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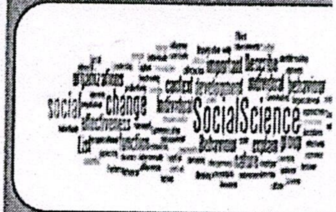

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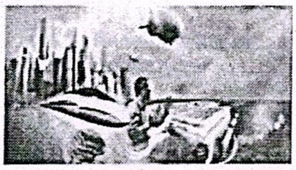

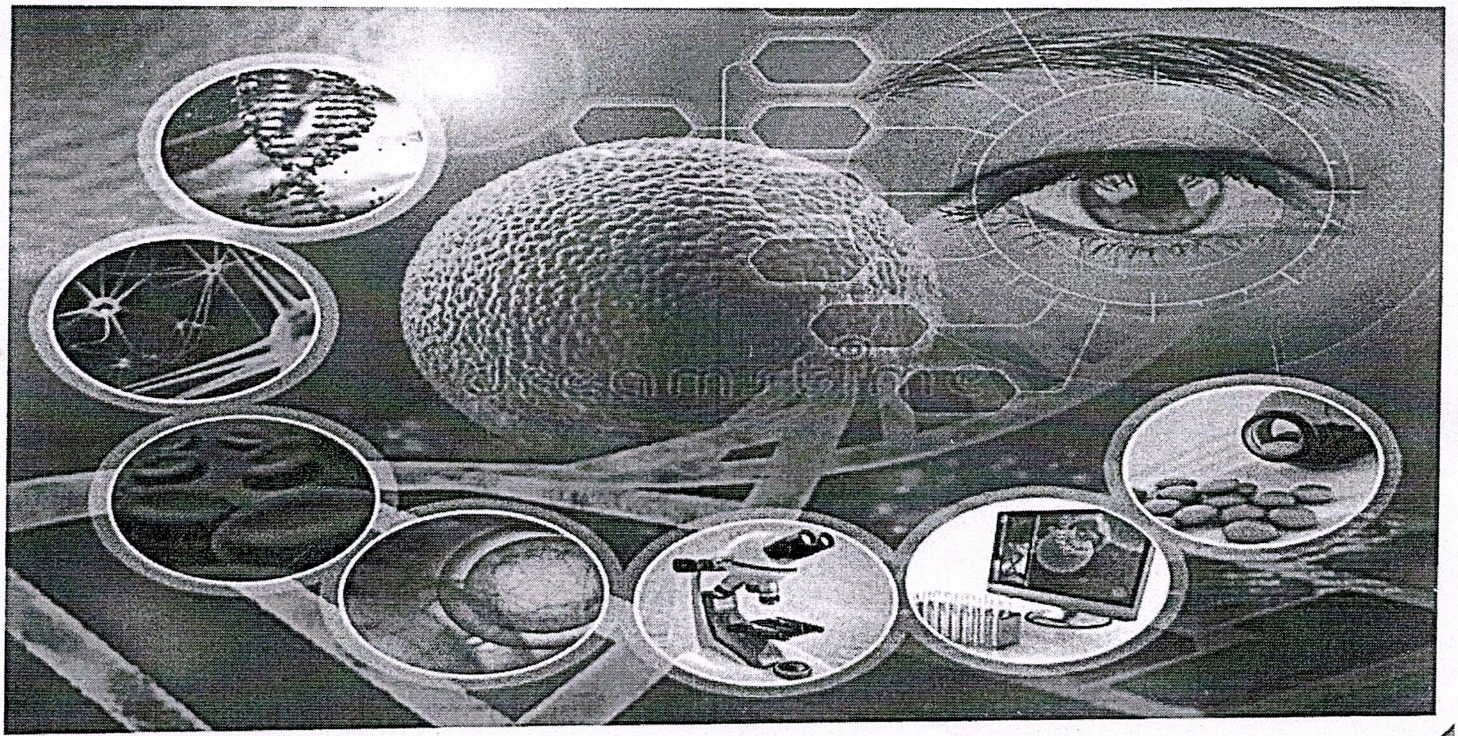

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Unified Payments Interface as digital innovation in India

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Abstract: Digital financial literacy has become the present need of India. There is growing awareness in this direction since the onset of demonetization. In an era where computers communicate, take orders, move and do about almost all activities that were previously the domain of a live human being, it is necessary that our country take calculated steps to advance towards this mission. A digital and cashless economy is the current mission. Digital literacy is thus, the ability to make informed judgement and take effective decisions regarding the use and management of money, in a digital mode. There has been a rapid surge in online traffic and usage of web based and mobile application based portals- both financial andotherwise, but this is limited to urban or metropolitan cities. India's national divide is loud and clear in this aspect. During the phase of demonetization, dozens of hundreds of people around the nation crowed ATMs and the bank branches, hence proving that India has a long way to go before it achieves a complete state of digitization. This study examines the rate of digital financial literacy and how it acts as a necessary primary step towards a much enhanced financial literacy and financial inclusion.

