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INTERNATIONAL FINANCIAL LITERACY AND INCLUSIVE FINANCE MODELS FOR SMART CITY DEVELOPMENT: LESSONS AND APPLICATIONS

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ABSTRACT:
This study explores the diverse models of financial literacy promotion at both national and international levels, aiming to identify best practices and strategies that can be adapted for Smart City development. By conducting a comprehensive comparative analysis, the research examines the effectiveness of various financial literacy initiatives across different countries. The study highlights the critical components and innovative approaches that contribute to the success of these programs. Furthermore, the study delves into the lessons learned from successful international models of financial literacy promotion and inclusive finance, identifying key elements that can be integrated into the Smart City framework. Through data-driven insights, the research provides actionable recommendations for policymakers and stakeholders to enhance financial literacy and inclusion within Smart Cities, ensuring that technological advancements are leveraged to promote financial well-being and economic growth. The findings aim to bridge the gap between theoretical models and practical applications, fostering an environment where financial literacy initiatives can thrive in the context of urban innovation and development.

Key words: Financial Literacy, Smart Cities, Comparative Analysis, Inclusive Finance, Policy Recommendations, Internation finance models.

1) INTRODUCTION:

The development of smart cities depends on the effective integration of technology and urban planning to enhance the quality of life for citizens. A crucial aspect of this development is ensuring financial literacy and inclusive finance. This enables residents to participate fully in the economic opportunities created by smart cities, ensuring equitable growth and sustainable development.

With the support of inclusive finance, the rural population has contributed significantly to the entire economy's development (Hasan et al. 2020b; Johnston 2005; Le et al. 2019; Stein 2010). Therefore, promoting financial services access to inclusive people will deeply connect them with the significant growth of the whole financial systems (Hasan et al. 2020b, 2020c; Rashidin et al. 2020b). Access to financial services is the most critical factor working behind the financial exclusion of the rural population. Chao et al. (2021) mentioned that financial inclusion is deeply connected to poverty reduction. However, both formal and informal financial institutions are responsible for providing financial access to those financially excluded people (Helms 2006; Hussain et al. 2018; Zulkhibri 2016). The crucial obstacle of financial inclusion process is financial illiteracy (Bongomin et al. 2016a; Grohmann et al. 2018; Hasan et al. 2020a; Kodongo 2018; Koomson et al. 2019; Lyons and Kass-Hanna 2019; Mogilevskii and Asadov 2018; Segre 2018).

Nowadays, consumers have to specify a comprehensive range of financial products and services. Financial literacy, particularly the saliency and relevance of financial education regarding financial products, services, and activities (Fernandes et al. 2014; Sun et al. 2020), has played a crucial role in helping people select suitable financial products (Bianchi 2018; van Rooij et al. 2011; Von Gaudecker 2015). Financial literacy has a strong link with the development of every country's financial systems. It has dramatical implications on financially personal decisions making (Kezar and Yang 2010; Lusardi and Mitchell 2014; Maturana and Nickerson 2019; Paiella 2016; Rashidin et al. 2020a) and economic development by increasing economic security and decreasing unemployment (Berry et al. 2018; Hogarth 2006; Pompei and Selezneva 2019). Financial education improves people's understanding of different financial products and concepts through various instructions, information, and advice to develop financial risks and opportunities recognition skills. As a person with a low-level knowledge of financial activities is more likely to make financial errors, investors should enhance their financial knowledge to improve their portfolio performance. Financial education involves planning, investing, and saving, relying on formal financial methods such as financial calculators, methods, financial education-related seminars to help people make a sound financial decision (Lusardi 2012; Lusardi and Mitchell 2011).

Financial literacy is increasingly recognized as a critical component of economic stability and growth. As cities worldwide embrace the Smart City paradigm, integrating technological advancements with sustainable development, the need to enhance financial literacy becomes more pertinent. This research aims to explore various national and international models of financial literacy promotion, evaluating their effectiveness and adaptability within Smart Cities.

The Organization for Economic Co-operation & Development (OECD) defines Financial Literacy and Financial Education. Financial Literacy is defined as a combination of financial awareness, knowledge, skills, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being (OECD, 2012). Financial Education, on the other hand is defined as the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help and to take other effective actions to improve their financial well-being" (OECD, 2005). Measuring Financial Literacy essentially involves measuring a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being.

