technology or limited access to digital devices.
3. **Social stigmas**: Certain social stigmas may prevent some people from accessing the platform. For example, in some communities, women may not have the freedom to access technology, or may be discouraged from using it due to cultural norms.
4. **Financial constraints**: People who belong to lower-income groups may not have the financial resources to access technology. This can limit their ability to use the platform and benefit from its services.
5. **Limited internet connectivity**: In some remote areas, internet connectivity may be limited or non-existent. This can make it difficult for people to access the DoXFroX platform, which requires a stable internet connection.

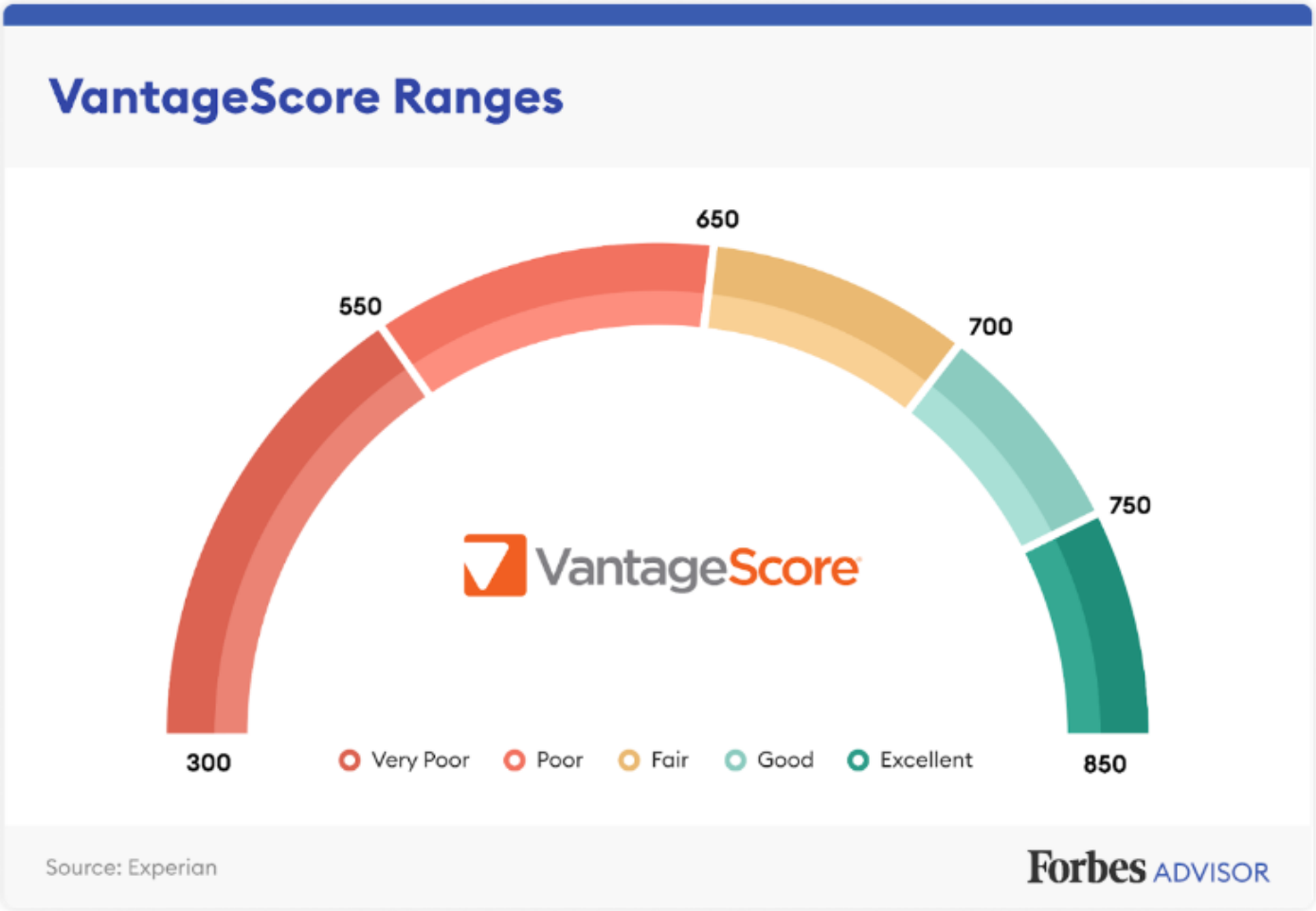
It's essential to consider these limitations and work towards finding solutions that can help overcome them. For example, providing training and education programs for digital literacy can allow people to use the platform effectively. Furthermore, making internet connectivity more affordable and accessible can help bridge the digital divide and provide equal access to the forum.

