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ENABLING FINANCIAL INCLUSION IN RURAL INDIA THROUGH A PHYGITAL MODEL

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PHYGITAL MODEL

ABSTRACT

The research paper focuses on analysing the Phygital banking model's effectiveness in

promoting financial inclusion in rural India, particularly through the Business Correspondent

model of Phygital banking implemented by emerging Fintechs. The study aims to examine the

impact of business correspondents over the years in rural areas in terms of opening new

accounts, increasing the number of transactions, and other relevant factors. To understand the

long-term sustainability of the Phygital industry, the paper looks into various sources, including

annual reports of key players, RBI data, and World Bank data. The study also explores the

impact of the Phygital model on other stakeholders such as customers, banks, and the

government for a comprehensive understanding of its effectiveness. Moreover, the research

paper analyses the policy framework surrounding the industry to determine how the Phygital

model can be made more effective and impactful in rural regions while achieving the goal of

financial inclusion. Based on the study's findings, the paper provides recommendations that

could help in making the Phygital model more sustainable and successful for all stakeholders

involved.

Keywords: Phygital, Business Correspondent, Financial Inclusion

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1. INTRODUCTION

While 65% of the Indian population resides in rural regions, it poses some unique challenges across sectors, the biggest being access to various services, including digital and banking services. The formal banking and financial system have not adequately provided the necessary scale of coverage that rural India needs. Although the JAM Trinity (Jan Dhan Yojana, Aadhar, and Mobile number) promises to transform the banking and digital payments ecosystem, its access continues to be a challenge in rural India.

The lack of financial and digital literacy, complex products, and lack of assistance has resulted in poor understanding and acceptance of formal banking services for rural populations. And it's impossible to overlook the impact rural India has on the overall economic emergence of India. This is perhaps the biggest problem and the largest opportunity the banking sector is now facing.

With the subsidy and welfare payments by the government being increasingly sent through bank accounts, banking has become a crucial necessity for the beneficiaries, and boosting adoption requires a change in banks' and financial service provides' ways of thinking. However, the landscape is changing fast with growing internet users, smartphone access, and literacy rate. And with the emergence of innovative tech-led solutions and the readiness of rural consumers towards digital financial services, the situation can be changed to bring rural India to the forefront of India's growth story by building an assisted digital platform which is also known as the Phygital model.

The Phygital banking model has gained wide attention in several regions including Africa, U.S, Europe, Asia. The Phygital model can be used as the perfect tool for strengthening financial

inclusion especially in rural regions. This model has the potential to cause financial disruption in India. According to Times of India article, "Currently there are more than 4800 Fintech companies in India that have overhauled traditional finance models and can serve as a driver of financial inclusion across the nation". The highest fintech adoption rate in the world is in India with 87%.

Rural India faces a lot of restrictions with respect to financial transactions and inclusion. Lack of necessary infrastructure, low digital literacy, poor financial literacy, availability of ATMs, and efficient internet connectivity are a few issues that rural India face with respect to either digital or physical banking. The Phygital banking model has the potential to overcome these barriers and enable the underserved and underbanked population in India to carry out financial transactions with ease. Overall, this thesis will revolve around how a Phygital Banking Model can help improve financial access to rural India overcoming barriers like their lack of financial and digital literacy.

1.1 Scope of Work

Presently around 350 million people are employed in rural India which amounts to around 68% of the workforce. India's rural economy contributes 46% of national income. With around 336 million internet subscribers in rural India, a Phygital banking model can help expand the access of financial and digital services in remote corners of rural India which have been under-served so far. This thesis will investigate the implementation, pros and cons regarding the Phygital model as well as ideal policy changes if any that could improve rural financial inclusion through the assisted digital banking services.

2. LITERATURE REVIEW

2.1 Financial Inclusion

Financial inclusion is a term used to describe the process of providing financial services to those who are alienated from the formal financial system.

Financial inclusion is defined as "the act of ensuring that vulnerable groups, such as weaker parts and low-income groups, have access to financial services and timely and enough credit, as needed, at an affordable cost" (Rangarajan, 2008). An easy access to banking accounts is the primary step in terms of ensuring financial inclusion as it allows people to save, withdraw and send money for different purposes. This in turn can help in providing these people with further financial resources once they are a part of the financial system. "Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs –transactions, payments, savings, credit and insurance –delivered in a responsible and sustainable way" (Demirguc-Kunt et al., 2018)

The major providers of financial services play a significant role in promoting the inclusive growth process. Financial inclusion is required to have a more comprehensive growth process. By generating job possibilities, financial inclusion contributes to speeding "economic growth and development," which in turn affects the social and economic health of the nation's citizens. A comfortable and appropriate level of access to financial resources helps the owners of small businesses and other marginalised groups generate income, manage their unequal cash inflows and outflows, invest in profitable ventures, manage their responsiveness to shocks, and escape the cycle of poverty. "Financial inclusion is the process of ensuring that vulnerable groups,

such as weaker parts and low income groups, have access to the relevant financial goods and services they require at an accessible price in a fair and transparent manner by mainstream institutional actors." (Rekhecha & Tanwar, 2018)

2.2 Dimensions of Financial Inclusion

Financial inclusion is a composite term with several dimensions. These include access to financial services, quality of financial services and usage of financial services. Access to financial services refers to the capability of a person to use existing financial resources provided by formal financial institutions. There are several obstacles which restricts a person from availing financial services. These obstacles can include challenges with creating bank accounts, proximity to banks, structural procedural requirements, financial illiteracy, language limitations, etc. Quality of financial services refers to the extent to which the available financial resources can satisfy the customers' wants and needs. Given that not all segments of society have the same needs for financial services, this dimension assesses the strength and nature of the relationship between customers and financial resource providers. Use of financial services refers to the proper use of banking services which includes the regularity and frequency of using them. The percentage of the population with a bank account but insufficiently utilising banking services is known as the "marginally banked" population. Due to many factors, such as the distance from banking locations, a lack of products that are specifically tailored to their needs, a lack of basic literacy, etc., these people may not be regularly using other financial services (Ahmad Teeli et al., 2023).

2.3 Barriers to Financial Inclusion

Physical Barriers:

Financial inclusion is defined as the availability and accessibility of financial services and products to all segments of society, particularly those who are excluded from mainstream financial systems. However, physical barriers can prevent individuals from accessing financial services, which can hinder their economic participation and growth. In this literature review, we will examine the physical barriers to financial inclusion and their impact on individuals.

One physical barrier to financial inclusion is the lack of access to banking infrastructure. In many parts of the world, there is a shortage of physical banking branches, especially in rural areas. A study by the World Bank found that 42% of adults in sub-Saharan Africa do not have access to a bank account due to the lack of banking infrastructure (World Bank, 2017). Similarly, in India, only 36% of the population has access to banking services within 5 kilometres of their residence (*Reserve Bank of India - Publications*, 2018).

Another physical barrier to financial inclusion is the lack of technology infrastructure. In the age of digital banking, access to the internet and mobile phones is essential for individuals to access financial services. However, in many parts of the world, access to technology is limited, especially in rural areas. A study by the World Bank found that only 13% of adults in sub-Saharan Africa have access to the internet (World Bank, 2017). Similarly, in India, only 25% of the population has access to the internet (Telecom Regulatory Authority of India, 2018).

In addition, physical disabilities can also prevent individuals from accessing financial services. For example, individuals who are visually impaired may have difficulty accessing information on banking products and services. Furthermore, physical infrastructure, such as stairs and narrow doors, can also hinder the mobility of individuals with physical disabilities, preventing them from accessing bank branches.

Finally, language barriers can also prevent individuals from accessing financial services. In many parts of the world, individuals speak languages that are not widely used in the banking industry. This can make it difficult for individuals to understand banking products and services and access them.