Keywords: UPI, Digital Innovation and Unified Payments Interface etc.

Introduction:

Unified Payments Interface in India Interoperability among payment systems in India has facilitated unparalleled ease of transactions while robust customer protection measures have made India's retail payment system one of the safest in the world. Unified Payments Interface (UPI) is a mobile-based, 365x24x7 'fast payment' system launched in August 2016 which allows users to send and receive money instantly using a Virtual Payment Address (VPA) set by the user itself. The unique feature of VPA-based transaction is that it obviates the need for sharing account or bank details to the remitter. It supports person-to-person (P2P) and person-to-merchant (P2M) payments which can be used over a smart phone (app-based) or a feature phone (USSD8-based), and at merchant location/website. It facilitates immediate money transfer through both 'pull' and 'push' payments. Non-financial transactions, such as balance enquiry, can also be carried out using UPI. It powers multiple bank accounts into a single mobile application of any participating bank/non-bank Third Party Application Provider (TPAP). Funds can also be transferred through UPI using account number with and IFSC (Indian Financial System Code) of the bank branch. The UPI 2.0 was launched in August 2018, which enabled users to link their Overdraft accounts to UPI VPA. Users are also able to pre-authorise transactions by issuing a mandate for specific merchant for a one-time payment There's also an added feature of AutoPay facility for recurring payments. The framework of UPI comprises NPCI as switching and settlement service provider and banks as Payment System Providers (PSPs) – as issuer banks and beneficiary banks. Additionally, it can also have Third Party Application Providers (TPAP) such as Google Pay. Transactions are carried out through mobile devices with two-factor authentication using device binding and UPI PIN as security. Currently, the per transaction limit is INR 0.2 million.

Objective of the research study:

The objectives of the present research study are as follows

1. To study the present status of Unified Payments Interface in India.
2. To evaluate the benefits of Unified Payments Interface in India.

Review of Literature:

Finauet.al (2016) examined rural dwellers' perceptions of digital "financial services (DFS) to identify which factors may enhance or impede their adoption. DFS are provided by mobile network operators, either individually or in collaboration with commercial banks. The study found that DFS uptake is hindered by agents' lack of liquidity and the implicit costs that agents impose on consumers. In addition, consumers tend to fully spend the funds received through mobile money, but fail to use their mobile phones for saving purposes. Ghaffar& Sharif (2016) examined the level of financial literacy in Pakistan. The study revealed that the persons, who have more financial knowledge, usually save money. It was found in the study that middle-aged and older people were careful in spending their money and male respondents usually have better saving habits. Further it was also found that respondents earning high salaries agree that financial literacy do help in leading a financially secure life.

Aggarwal and Gupta (2016) identified the linkage between the gender gap in stock market participation and financial literacy while controlling for two major externalities of education level and wealth. It was found that female teachers participate less in stock market to an extent of 16.7% as compared to male. Results of corroborate the view that non-participation in stock markets was a common response to deficiencies in advanced financial literacy and lack of risk attitudes.

Totenhagen et.al (2015) has identified the key considerations and promising delivery methods which may inform positive changes in financial literacy and behavior among youth. Study also has conducted a comprehensive review of the current literature on youth financial literacy education and identified characteristics of financial education programs which influence positive changes.

Hospido et.al (2015) has measured the impact of financial literacy training in compulsory education in Spain. Study used a matched sample of students and teachers in Madrid and two different estimation strategies. It was found in the study that students of private schools did not increase their knowledge much, possibly due to a less intensive implementation of the program. Study also analyzed the bias that arises because the set of schools that participate in financial literacy programs was not random.

Arif (2015) examined the relationship between financial literacy and the influence of the factors that affect the investment decision. The data was collected from 154 respondents through modified questionnaire containing questions related to demography of the investors, factors affecting the investment decisions and financial literacy level of the individual investors at Karachi Stock Exchange. Study concluded that the financial literacy level of the investors was below average. Significant difference in financial literacy was found between the respondents regarding age, gender, work activity and marital status of the respondents.

Morris and Koffi (2015)has studied the relationship between financial literacy level of Canadian university students and their prior education on the subject. The results revealed that education on financial topics improved financial literacy level. However, the improvement was almost insignificant for courses taken at the secondary level. The results also showed that financial literacy was influenced by socio demographic variables as well.