5.2.4 Limiting the access to our platform to prevent defaulters and scammers

Another factor that limits our user base is the set of defaulters and scammers, which needs to be prevented from accessing our platform in order to ensure the safety of our users. There are various ways to keep a check on such users, the most popular ones being credit scores and payment history which are utilised by a large number of internet banking solutions.
A financial credit score is a number that measures the financial stability and creditworthiness of an individual or an organization. This score is determined by several characteristics, such as credit history, which measures the length of credit history and variety of credit accounts we have for ex-mortgage, credit cards, and loans. Other parameters are the debt-to-income ratio which compares the amount of debt and credit a person owns, wherein a high debt-to-credit ratio lowers the credit score, payment history involving the user's track record of making on-time payments, and other financial behaviours such as frequency of new credit applications in the past few years. Other factors such as employment history, financial obligations and income sources might play an important role. Considering different weights for each parameter based on their importance, we obtain a score for each user unique to his PAN number, based on which the user might be barred or given special benefits for using the platform services.

The lending system we plan to develop as a part of the financial interface is a peer-to-peer type, which involves matching borrowers and lenders with similar demands. For the same, we need a scoring algorithm which assesses a user's creditworthiness by considering various above-mentioned factors. A high score implies a low-risk borrower, whereas a low score may indicate a high-risk borrower who is unlikely to repay debts. Among the several credit scores being used, we plan to use the CIBIL scoring method, developed by TransUnion, which is the most widely used scoring method in India, which receives data from most of the financial institutions and banks, and adding a slight variation to it, which is offered by the Vantage score, that is developed by Experian, Equifax and TransUnion. Since CIBIL is the traditional score being used, vantage considers several other parameters to fit the vast scope offered by the FinTech platform. The following is the weight distribution for several features, with the final score being on a scale of 300-850-

- Payment history (40%) : measures how well you have paid your bills on time in the past. A good payment history will show that you have made most of your payments on time.
- Age and type of credit (21%) : this metric covers how long a consumer has held credit accounts in good standing and whether they have a diverse mix of revolving credit and instalment loans.
- Percentage of credit limit used (20%) : a consumer's credit utilization rate, or debt-to-credit ratio, is the ratio of their outstanding credit balances to their total credit limits.
- Total Credit balances (11%) : imply the already kept credit balances and how well they are paid down.
- Recent credit behaviour (5%) : is calculated based on the new application for loans or credit cards.
- Available credit (3%) : depends on a consumer's amount of available credit.



The above chart defines what score is considered a good rating. For the platform, we can start with a conservative limit for the initial access of platform services, such as for a new user, an initial limit of 670. If the rating exceeds 750, the user will be given special benefits in using the platform's services. Later, the credit limits will be adjusted based on creditworthiness developed from experience with the platform.

This scoring method also considers the case of users with limited credit history. Still, for them, techniques such as behavioural scoring, which involves trends based on payment history, social scoring based on data received from social media platforms and business credit ratings for businesses which depend on their financial health, credit history, and payment behaviour will be used for studying their financial credibility.

Some alternative sources of information will include data from social media platforms, utility bills, mobile phone usage, etc., to assess users' risk profiles and machine learning algorithms to study their lending decisions. Also, initially, users must submit government identification documents, including PAN number and KYC details to verify the user's identity, address, and other personal information.