In conclusion, physical barriers to financial inclusion can prevent individuals from accessing financial services and products, hindering their economic growth and participation. Lack of access to banking infrastructure, technology infrastructure, physical disabilities, and language barriers are some of the physical barriers to financial inclusion. Policymakers and financial institutions should work to address these barriers and increase access to financial services and products for all individuals.

Regulatory Barriers:

Regulatory barriers are a major impediment to financial inclusion, defined as the availability and access to financial services for all segments of society, particularly those who are excluded from mainstream financial systems. In this literature review, we examine the regulatory barriers to financial inclusion and their impact on individuals.

One of the main regulatory barriers to financial inclusion is the high cost of compliance with regulations. Small financial institutions and fintech firms may struggle to comply with regulatory requirements due to the high costs involved. Compliance costs can be particularly prohibitive for providers of low-value financial services, such as microfinance, where the transaction costs are relatively high. As a result, small financial institutions may be discouraged from entering the market, limiting the availability of financial services for individuals (Singh, 2019).

Another regulatory barrier to financial inclusion is the lack of a supportive regulatory environment. The lack of clear regulations and guidelines for financial services providers can

make it difficult for new entrants to enter the market. Additionally, the lack of a supportive regulatory environment can discourage innovation in financial services, limiting the availability of new and innovative products and services.

In addition, regulatory barriers can arise due to complex and onerous documentation requirements. These requirements can make it difficult for individuals, particularly those in the informal economy, to access financial services. Additionally, documentation requirements may be difficult to meet for vulnerable and marginalized groups, such as refugees, migrants, and women (Menon, 2019).

Regulatory barriers can also be caused by restrictive rules on agents, including mobile money agents. Agents play a crucial role in delivering financial services to individuals in remote or underserved areas. However, in some countries, regulations that limit the number of agents or require them to meet high licensing standards can limit their ability to serve individuals.

Finally, limited access to financial education and consumer protection can also be a regulatory barrier to financial inclusion. Without adequate financial education, individuals may struggle to make informed decisions about financial products and services. Similarly, the absence of consumer protection measures can leave individuals vulnerable to fraudulent or abusive financial practices.

In conclusion, regulatory barriers to financial inclusion can limit the availability and access to financial services for individuals. High compliance costs, the lack of a supportive regulatory environment, complex documentation requirements, restrictive rules on agents, and limited access to financial education and consumer protection are some of the regulatory barriers to financial inclusion. Policymakers should work to address these barriers to increase access to financial services for all individuals.

Psychological barriers:

Psychological barriers to financial inclusion refer to the attitudes, beliefs, and perceptions that can prevent individuals from accessing and using financial services. In this literature review, we examine the psychological barriers to financial inclusion and their impact on individuals.

One of the main psychological barriers to financial inclusion is a lack of trust in formal financial institutions. Many individuals, particularly those in low-income or marginalized communities, may have had negative experiences with formal financial institutions or may perceive them as inaccessible or unresponsive to their needs. This lack of trust can make individuals hesitant to use formal financial services, preferring instead to rely on informal mechanisms or cash transactions.

Another psychological barrier is a lack of financial literacy and confidence. Many individuals, particularly those with limited education or experience with formal financial institutions, may lack the knowledge or confidence to manage their finances effectively. This can lead to a sense of anxiety or overwhelm when it comes to financial decision-making, making individuals more likely to avoid financial services altogether.

In addition, cultural and social norms can also act as psychological barriers to financial inclusion. For example, in some communities, financial matters may be viewed as private or taboo, making individuals hesitant to seek out financial services or discuss their financial situation with others. Similarly, in some cultures, financial decision-making may be traditionally assigned to men, which can limit the financial agency of women.

Stigma is another psychological barrier to financial inclusion. Individuals who have experienced financial difficulties, such as bankruptcy or default, may feel shame or embarrassment about their financial situation. This can make them hesitant to seek out financial services or engage with financial institutions, even if they are in need of assistance.

Finally, a lack of self-efficacy or motivation can also act as a psychological barrier to financial inclusion. Individuals who have experienced setbacks or challenges in their financial lives may feel a sense of hopelessness or lack of control over their financial situation. This can lead to a sense of resignation or avoidance of financial matters altogether, making it more difficult for them to access financial services.

In conclusion, psychological barriers to financial inclusion can have a significant impact on individuals' ability to access and use financial services. Lack of trust, financial literacy, cultural and social norms, stigma, and self-efficacy can all act as barriers to financial inclusion. Policymakers and financial service providers should work to address these psychological barriers to increase access to financial services for all individuals.

Financial inclusion contributes to the process of economic growth by cultivating a habit of saving among a significant portion of rural population and widening the financial system's base of resources. Furthermore, financial inclusion safeguards low-income groups' financial assets and other resources in emergency situations by bringing them within the boundaries of the formal banking sector. By making it simple to obtain legal credit, financial inclusion also lessens the exploitation of weaker groups by predatory lenders. (P Vijaya Bhaskar, 2014, Financial Inclusion in India – An assessment)

2.4 Rural India

In rural India, only around 35% of the population has access to formal financial services. This lack of access is a major barrier to economic inclusion and development. As per the 2011 census, only 58.7 per cent of households India are availing banking services in the country.

Savings accounts, which are regarded as more accurate indicators of banking penetration than other deposit accounts, were prevalent in both rural and urban areas in 1991, with 137 and 244 respectively. In 2010 the numbers for rural and urban areas were 213 and 356, respectively. That indicates that outreach efforts have increased even after the reform, but the disparity between urban and rural areas has remained consistent with that of the time before the reform. For credit accounts, rural households have experienced worsening conditions, whereas urban households have experienced major improvements. Additionally, it should be noted that even in terms of financial expansion, room for improvement still exists. Population per bank office increased in rural areas from 13,462 in 1991 to 16,650 in 2005, while it decreased in urban areas from 14,484 in 1991 to 13,619 in 2005, according to regional disaggregation since 1991. This is made worse in the three regions, namely the North-East, East, and Central regions, where the population per office is really far greater than the average for all of India and has grown considerably in rural areas between 2005 and 1991. As a result, practically all of the states in the Eastern and North-Eastern regions as well as some areas of the Central region had lower results than the national average of 29.9 saving accounts per 100 people in 1991. While Northern and Southern regions are above the national average in rural areas, Northern and Western regions predominate in metropolitan areas. The Southern States outperform the national average for the number of credit accounts per 100 people, both in rural and urban regions. (Chattopadhyay, 2011).

In recent years, India has placed a lot of emphasis on the issue of financial inclusion. In order to reach more people, India expended a substantial amount of resources on extending its banking infrastructure. The banking industry has undergone significant infrastructure development during the past 40 years. However, only a small portion of the prospective customers can be served by this extensive infrastructure, which has reached even isolated rural locations. The majority of the population is not participating in the growth process even though India is on a very high growth path, almost at the two-digit level. For the country, this is neither desired nor sustainable. Even while outreach efforts have improved, there is now more diversity among the states. Even after the reform phase, there is still a significant outreach gap between rural and urban communities. While credit/loan accounts have significantly improved for urban consumers, the situation has been worse for rural households. (CNAAN et al., 2012).

The gap in financial inclusion in India has several implications for individuals and society. First, it limits individuals' ability to save, borrow, and invest, which can hinder their economic growth and development. Second, it can limit access to basic financial services, such as insurance and mobile banking, which can have implications for health and safety. Third, it can contribute to income inequality, which can have long-term social and economic consequences(Bapat et al., 2019).

Efforts to reduce the gap in financial inclusion in India face several challenges and limitations. First, lack of infrastructure, such as internet access, can limit the effectiveness of digital financial services. Second, the lack of trust in formal financial institutions among low-income individuals can limit the uptake of financial services. Finally, social and cultural factors, such as gender and caste, can limit the effectiveness of financial inclusion initiatives.