Potrich et.al (2015) has study the individual financial level through socioeconomic variables. 1400 sample were collected and data analysis was performed by using descriptive statistics and multivariate analysis techniques. Following variable were considered to measure the financial literacy; dependent family members, occupation, educational level, father's educational level, mother's educational level, individual income and family income. Results of study were indicating that men who do not have dependent family members and have higher educational and both individual income and family income levels are those who are more likely to belong to the group with high financial literacy levels.

M and M (2015) has examined the financial literacy and its determinants among Gen Y employees in coimbatore city. The study found that gender, education, income and age impact the level of financial literacy. Study also concluded that financial literacy level is low among Gen Y employees in Coimbatore city.

Shih and Ke (2014)has discussed consumer money attitudes, financial literacy regarding financial decisions, and financial behavior. Study suggested that consumers who have retention planning and achievement-esteem attitudes toward money make high-risk financial decisions; anxiety toward money tends to exist mainly in low-risk investors. Financial literacy affects consumer financial behaviors, and demographic variables play segmentation roles.

Park (2011) examined the impact of three dimensions of digital literacy on privacy-related online behaviors:(a) familiarity with technical aspects of the Internet, (b) awareness of common institutional practices, and (c) understanding of current privacy policy. Hierarchical regression models analyzed data from a national sample of 419 adult Internet users. The analyses showed strong predictive powers of user knowledge, as indicated by the three discrete dimensions, on privacy control behavior.

Way & Wong (2010) state that the development and use of technology-based tools for financial literacy education has grown rapidly in recent years, often based on the presumption that digital media will enhance past practice. The studies present an ecological model for technology- based financial literacy education intervention and propose an action agenda for practice and further research.

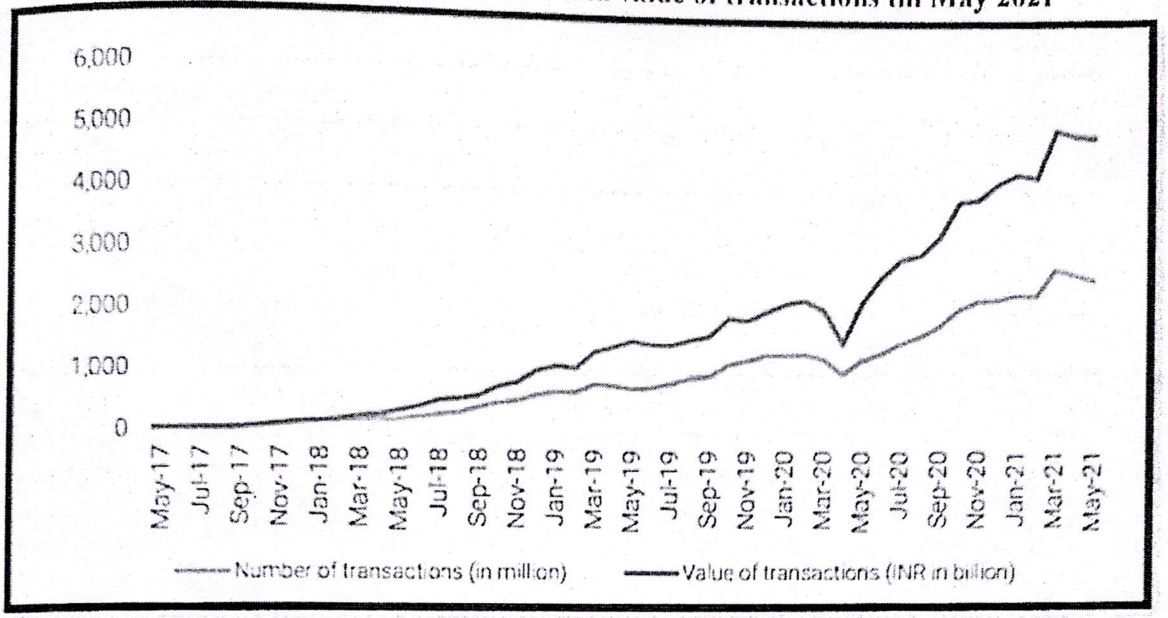
Research Design:

The research study is based on secondary data and hence the research design is framed as follows

1. Universe: UPIbased transactions in India.
2. Population: Present UPI based transactions in India.
3. Sample: UPI transactions till May 2021.
4. Sources of Data: Secondary sources
5. Variables studied: UPI transactions.

Data Analysis and Interpretations

1 UPI - Trend in number and value of transactions till May 2021



(Source: NPCI)

Above diagram gives a clear cut idea about usage of UPI transactions till May 2021. It shows that number of transactions as well as Value of transaction is raised from May 2017 to May 2021. Governments Supports Digitalization and Because of Covid-19 pandemic we can have look on the value growth from 2000 billion to around 5300 billion till may 2021. And itsincreasing day by day as all are promoting to cashless India..