Also, later while using the platform, several fraud detection algorithms will be used alongside to study investment, borrowing and spending trends and monitor suspicious activity to prevent fraudulent activity. This scheme will help the fintech platform make informed lending decisions and manage risk exposure.

5.2.5 Expanding our user base through financial education

Teaching financial education is essential for helping people develop the skills and knowledge they need to manage their money effectively. Some strategies that can be taken up to help expand user base, increase customer outreach and promote financial education are as follows:

Content marketing: Creating high-quality content educates people about financial literacy and how to use money wisely. One can write blog posts, create videos, or host webinars on topics like budgeting, saving, investing, and debt management. Sharing content on social media platforms, email newsletters, and other relevant channels is a great strategy to reach a wider audience.

Partnership and collaborations: Collaboration with other organizations or businesses that share your mission and values and teaming up with financial advisors or banks can bring more financial resources and other perks, such as assisting in hosting workshops or seminars.
Referral Programs: Existing users can be incentivized to refer their friends and family to our platform. This can be in the form of discounts or bonuses, helping to create a loyal community around your brand.

Social media campaigns: Social media platforms are very useful in promoting financial education content and engaging with potential users. Entering partnerships with influencers or using paid ads can help reach new audiences.

Offline events: Hosting workshops or seminars on financial literacy within local communities can help to create a loyal customer base and encourage word-of-mouth marketing.

Customized content: Creating tailored content for specific demographics or user segments, such as students or small business owners, can help reach those more effectively. Customizing content and services to fit the needs of specific groups can help to attract new users and increase engagement.

Offer personalized financial advice: Offering personalized financial advice or coaching services to the users can help build trust and loyalty for our brand while providing a valuable service to our users.

A few ways in which we can reach out to the population more effectively are as follows.

1. **Making it relevant**: Teaching financial concepts relevant to the individual's life is a crucial aspect of financial education. For example, if one is teaching a young adult, one could focus on budgeting, managing credit cards, and saving for emergencies.
2. **Using real-life examples**: Using real-life examples and case studies to illustrate financial concepts can help learners to see the practical applications of financial education.
3. **Using interactive methods**: Interactive methods like games, quizzes, and simulations can engage learners and make the learning experience more enjoyable.
4. **Keeping it simple**: Using simple language and avoiding using jargonistic or technical terms makes financial concepts more accessible and easier to understand.
5. **Providing ongoing support**: Providing ongoing support and resources for learners to continue their financial education journey could include access to financial calculators, online resources, or one-on-one support from a financial coach or advisor.

Overall, it is important to continuously evaluate and update strategies to meet the changing needs of your users and keep up with the latest trends in financial education.

5.3. Specifying our platform: What is our solution?

Our platform for 'Live Anywhere Finance Anywhere' is going to comprise a web-based solution which will be accessible from any part of the world and cater all the financial needs of users irrespective of their location or economic circumstances, with registered users from India only. It will also include a well-framed operating structure for the company as a whole, with human intervention at various points that includes verification of documents and financial credibility of newly registered users, valuation of assets that an individual or an organization would want to use our platform for the following ways:

1. **Microeconomics**: Our platforms will offer loans via p2p lending to individuals and organizations as a substitute to traditional banking services by provision of additional securities and services in addition to those who have limited access to banking services due to their limited income, lack of collateral, or credit history. These loans are typically used for income-generating activities such as starting a small business or investing in agriculture. Our platforms can leverage technology to reduce the cost of lending, facilitate faster and more optimized transactions thus providing a more efficient loan processing processes via P2P lending. This would also serve as a different form of investment for the users of the platform.
2. **Crowdfunding**: Our platform will allow individuals or small businesses to raise capital from a large range of potential investors through equity crowdfunding, some of whom may also be current or future customers. This will be accomplished through matching companies with prospective investors via the platform.The initial process will include application of government regulations, equity valuation and limitation on funds raised to protect the interests of investors. Equity valuation will be done on basis of mathematical models to estimate the intrinsic value of a security which is based on an analysis of investment fundamentals and characteristics. This will prevent a security from getting over valued and give a description about the various dividends payments and equity valuation models.
3. **Secure Transaction System(STS)**: As one of our prime solutions offered to our users, we provide the capacity of money transfer from one financial entity to another, by the means of government registered accounts for the purpose of transactions, within the limit specified by the government in accordance with the safety protocols for remote transactions. This will be done with state-of-the-art safety protocols by adding features like end-to-end encryption and blockchain security features.
4. **Investment**: Our platform will allow users to invest in small businesses.The platform would provide information on the investment opportunity, such as the business plan, financial projections, and expected returns.To invest in an opportunity, the investor would first need to create a personalised account on our platform. The account would require basic information such as the investor's name and contact information, as well as their preferred method of payment for the investment.Our platform will offer a range of investment opportunities to match their interests, preferences and risk in primary as well as secondary market's equity.The platform would provide clear and detailed information about each investment opportunity, including the risk level and potential returns.With our secure payment system investor can be assured that their investment is secure and transparent.The platform would keep investor informed about the progress of the investment,sending regular updates.The platform will also provide a secondary market for investor to sell there investment.

Thus, our solution will comprise of a website as well as a well-formed General Operating Procedure which completely specifies the different departments and how they will offer the solutions that we endorse for our platform.

6. References

[1] J. P. Morgan, "The Mobile Economy India 2018," GSMA, 2018. [Online]. Available: https://www.gsma.com/mobileeconomy/india/.

[2] Reserve Bank of India, "Payment and Settlement Systems in India: Vision 2018-2021," Reserve Bank of India, 2018. [Online]. Available: https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/PSVV20182021E87AAE51FED64FBE8B0E59EAEE7F6F9.PDF.

[3] A. Agrawal, "E-payment systems in India: Current status and future prospects," IUP Journal of Computer Sciences, vol. 14, no. 3, pp. 16-28, 2020. [Online]. Available: https://search.proquest.com/openview/5617e8dc66f11c7aa057d9e08b7daa09/1.pdf?pq-origsite=gscholar&cbl=2040298.

[4] S. Jain and S. Gaur, "A comparative study of financial inclusion in India and China," Journal of Financial Economic Policy, vol. 10, no. 1, pp. 74-92, 2018. [Online]. Available: https://www.emerald.com/insight/content/doi/10.1108/JFEP-04-2017-0035/full/html.

[5] Government of India, "Digital India: A Campaign Launched to Empower Citizens Digitally," Ministry of Electronics and Information Technology, 2015. [Online]. Available: https://www.digitalindia.gov.in/content/about-programme.

[6] S. K. Gupta, “Digital India: Technology to transform a connected nation,” IEEE Consumer Electronics Magazine, vol. 6, no. 2, pp. 96-99, Mar. 2017.

[7] M. R. K. Krishna, "Designing affordable and scalable technological interventions to reduce health disparities in India," IEEE Global Humanitarian Technology Conference (GHTC), pp. 1-7, Oct. 2019.

[8] J. Rajasekaran and S. Shanthi, "Financial inclusion through digital India," IEEE International Conference on Computing Technologies and Intelligent Data Engineering (ICCTIDE), pp. 117-122, Dec. 2016.

[9] Shangliao Sun, “Smartphone penetration rate in India from 2010 to 2020”, with estimates until 2040 [Graph], Statista, July 21, 2021. [Online]. Available: https://www.statista.com/statistics/1229799/india-smartphone-penetration-rate/

[10] IAMAI and Nielsen. (2020). Digital in India - November 2019. Retrieved from https://www.iamai.in/research-publication/digital-in-india-november-2019

[11] Ministry of Electronics and Information Technology. (2021). BharatNet. Retrieved from https://bharatnet.gov.in/

[12] Saini, R. (2021). Internet and Digital Divide in Rural India: Issues and Challenges. International Journal of Scientific & Technology Research, 10(1), 148-153. doi: 10.5281/zenodo.4432372

Last updated 2023-04-05 01:07:36 +0530