2.5 Challenges in Reaching Rural India for Banks

Reaching out to and servicing Consumers in Rural Areas is an expensive affair for Banks:

According to a study conducted by Niti Aayog, the rural population in India accounts for around 69% of the total population, but only 29% of them have access to formal financial services (NITI Aayog, 2018). This gap in financial inclusion highlights the potential for growth for financial institutions in rural India. However, without a physical presence, reaching out to customers in rural India and servicing them is difficult and expensive. The cost of setting up and maintaining bank branches in rural areas is high due to the lack of infrastructure and poor connectivity. Furthermore, the cost of acquiring and retaining customers in rural areas is also high due to the low levels of financial literacy and awareness.

Cost of setting up and running a Rural ATM and Bank Branch in Rural Areas:

Setting up a rural bank branch and an ATM in rural areas is expensive. The monthly cost of operating a rural bank branch ranges from INR 1.5 to 2.5 lakhs, and the monthly cost of operating an ATM is INR 75k to 80k, excluding cassette swap (KPMG, 2020). The high cost of setting up and maintaining a physical presence in rural areas is a significant barrier for banks to extend their reach to rural consumers.

Rural Population needs banking beyond banking hours:

The rural population in India comprises a significant number of daily wage earners who require banking services beyond normal banking hours. According to a study by the World Bank, only 40% of rural households have access to formal banking services, and the majority of them face challenges in accessing banking services due to the limited operating hours of bank branches (World Bank, 2017). The need for banking services beyond normal banking hours is a significant challenge for banks to address in rural areas.

Customer Lifecycle Management in Rural Areas is a concern:

The lack of access to bank branches and ATMs in rural areas is a significant challenge for banks to manage the customer lifecycle effectively. Due to the long distances and the lack of access to banking services, rural consumers often withdraw the entire amount at one go, minimizing float income for banks. Furthermore, the lack of interactions between banks and rural consumers makes it difficult for banks to build a relationship and cross-sell other products and services. According to a study by the International Journal of Bank Marketing, rural consumers prefer personalized services and value relationships with bank employees (Sinha, 2017). Therefore, banks need to develop personalized services and build strong relationships with rural consumers to address the challenge of customer lifecycle management in rural areas.

In addition to the challenges mentioned earlier, banks also face the lack of a profitable last mile model for acquiring and servicing customers in rural areas. According to a report by the International Finance Corporation (IFC), the lack of a profitable last mile model is a major challenge faced by financial institutions in rural areas (IFC, 2017). This challenge stems from the fact that rural areas are sparsely populated and widely dispersed, making it difficult for banks to establish a cost-effective delivery model. Additionally, rural customers often have low

transaction volumes and small account balances, which makes it difficult for banks to generate revenue and profitability in these areas.



Home / Forbes India Blogs / Finance / A 'Phygital' model to enable rural banking

A 'Phygital' model to enable rural banking

Physical models have not worked in rural banking due to high costs, while India's rural customers are not yet ready to go completely digital financially. A disruption model that unifies both, or a phygital partnership, could address real pain points of rural customers

Source: Forbes Magazine

In conclusion, the lack of a profitable last mile model is another significant challenge that banks face in reaching and servicing customers in rural areas. Banks need to develop innovative delivery models and technologies to overcome this challenge and provide financial services to the underserved rural population.

2.6 Phygital Model



Phygital model to drive the next phase of financial inclusion

Fintech solutions are now a key factor driving inclusion over the world, and the trend is similar in India too. In fact, India had the highest fintech adoption rate in the world at 87 % in 2021 and yet many are still underserved. This is where the Phygital model steps in – a new and redefined outlook on financial development that is capable of revolutionising the sector. Major players have already begun unveiling their catalogue of phygital offerings and it is safe to assume that this model will usher in the next phase of financial inclusion.

May 22, 2022, 08:00 IST

Source: Economic Times

The Phygital model is a unique approach to financial inclusion that uses a combination of physical and digital channels to reach underserved populations in rural India. By leveraging the ubiquity of mobile phones and the reach of the internet, the Phygital model enables financial institutions to provide banking services to even the most remote villages. Not only does this model provide essential financial services to these underserved communities, but it also helps to boost economic activity and create new jobs in these rural areas.

The Phygital Model is defined as the combination of two different modes, i.e, the physical and the digital wherein technological tools are leveraged to create onsite experiences that are incredibly customised and alluring in order to foster long-term consumer loyalty. The core idea behind the term "Phygital" is the application of cutting-edge technological advancements and other advances to the real world. In this situation, physical and digital channels are coordinated with the goal of providing customers with the best experiences, and the huge investment in digital marketing by businesses (55 percent) has helped to close the formerly large gap between physical and digital marketing (Mbaabu, 2020).

Phygital banking refers to the integration of physical and digital components in the main interaction points of banks to enhance client experiences. This is achieved by incorporating various technologies such as touch, mobile, object, face and voice recognition, gesture, augmented reality (AR), virtual reality (VR), and radio-frequency identification (RFID) technologies. These tools enable banks to offer self-service or assisted service models, video banking, humanoid robots, onboarding applications, touch screen controls, and corporate tablets to enhance customer interactions (Santosh, 2019). In summary, Phygital banking combines the benefits of both physical and digital banking to create an enhanced customer

experience. It involves the use of various technological tools to offer a range of services to customers.

There are generally three different types of Phygital banking models which are informational, transactional, and advisory/ supportive Phygital channels.

Informational model refers to the various digital tools and technologies used within bank branches to enhance customer experience and communication. This may include providing tablets for customer use, displaying information on digital screens, and other similar tools. The goal is to provide customers with easier access to information and services, while also streamlining internal processes within the bank.

Transactional Phygital channel is a combination of physical and digital channels used by banks to facilitate transactions. This includes self-service machines such as tablet banking kiosks and ATMs. These machines allow customers to carry out transactions, such as withdrawing or depositing money, without the need for a bank teller or personal interaction. This approach aims to provide customers with greater convenience and flexibility in conducting their transactions, while also reducing wait times and operational costs for the bank.

Supportive Phygital Channels refer to the use of digital technologies to support customers in their banking needs, even when they are not physically present in a bank branch. This includes remotely located banking experts who can provide assistance and guidance to customers through digital channels such as video calls, messaging apps, or phone calls. Additionally, humanoid robots can also be used to provide basic customer service and assistance, such as answering frequently asked questions. The goal is to provide customers with personalized

support and assistance, regardless of their location, while also leveraging digital technologies to improve efficiency and reduce costs for the bank.

The Phygital banking model offers several benefits to both banks and their customers. First, it enables banks to reduce their operational costs by moving transactions from physical branches to digital channels. According to a report by Accenture (2018), banks that adopt the phygital banking model can reduce their operational costs by up to 40%. Second, it provides customers with a more convenient and personalized banking experience. Customers can choose how they interact with their banks, whether through a physical branch, a mobile app, or an online portal. Finally, it enables banks to increase their customer engagement and loyalty by providing a seamless and integrated banking experience. The Phygital banking model is a strategic approach that leverages technology to offer customers a seamless and consistent experience across all channels (Prabhakar & Chakraborty, 2020).

3. RESEARCH METHODOLOGY

The thesis aims on analyzing how Phygital banking models will help in enabling financial inclusion in rural India.

Research design: The study will be conducted using a descriptive research design, which involves collecting and analyzing data to describe and summarize the characteristics of financial inclusion in rural India through a Phygital model. The study will utilize secondary data sources to conduct an exploratory analysis of the factors that enable financial inclusion in rural India.