2 Benefits of UPI Payments

1 Customer/ Users

1. Immediate money transfer through mobile device round the clock 24*7 and 365 days.
2. Single mobile application for accessing different bank accounts.
3. Single Click 2 Factor Authentication – Aligned with the Regulatory guidelines, yet provides for a very strong feature of seamless single click payment.
4. Virtual address of the customer for Pull & Push provides for incremental security with the customer not required to enter the details such as Card no, Account number; IFSC etc.
5. QR Code
6. Best answer to Cash on Delivery hassle, running to an ATM or rendering exact amount.
7. Merchant Payment with Single Application or In-App Payments.
8. Utility Bill Payments, Over the Counter Payments, QR Code (Scan and Pay) based payments.
9. Donations, Collections, Disbursements Scalable.
10. Raising Complaint from Mobile App directly.

2 Banks

1. Single click Two Factor authentication
2. Universal Application for transaction
3. Leveraging existing infrastructure
4. Safer, Secured and Innovative
5. Payment basis Single/ Unique Identifier
6. Enable seamless merchant transactions

3 Merchants

1. Seamless fund collection from customers - single identifiers
2. No risk of storing customer's virtual address like in Cards
3. Tap customers not having credit/debit cards
4. Suitable for e-Com & m-Com transaction
5. Resolves the COD collection problem
6. Single click 2FA facility to the customer - seamless Pull
7. In-App Payments (IAP)

UPI Payer PSP Performance (Feb'22)					
Sr. No.	Payer PSP	Total Volume (In Mn)	Approved %	BD %	
1	Yes Bank Ltd	1792.10	97.87%	2.13%	0.00%
2	Axis Bank Ltd	723.79	98.06%	1.94%	0.00%
3	Paytm Payments Bank	634.59	98.06%	1.92%	0.02%
4	ICICI Bank	552.51	97.94%	2.06%	0.00%
5	State Bank Of India	446.83	97.74%	2.24%	0.02%
6	HDFC BANK LTD	410.82	98.61%	1.39%	0.00%
7	BHIM	25.47	91.28%	8.57%	0.15%
8	Kotak Mahindra Bank	7.18	96.20%	3.80%	0.00%
9	Airtel Payments Bank	6.65	87.23%	12.54%	0.23%
10	IDFC FIRST Bank	2.86	95.00%	4.96%	0.04%
11	India Post Payment Bank	2.36	93.44%	6.50%	0.06%
12	Federal Bank	2.36	96.84%	3.12%	0.04%
13	Jio Payments Bank	2.07	95.10%	4.40%	0.50%
14	Deutsche Bank	0.88	99.92%	0.08%	0.00%
15	INDUSIND BANK	0.81	94.84%	5.15%	0.01%

Table No. .2 UPI payer PSP performance

Source: https://dbie.rbi.org.in/DBIE/dbie.rbi?site=statistics

Business Decline (BD) - Transaction decline due to a customer entering an invalid pin, incorrect beneficiary account etc. Or due to other business reasons such as exceeding per transaction limit, exceeding permitted count of transactions per day, exceeding amount limit for the day etc. Such declined transactions are termed as Business Decline. Any decline which is not because of a technical reason of the bank or NPCI is termed as business Decline.Technical Decline (TD) - Transaction decline due to technical reasons, such as unavailability of systems and network issues on bank or NPCI side.

PSP - Payment Service Provider

Payer PSP - Under this function a bank can onboard a customer, create his/ her UPI ID, create device binding which is used as a first factor of Authentication, using this customer can enter their UPI PIN to approve a financial transaction or non-financial request where ever necessary.Payee PSP - Under this function a bank can onboard a customer/merchant & allow them to receive money basis allocated UPI ID or raise a Collect request. It is also known as beneficiary PSP/resolving PSP.

Conclusions of the research study:

Financial inclusion is a key driver for sustained and balanced economic growth, which helps reduce income inequality and poverty. The 21st century saw the rapid evolution and development of the financial markets and systems, with technological advances, new financial intermediaries, innovative products and services. The COVID-19 pandemic has enhanced the focus on all aspects of digital financial inclusion. There has been accelerated use of the digital financial services mainly due to the relaxations and innovative approach adopted by the authorities, private players adopting the remote business and payment models and increase in first-time consumers due to lockdown and social distancing protocols. While these are encouraging developments, the challenges of bridging the digital divide have got amplified. The risk of cyber incidents, online frauds, illicit financial flows and data privacy have come to the fore with increase in customer uptake as most of these technologies and platforms are relatively new and evolving. As the countries emerge from the pandemic, the digital financial system will have a crucial role to fulfil the aspirations and needs of our economies recovering from the pandemic. At the same time, these new technologies must be designed and implemented with adequate safeguards so as not to exacerbate the risk