Data Collection: The study will use various secondary data sources, including academic journals, government reports, industry reports, and online databases such as RBI data, World bank data etc. The data sources will be identified through a systematic search using keywords related to financial inclusion, digital banking, and Phygital models.

Data Analysis: The data analysis for this study will involve exploratory analysis techniques, such as descriptive statistics and data visualization, to identify patterns and relationships in the data.

4. DATA COLLECTION AND ANALYSIS

4.1 Urban and Rural India Market Characteristics

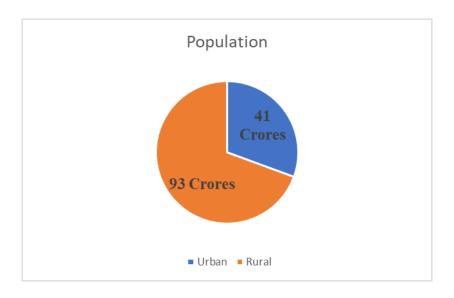


Figure 1: Population

Source: Time Magazine (2023)

The urban banking market in India is characterized by higher levels of affluence, resulting in more complex banking needs such as investment services, foreign currency transactions, and digital banking services. In addition, the urban banking market has higher penetration of banking services like ATMs, online banking, and mobile banking, making it more mature than the rural banking market. The high competition in the urban banking market has led to a range of innovative products and services being offered to urban customers. Furthermore, urban

customers tend to have higher disposable incomes and greater access to credit, resulting in a larger portfolio of credit products like personal loans, credit cards, and home loans being offered by banks in urban areas.

The rural banking market in India is characterized by low levels of affluence, resulting in basic banking needs such as savings accounts and small loans for agricultural purposes. The rural banking market is less mature than the urban banking market, with lower penetration of banking services like ATMs, online banking, and mobile banking, due to the lack of infrastructure and internet connectivity in rural areas. Rural customers tend to be more dependent on government schemes like Kisan Credit Card, Pradhan Mantri Jan Dhan Yojana (PMJDY), and other financial inclusion initiatives for their banking needs. Furthermore, the rural banking market is less competitive than the urban banking market, with fewer banks and financial institutions operating in rural areas, resulting in a lack of innovation in products and services offered to rural customers.

CHARACTERISTICS	URBAN	RURAL	
Merchants	Specialized merchants for	One merchant providing	
	different lines of business	multiple services	
Relationships	Transaction led relationships	Community led relationships	
Trust	Trust driven by advertising	Trust driven by word of	
		mouth	
Ticket Size	Demand for larger ticket	Demand for sachet/small	
	size products	ticket size products	
Assistance	Digital savvy customers –	Lack of financial and digital	
	Do it yourself	literacy, needs assistance	

Table 1: Urban Rural Banking Characteristics

The banking markets in rural and urban areas of India have different characteristics, such as levels of wealth, infrastructure, competition, and government initiatives. To effectively serve these markets, banks need to customize their products, user experience, and business model to meet the unique needs of customers in each area.

Although we have digital payments solutions like Google Pay, Phone Pe etc their penetration in rural region is very low. This is primarily because rural India requires an assisted model since a fully digital model will not work in these regions because of their lack of digital literacy as well as trust fact. Hence, an assisted and community-led model works best for rural areas and this is where the relevance of Phygital models of financial inclusion comes into picture like the Business Correspondent banking.

4.2 Phygital Banking Model (Business Correspondent)

The Business Correspondent (BC) model is a banking model that is widely used in India to improve financial inclusion. The model involves the appointment of third-party agents, known as Business Correspondents, who act as intermediaries between banks and customers, particularly those living in rural or remote areas who may not have easy access to banking services.

Under the Business Correspondent model, banks appoint BCs to provide basic banking services to customers, including account opening, cash deposits and withdrawals, and other financial transactions. BCs can be individuals or entities, such as NGOs, microfinance institutions, or post offices, and are selected based on their ability to serve specific regions or communities.

The primary aim of such a Phygital Model is to leverage the currently available digital stacks to tackle the lack of access in rural India. These include:

Internet	Internet Penetration in rural: 336 million users		
JAM	46 Crore Jan Dhan Bank accounts, 130 Crore		
JAM	Aadhar Penetration		
AePS	Democratizing Banking, 34 crore annual users		
UPI	Instant Digital Payments		
BBPS	Bharat Bill Pay – democratizing bill payments		
UMANG	Government to citizen services		

Table 2: Digital Stacks

The model was introduced in 2006 by the Reserve Bank of India (RBI) to improve financial inclusion in the country, particularly in rural areas where access to banking services was limited. In order to increase the reach of the formal financial system to serve areas that have limited access to banks, the Reserve bank of India in 2006 promoted the establishment of physical bank branches in rural areas, introducing basic savings bank deposit accounts (BSBDA accounts), and using banking agents or business correspondents (BCs) to provide banking services. Since then, the BC model has played a critical role in expanding the reach of

banking services in India and increasing financial inclusion and has proven to be a costeffective and innovative solution for promoting financial inclusion in rural India.

4.3 Types of Business Correspondents

There are various types of Business Correspondents (BCs) who are appointed by banks to provide banking services in remote and rural areas. Some of the common types of BCs in India are:

Individual BCs: Individual BCs are individuals who are appointed by banks to provide banking services in remote and rural areas. They are typically from the same locality and have good knowledge of the local culture and language. Individual BCs can be self-employed individuals or part of a larger organization.

Banking Agents: Banking agents are entities that are appointed by banks to provide banking services in remote and rural areas. They can be individuals or organizations such as self-help groups, non-governmental organizations (NGOs), or microfinance institutions (MFIs).

Micro-ATM Operators: Micro-ATM operators are individuals or entities who are authorized to operate micro-ATMs on behalf of banks in remote and rural areas. They can perform basic banking transactions such as cash deposits, cash withdrawals, and balance inquiries.

Kiosk Operators: Kiosk operators are individuals or entities who are authorized to operate banking kiosks on behalf of banks in remote and rural areas. These kiosks are equipped with computer terminals and are used to provide banking services to the unbanked population.

Customer Service Points: Customer service points are authorized agents of banks who provide banking services in remote and rural areas. They typically operate out of small shops or retail outlets and offer basic banking services such as cash deposits, cash withdrawals, and balance inquiries.

Each type of BCs are deployed depending on the availability of bank branches, population of the area and the level of financial inclusion.

4.4 Number of Business Correspondents

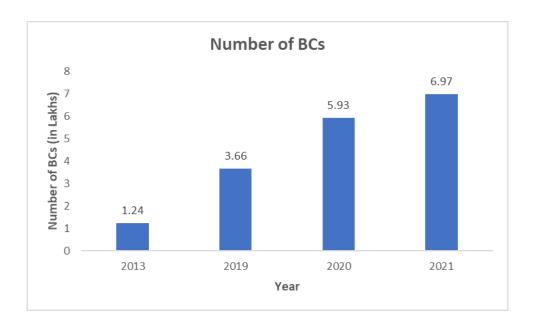


Figure 2: Number of BCs

Source: RBI Annual Data 2021-22

As of September 2021, there were more than 6.97 lakh banking correspondents (BCs) or agents operating in India, according to data from the Reserve Bank of India (RBI). This represents a significant growth from the approximately 1.24 lakh BCs in 2013.

As of December 2020, there were approximately 5.93 lakh banking correspondents (BCs) operating in India, according to data from the Reserve Bank of India (RBI). This is a significant increase from the approximately 3.66 lakh BCs operating in the country in December 2019.

Particulars	March 2010	December	December
		2020	2021
Banking Outlets in	8,390	8,49,955	15,18,496
Villages>2000*-BCs			
Banking Outlets in	25,784	3,44,685	3,26,236
Villages<2000*-BCs			
Total Banking Outlets in Villages	34,174	11,94,640	18,44,732
– BCs			
BSBDA - Through BCs (No. in	130	3,672	3,919
lakh)			
BSBDA - Through BCs (Amt. in	1,100	78,284	95,021
crore)			

Table 3: Banking Outlets in Villages (BCs)

Source: RBI Annual Data 2021-22

The government and regulators in India have been actively promoting the use of BCs as a means to increase financial inclusion and promote digital payments. The growth in the number of BCs in recent years is a testament to the success of these efforts as well as the recent emergence of more and more FinTech companies in the country implementing their Phygital model in rural regions.

4.5 Banking Transactions by BC's

The total number of banking transactions conducted through BCs in FY 2020-21 was over 8.3 crore (83 million), with a total value of Rs. 25,021 crore (about USD 3.4 billion). (Source: RBI Annual Report 2020-21)



Figure 3: Yearly Transaction by BCs

Source: RBI Annual Data

According to the RBI Annual Report 2019-20, the total number of banking transactions conducted through Business Correspondents (BCs) in FY 2019-20 was over 6.5 crore (65 million), with a total value of Rs. 18,324 crore (about USD 2.4 billion). And in the year 2018-19, the total number of banking transactions conducted through Business Correspondents (BCs) was over 4.6 crore (46 million), with a total value of Rs. 12,051 crore (about USD 1.7 billion).

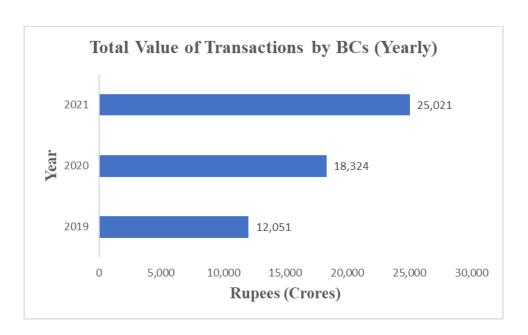


Figure 4: Total Transaction Value by BCs

Source: RBI Annual Data

So, in comparison to the previous years, there has been an increase in both the total number of banking transactions and their total value conducted through BCs every year. This could be attributed to several factors, including increased penetration of banking services due to the COVID-19 pandemic, government initiatives promoting financial inclusion and access to banking services etc. But the most important factor adding to this is the ease of access provided by BCs in remote areas, and increased awareness among people about the benefits of using banking services. These factors have likely contributed to the growth in the use of banking services through BCs, particularly in underbanked areas.

4.6 Number of No-Frills accounts

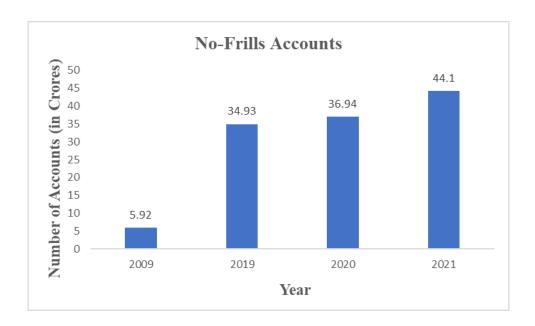


Figure 5: Number of No-Frills Accounts

Source: RBI Annual Data 2020-2021

A no-frills account, also known as a basic savings bank deposit account (BSBDA), is a type of savings account offered by banks in India that is designed to provide basic banking services to individuals who do not have access to traditional banking facilities or cannot afford to maintain a minimum balance in their accounts.

The main features of a no-frills account are that it has no minimum balance requirement, no charges for operating the account, and a limited number of transactions per month. This type of account is meant to encourage financial inclusion and to provide banking services to low-income groups, farmers, and people living in rural areas.

According to the latest available data from the RBI, as of March 2021, there were a total of 44.1 crore (441 million) BSBDA accounts in India, which is a significant increase from the 5.92 crore (59.2 million) accounts reported in March 2009.). In March 2020, the total number of Basic Savings Bank Deposit Accounts (BSBDA) in India was 36.94 crore (369.4 million). This is an increase from the 34.93 crore (349.3 million) BSBDA accounts reported in March 2019.

It is worth noting that the data for March 2021, as mentioned in my previous response, indicates a significant increase in the number of BSBDA accounts in India over the past year. These types of accounts are majorly provided by BCs operating in rural regions and it reflects the impact the model has in improving the financial inclusion level in the country as well as government initiatives like PM Jan Dhan Yojana.

4.7 Aadhaar Enabled Payment System (AePS)

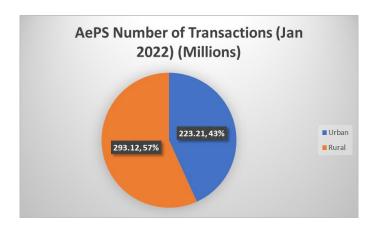


Figure 6: Number of AePS Transactions (Urban & Rural)

Source: NPCI Data

According to the National Payments Corporation of India (NPCI), which manages the AePS system, the number of AePS transactions in India stood at 516.33 million in January 2022. The total value of AePS transactions in India in January 2022 was Rs. 27,191.03 crore. AePS has been particularly successful in rural areas of India, where access to traditional banking services

is limited. As of January 2022, the number of AePS transactions in rural areas was 293.12 million, while the number of transactions in urban areas was 223.21 million. The top states in terms of AePS transactions are Uttar Pradesh, Bihar, and Madhya Pradesh.

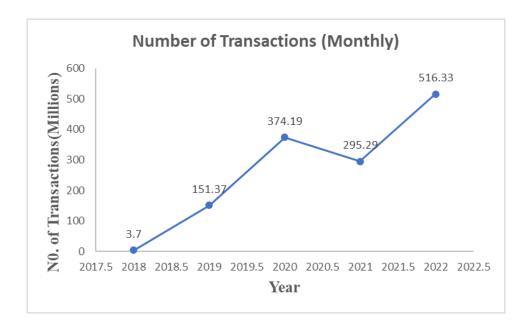


Figure 7: Number of AePS Transactions Monthly

Source: NPCI Data

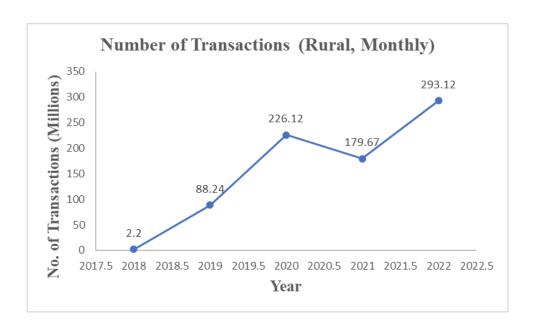


Figure 8: Number of AePS Transactions Monthly (Rural)

Source: NPCI Data

According to the NPCI, in January 2021, the number of AePS transactions in India was 295.29 million, with a total value of Rs. 15,925.22 crore. In rural areas, the number of AePS transactions was 179.67 million, while the number of transactions in urban areas was 115.62 million. In January 2019, the number of AePS transactions in India was 151.37 million, with a total value of Rs. 6,956.81 crore. In rural areas, the number of AePS transactions was 88.24 million, while the number of transactions in urban areas was 63.13 million. In January 2018, the number of AePS transactions in India was 3.7 million, with a total value of Rs. 149.3 crore. In rural areas, the number of AePS transactions was 2.2 million, while the number of transactions in urban areas was 1.5 million.

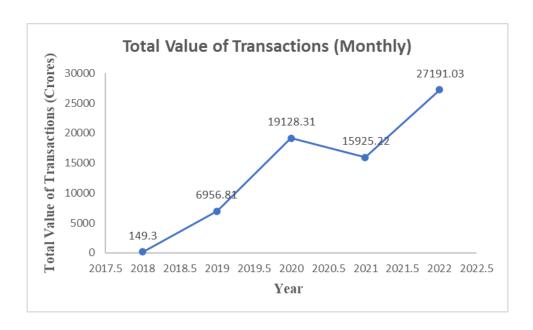


Figure 9: Total Value of AePS Transactions Monthly

Source: NPCI Data

It is important to note that the usage and growth of AePS transactions in India has been increasing steadily over the years, especially in rural areas, where access to traditional banking services is limited. This is primarily because of access to BCs in these regions who assist them with their transactions.

4.8 Overview of Key Players in the Phygital Ecosystem

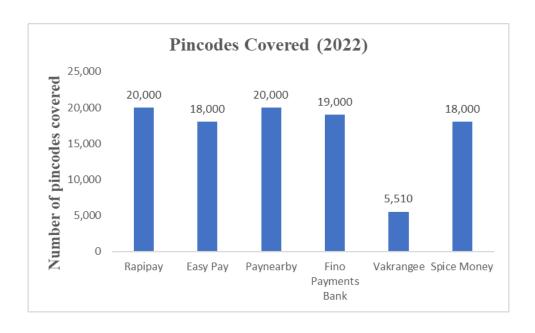


Figure 10: Number of Pincodes Covered (FinTechs)

Source: Annual Report of FinTechs

The current Phygital banking industry is a rapidly growing one with more and more new players emerging. This has in fact helped in covering larger areas and also in making financial services accessible to more and more remote places. The implementation of mini-ATM services in Komic village, the highest motorable settlement in the world, in Himachal Pradesh, is an illustration of this. The nearest ATM was located in the district headquarters, roughly 18 km away from this settlement, before mini-ATMs were introduced. There are several players that provide a Phygital banking model in rural India through business correspondents such as Rapipay, EasyPay, Paynearby, Fino Payments Bank, Vakrangree, Spice Money etc. Most of them have been successful in covering 90% of the pin codes in rural India.

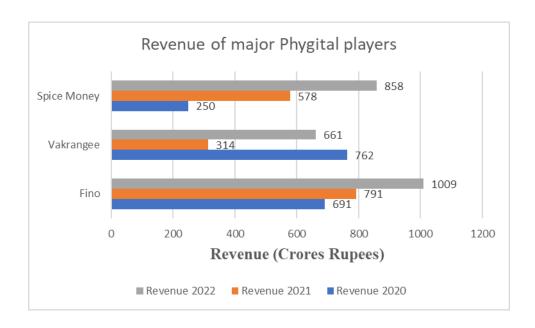


Figure 11: Revenue of Major Phygital Players (BC Model)

Source: Annual Financial Data

Although the pin codes covered gives only the coverage this model has been able to achieve, the revenue and gross transaction value gives a clearer picture of the impact phygital model has been able to make. According to the secondary data collected, it is evident that Phygital companies have experienced a steady upward trend in their revenue over the years, with an average increase of 92% from 2020 to 2022. This suggests that Phygital companies have been successful in combining both physical and digital elements in their operations, leading to positive financial growth. The trend could also indicate that there is a growing demand for Phygital products and services among consumers, which could potentially benefit Phygital companies in the future.

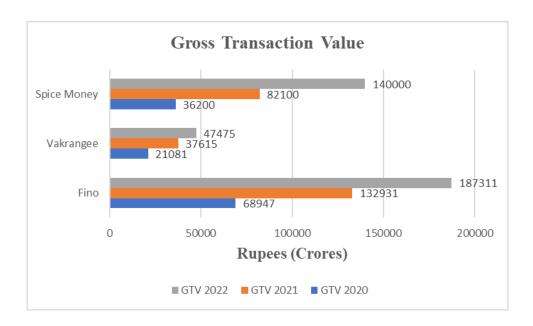


Figure 12: Gross Transaction Value of major Phygital players (BC Model)

Source: Annual Financial Data

The Gross Transaction Value, which is the total amount of money exchanged through digital transactions, has experienced significant growth over the past two years. Specifically, from 2020 to 2022, the average increase in Gross Transaction Value was 194%. This trend reflects the sustainable and increasing adoption of the Phygital banking model, which combines physical and digital banking channels to offer customers a seamless and convenient experience.

One of the factors contributing to the growth of Phygital banking is the support and initiatives from governments and regulatory bodies. These entities have recognized the potential benefits of digital banking and have taken steps to facilitate its implementation and expansion. This has created a favorable environment for banks and financial institutions to develop and offer Phygital banking solutions to their customers.

Another factor that has made Phygital banking more accessible and user-friendly is the emergence of newer and easier payment methods. For example, Aadhaar-enabled Payment System (AePS) is a payment infrastructure that enables customers to carry out financial

transactions using their Aadhaar number and biometric authentication. AePS has been particularly helpful for people living in rural areas who may not have access to traditional banking channels.

Overall, the growing adoption of Phygital banking is a positive trend that has the potential to bring more people into the formal financial system and promote financial inclusion. The continued development and improvement of digital banking solutions, along with supportive policies and infrastructure, can help ensure that this trend continues in the future.

4.8 Income for Business Correspondents

Mainly BCs are local entrepreneurs who may have their own businesses in addition to their work as a BC. For example, a BC may operate a small grocery store, sell agricultural products, or provide other services in their community. By serving as a BC, they can provide banking services to their customers and earn a commission on the transactions they facilitate, while also running their own business.

The BC model is flexible and allows individuals or entities to work as BCs on a part-time or full-time basis, depending on their other business or personal commitments. This flexibility makes it an attractive opportunity for many individuals in rural areas who may have limited employment opportunities. Overall, the BC model allows individuals to pursue other business opportunities while also providing banking services to customers in their community. This allows BCs to diversify their sources of revenue and earn a stable income while also running their own business.

The earnings of a Business Correspondent (BC) in India can vary widely depending on several factors such as the location of the BC, the number of transactions facilitated, and the commission rates offered by the bank. According to a report by the National Bank for Agriculture and Rural Development (NABARD), the average monthly income of a BC in India is between INR 5,000 to INR 10,000 (approximately USD 70 to USD 140). However, this can vary depending on the region and the type of services provided.

Banking Services	Commission (Rs)
Money Transfer (Average Transaction of Rs	Rs 22
4500)	
Aadhar ATM – AePS (Average transaction	Rs 8
for Rs 3500)	
Micro ATM (Average Transaction of Rs	Rs 8
3500)	
Mini Statement	Rs 1

Table 4: Commission Amount for BCs

Source: Paynearby

BCs earn a commission on the transactions they facilitate, which can range from 0.5% to 2% of the transaction value, depending on the type of transaction and the bank's policies. For example, a BC facilitating a cash deposit transaction of INR 1,000 (approximately USD 14) at a commission rate of 1% would earn INR 10 (approximately USD 0.14) as commission.

4.9 Regulatory Support from RBI and Government

India's fintech ecosystem has been fortunate to have a forward-thinking regulator that is focused on promoting extensive digital financial inclusion. Initiatives by the Reserve Bank of India (RBI) and the National Payments Corporation of India (NPCI), such as UPI Lite and UPI123Pay, have been designed to encourage the adoption of digital payments and drive the digital payments ecosystem. These efforts have put India on the map as a digital innovator and emphasized the government's commitment to making India financially and digitally inclusive.

For example, FinTechs has expanded their services to remote areas of the country, including Jammu and Kashmir, Sela Pass in Arunachal Pradesh, and Lakhpat on the Indo-Pakistan border. During difficult times, the company has also provided MATM and AePS services in flooded parts of Assam with the help of local Kirana retailers.

The Indian government and the Reserve Bank of India (RBI) have taken several initiatives to promote the use of digital services in rural areas. One such initiative is the Jan Dhan-Aadhaar-Mobile (JAM) trinity, which aims to provide doorstep delivery of digital banking services to people living in remote areas, thus bringing them into the formal banking system.

To achieve this, the government has formed strategic partnerships with FinTech companies that provide "Phygital" banking services. These partnerships will help FinTech companies drive financial inclusion for underserved populations and bring them into the formal financial sector. In summary, the government and RBI are working towards accelerating digital adoption in rural areas by providing easy access to digital banking services through the JAM trinity and by partnering with FinTechs to promote financial inclusion for underserved populations.

5. FINDINGS

The Phygital ecosystem comprises four key players: banks that offer services, agents or business correspondents who facilitate the banks' provision of services to rural customers, customers themselves, and government or regulatory bodies that establish the ecosystem's framework through policies and initiatives.

Upon analysing the model from various stakeholder perspectives, it becomes evident that Phygital banking, also known as the business correspondent model, is a mutually beneficial solution for all parties involved.

5.1 Benefits for Rural Customers

With respect to the customers, the key advantage of the model is increased access to financial services, which can overcome the challenges of physical distance and lack of infrastructure. By bringing banking services closer to customers, Phygital banking can provide a range of financial products, such as savings accounts, loans, and insurance, that may have been previously unavailable or inaccessible.

Furthermore, the cost-effectiveness of these models makes financial services more affordable for rural customers. Traditional banking models can be cost-prohibitive for customers in remote areas, where there may be a lack of ATMs or bank branches. It allows customers to access banking services from anywhere, reducing the costs associated with travel and time spent waiting in long queues.

Another advantage of these models is their potential to promote financial literacy and increase awareness on banking products. The business correspondent model involves educating customers on financial management skills and increasing awareness on various banking products, such as savings accounts, loans, and insurance. This can lead to more informed

financial decisions and better financial management for customers. Similarly, the digital aspect of Phygital banking enables customers to monitor their accounts, track their transactions, and receive alerts on their mobile phones, leading to better financial planning and management.

In conclusion, Phygital banking model can significantly improve financial inclusion in rural areas, by reducing costs, increasing access to financial services, and promoting financial literacy. By working closely with local representatives and leveraging technology, banks can provide personalised services that meet the needs of rural customers, while also reducing costs and increasing convenience.

5.2 Benefits for Banks/ Phygital BC Providers

According to the secondary research, banks have made significant progress in expanding their presence in rural areas. They have seen an increase in revenue and gross transaction value over the years, indicating that more customers are using Phygital or Business correspondent This suggests that rural customers have placed their confidence in this banking model.

One of the main advantages of these models is that they increase the reach of the bank. By leveraging existing infrastructure and agents, banks can expand their customer base and offer services to customers in remote areas. This helps banks to build stronger relationships with customers and establish their brand in previously untapped markets.

Moreover, these models are cost-effective for banks as they do not need to set up brick-and-mortar branches in remote areas, which can be expensive. Instead, they can use existing infrastructure and agents to provide banking services. This significantly reduces the cost of providing services in remote areas, making it more feasible for banks to serve these customers.

Another advantage of these models is that they offer customers greater convenience. By providing banking services at their doorstep, customers do not have to travel long distances to reach a bank branch. This improves customer satisfaction and loyalty, as customers appreciate the convenience of accessing banking services from their homes or villages. Additionally, banks can also leverage this ecosystem to provide extra services to rural customers like insurance, investments products etc.

In conclusion, Phygital banking model offer several advantages for banks operating in rural areas. By leveraging these models, banks can serve customers in remote areas more effectively and efficiently, while also improving their bottom line.

5.3 Agents/ Business Correspondents

The Phygital model provides business correspondents with additional income streams. They can earn commissions for providing financial services, such as opening bank accounts, disbursing loans, and facilitating transactions. Additionally, the model enables them to offer value-added services such as insurance and micro-investment products, which can increase their earnings.

According to the research, most of the agents or Business Correspondents are entrepreneurs having small businesses in their localities. And this banking services, can help them in achieving additional income. Banks often provide BCs with technology and training to help them effectively offer banking services to customers. This can include access to mobile devices and training on how to use banking software and applications. As they learn to use digital tools and platforms, they can provide better services to their customers, increasing their value proposition. This can also improve their employability, as many jobs require digital literacy.

Overall, the Phygital or Business Correspondent model is helping agents or business correspondents by providing them with new opportunities for income, improving their digital literacy, and making financial services more accessible to unbanked or underbanked populations.

5.4 Government/ Regulatory bodies

The Phygital model can help to increase financial inclusion in rural areas by providing access to banking and financial services to unbanked and underbanked individuals. This is a key objective of the Indian government and RBI, as it helps to promote economic growth and development.

By providing access to banking services in rural areas, the BC model can help to reduce the reliance on cash transactions. This can help to reduce the informal economy and improve transparency in financial transactions, which is a key objective of the government and RBI. The Phygital ecosystem can be used to facilitate the implementation of government schemes, such as direct benefit transfers (DBT). By providing banking services in rural areas, BCs can help to ensure that beneficiaries receive their entitlements directly in their bank accounts, reducing leakage and fraud.

It helps to create employment opportunities in rural areas. This is particularly important in regions where unemployment is high, and there are limited opportunities for livelihoods. Overall, the BC model can help to promote financial inclusion, reduce the reliance on cash transactions, facilitate the implementation of government schemes, create employment opportunities, and be cost-effective for the government and RBI.

On the whole, the Phygital banking is a win-win situation for all the stakeholders involved which makes it a sustainable model to achieve the goal of financial inclusion in the country. It benefits customers, banks, regulators, and society because it offers customers access to

financial services anytime, anywhere, while allowing banks to reach a wider customer base and regulators to achieve financial inclusion goals and thereby benefiting society by promoting economic development and reducing inequality.

6. RECOMMENDATIONS

6.1 Path Forward

Phygital banking model combine the benefits of physical and digital channels to create a seamless and convenient customer experience. In the context of financial services, these models have been successful in solving the lack of access to financial services in rural areas, where physical infrastructure and financial literacy are limited.

However, the benefits of Phygital ecosystem are not limited to the financial sector alone. This network of business correspondents or agents have the potential to solve similar lack of access challenges in other areas such as healthcare, commerce, education, and government services. With adequate training to these agents, they can be equipped to provide these services along with banking and financial services.

For example, in the healthcare sector, Bank agents/ Business Correspondents can enable patients in remote areas to connect with healthcare providers through telemedicine platforms. This can help to bridge the gap in access to healthcare services, especially in areas where physical infrastructure is lacking. Similarly, in the commerce sector, Phygital models can enable small businesses in rural areas to connect with customers through online marketplaces, which can increase their reach and sales. This can help to boost economic development in these areas.

In the education sector, Phygital models can enable students in remote areas to access educational resources and connect with teachers through online platforms. This can help to improve access to quality education, especially in areas where there is a shortage of teachers or physical infrastructure. Finally, in the government sector, the Phygital network can enable citizens to access government services such as passport applications, tax filings, and voter registration through online platforms. This can help to improve access to government services and reduce corruption.

Overall, Phygital banking ecosystem have the potential to address lack of access challenges in various sectors and improve the quality of life for people in underserved areas.

6.2 Policy Recommendations

The government and RBI promote the Phygital banking model to provide financial and banking services to rural areas. However, there are some policy modifications that could enhance the effectiveness and impact of the Phygital ecosystem.

Firstly, the current limitation for BC Agents is that they can only provide account opening services for one bank, which significantly restricts their ability to serve a wider range of customers. Additionally, the mandatory IRDAI POSP certification required for distributing insurance products creates a barrier for BC Agents to distribute small ticket sachet insurance products. Making the certification process more lenient and allowing BC Agents to distribute these products without certification could help increase their serviceability and reach.

Secondly, access to formal credit and affordable finance is a significant challenge for rural communities in developing countries. The cost of credit from current sources such as MFIs and NBFCs can be upwards of 20%, making it unviable for rural entrepreneurship. However, Rural

Phygital Networks with a deep on-ground presence can partner with banks for direct PSL loan disbursement. This partnership can significantly reduce the cost of sourcing, verification, and credit operations through their network of rural entrepreneurs in the villages. By doing so, the cost of credit can be brought down to below 20%, making it viable for the rural population to take up productive pursuits such as entrepreneurship. Here, the promotion of PSL disbursement at lower interest rates (below 20%) through rural BC networks should be supported by policy change.

Thirdly, the challenges facing the adoption of UPI in rural areas include the DIY nature of the product, lack of rural-specific infrastructure, reliance on cash as the primary source of income, and fear of linking bank accounts to digital payment systems. To address these challenges, a standalone PPI (prepaid payment instrument) with a physical touchpoint network for cash load, withdrawal, KYC, and grievances can be an ideal solution. This standalone PPI can come with a card and be supported by government payments and subsidy disbursement to facilitate hasslefree digital transactions. Such a system can provide much-needed assistance to the rural population and address their concerns about digital payment systems without a physical presence.

Also, one of the major challenges facing the insurance industry in India is the low penetration of insurance among low-income, semi-urban, and rural customer segments. This is due to a lack of awareness among consumers as well as the low financial viability of the last-mile distribution infrastructure in rural areas. To address this issue, a possible solution is to leverage the trust and familiarity that Rural Digital Entrepreneurs or BCs enjoy among the members of their village. They can serve as the digital insurance unit for their respective villages, providing outreach, education, and access to insurance products. Additionally, they can act as the digital conduit for all government schemes, helping villagers discover, enroll, service, and claim benefits for all government insurance schemes. To facilitate this, policy support is needed to

allow BC Networks to distribute DIY small ticket policies without POSP certification, thereby enabling them to better serve their communities and promote financial inclusion.

Finally, the adoption of digital financial services among the unbanked/underbanked population in rural areas is challenging. To address this challenge, an assisted model is key where a familiar person from their community handholds and assists them to do transactions. This personal touch is the gateway to getting the rural population to adopt formal banking and financial services. To further support this adoption, policy initiatives such as white-labelled/interoperable Business Correspondents (BCs) can be implemented. These BCs enable rural BC agents to provide services from multiple banks, Non-Banking Financial Companies (NBFCs), and insurance companies. This approach helps to bring down the cost of delivery and also enables greater choice of products and services for the rural consumers. By implementing policies that enable greater accessibility and choice, rural communities can take advantage of the benefits of formal financial services.

7. CONCLUSION

In conclusion, the Phygital banking model, which combines the strengths of physical and digital banking, is a mutually beneficial solution for all stakeholders involved. The model consists of four key players - customers, banks, agents or business correspondents, and government or regulatory bodies. The key advantage of the model for customers is increased access to financial services, which can overcome the challenges of physical distance and lack of infrastructure. It also promotes financial literacy and increases awareness of various banking products, leading to more informed financial decisions and better financial management for customers. For banks, the model increases their reach and helps to build stronger relationships with customers while also being cost-effective. Agents or business correspondents benefit from

additional income streams, improved digital literacy, and better employability. Finally, the model has to an extent helped the government to achieve its objective of promoting financial inclusion, reducing the reliance on cash transactions, and facilitating the implementation of government schemes. Overall, while the Phygital banking model has shown promising results in promoting financial inclusion in rural areas, its sustainability depends on various factors, such as the technology infrastructure, the regulatory framework, the availability of agents or business correspondents, and the demand for financial services in rural areas and with proper interventions and timely improvements in these areas, the Phygital banking model can help in achieving the goal of financial inclusion as well as make other necessary services like education, healthcare, commerce etc accessible to the rural population in India irrespective of their geographical difficulties.

8. REFERENCES

- Ahmad Teeli, S., Mehraj Dar, I., Ahmad Sheikh, B., & Professor GDC Anantnag, A. (2023). Financial Inclusion of Rural Poor in India. *Journal of Corporate Finance Management and Banking System (JCFMBS) ISSN*: 2799-1059, 3(01), 5–16. https://doi.org/10.55529/JCFMBS.31.5.16
- Bapat, D., Bhattacharyay, B. N., & Bhattacharyay, M. (2019). Strengthening financial inclusion in rural and urban India. In *Development and Deprivation in the Indian Sub-continent*. https://doi.org/10.4324/9780429331756-4
- Chattopadhyay, S. K. (2011). Financial Inclusion in India: A case-study of West Bengal.
- CNAAN, R. A., MOODITHAYA, M. S., & HANDY, F. (2012). Financial Inclusion: Lessons from Rural South India. *Journal of Social Policy*, *41*(1), 183–205. https://doi.org/10.1017/S0047279411000377
- Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). The Global Findex

 Database 2017: Measuring Financial Inclusion and the Fintech Revolution. In *The*Global Findex Database 2017: Measuring Financial Inclusion and the Fintech

 Revolution. https://doi.org/10.1596/978-1-4648-1259-0
- IFC. (n.d.). *Bridging the Gender Gap*. Retrieved March 11, 2023, from https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/ne ws+and+events/news/bridging-gender-gap
- KPMG. (2020). Banking on the future of India: Navigating a technology-driven transformation. https://home.kpmg/content/dam/kpmg/in/pdf/2020/06/Banking-on-the-future-of-India-Navigating-a-technology-driven-transformation.pdf
- Mbaabu, M. K. (2020). Phygital Banking and Customer Experience in Commercial Banks in

- Kenya. http://erepository.uonbi.ac.ke/handle/11295/154054
- Menon, P. (2019). Financial inclusion, banking the unbanked: Concepts, issues, and policies for India. *Journal of Public Affairs*. https://doi.org/10.1002/pa.1911
- NITI Aayog. (2018). Strategy for New India @ 75.
- Prabhakar, G., & Chakraborty, S. (2020). *The New Normal of Banking: Phygital Model*. doi: 10.24088/ijbea-2020-52006
- Rangarajan. (n.d.). *English Releases*. Retrieved March 11, 2023, from https://pib.gov.in/newsite/erelcontent.aspx?relid=35141
- Rekhecha, P., & Tanwar, D. M. (2018). ROLE OF BANKS IN BRINGING FINANCIAL INCLUSION IN RURAL INDIA. *Global Journal of Commerce & Management Perspective*. https://doi.org/10.24105/gjcmp.7.2.1802
- Reserve Bank of India Publications. (n.d.). Retrieved March 11, 2023, from https://rbi.org.in/Scripts/PublicationsView.aspx?id=18068
- Santosh, K. (2019). Phygital banking A game changer in Indian banking sector. *International Journal of Innovative Technology and Exploring Engineering*.

 https://doi.org/10.35940/ijitee.h7283.078919
- Singh, N. (2019). Financial Inclusion: Concepts, Issues and Policies for India. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3307903
- Sinha, P. (2017). The rural banking scenario in India: Challenges and opportunities. https://doi.org/10.1108/IJBM-11-2016-0161
- Telecom Regulatory Authority of India. (2018). *The Indian Telecom Services Performance Indicators*. https://www.trai.gov.in/sites/default/files/PIR_25092019.pdf

World Bank. (2017). 2017 Financial Inclusion Action Plan.

https://www.worldbank.org/en/topic/financialinclusion/brief/universal-financial-access-2020

Sudharsan, K. P., & Bhaskar, G. (2016). Psychological barriers to financial inclusion: An exploratory study. *International Journal of Bank Marketing*, 34(4), 555-573.

Swain, R. B. (2018). The role of psychological barriers in financial inclusion: An empirical study in India. *International Journal of Emerging Markets*, 13(2), 211-225

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