Financial Inclusion refers to the process of promoting affordable, timely and adequate access to a wide range of regulated financial products and services and broadening their use by all segments of society through the implementation of tailored existing and innovative approaches including financial awareness and education with a view to promoting financial wellbeing as well as economic and social inclusion (Atkinson and Messy, 2013). Financial inclusion, along with a robust consumer protection framework, is vital to the empowerment of individuals and the overall stability of the financial system. Measuring Financial Inclusion involves measures designed for supply side of access as well as measures for consumer's perspective-oriented indicators.

To include and provide access financial products and services the government is initiating multiple policies, schemes and frameworks within the country. An effort made to analyze national and international financial literacy policies. Here

Financial literacy and financial inclusion are pivotal in fostering economic stability and growth. Examining the landscapes of Japan, Bangladesh, and India reveals distinct approaches and challenges in integrating their populations into formal financial systems.

2) REVIEW OF LITERATURE:

Financial literacy (FL) has become a critical factor in promoting inclusive finance and sustainable development, especially within the framework of Smart Cities. To assess FL initiatives globally, the operationalization of financial literacy has often been guided by standardized frameworks. For instance, the Organisation for Economic Co-operation and Development's (OECD) Programme for International Student Assessment (PISA) 2012 framework has been modified and applied in several studies to evaluate the effectiveness of financial education programs (T.P. & R., 2024).

Financial literacy enables individuals to navigate complex financial products, enhancing their participation in the economy(Sayari, 2024). Tailored financial education programs can address specific community needs, promoting cooperative financial behaviors and resilience(Gothe et al., 2024). The integration of ethical finance into Smart City development is gaining momentum. Islamic finance, with its emphasis on social responsibility and sustainability, has been recognized as a viable model for ethical financial systems in urban innovation (Pápa & Rossi, 2022). Access to finance remains a major challenge in many economies, and financial literacy is now widely accepted as a significant enabler of financial inclusion (Kou et al., 2021). The lack of financial literacy among economically vulnerable populations has been found to significantly reduce their likelihood of participating in formal financial systems (Lyons & Kass-Hanna, 2019).

Technological advancements also influence financial behavior. Shen et al. (2019) found a statistically significant relationship between the usage of digital financial products and financial literacy, though not with general internet usage. Grohmann and Menkhoff (2017) emphasized that financial literacy promotes financial inclusion in both developed and developing economies by facilitating better use of financial products and services.

Technology plays a pivotal role in the design and implementation of Smart Cities. The Internet of Things (IoT) is central to smart infrastructure, including transportation, energy management, and public safety (Kumar, 2017). Information and Communication Technology (ICT) infrastructure, meanwhile, underpins efficient urban governance, enhanced service delivery, and improved quality of life (Mitra, 2016).

Inclusive finance seeks to bridge socio-economic gaps by extending financial services to underserved populations, thereby contributing to poverty alleviation and economic development (Al-Mubarak, 2016). Various approaches such as microfinance, MSME finance, green finance, and ICT-enabled solutions are considered essential for promoting inclusive growth in the Asia-Pacific region (Islam, 2015).

Financial inclusion initiatives, such as access to credit and savings accounts, empower individuals and stimulate economic growth(JIE, 2024).

Komninos et al. (2014) linked the emergence of Smart Cities to an increased focus on financial literacy and inclusion. On the national front, major economies including OECD countries, India, and China have adopted structured financial education programs to enhance financial inclusion (Kaiser et al., 2022). In the Indian context, demographic shifts, technological access, and market-driven changes have created a strong demand for widespread financial literacy (Sahi, 2009). These initiatives now aim to reach more than five billion individuals across sixty countries, with more nations adopting financial literacy strategies each year (Kaiser et al., 2022).

3) RESEARCH QUESTION:

- What are the National and International models of financial literacy promotion available?
- What lessons can be learned from successful international models of financial literacy promotion and inclusive finance, and how can these be adapted to the context of Smart City development?

4) RESEARCH GAP

The literature reveals a lack of comparative studies on financial literacy initiatives across countries with different development levels. While financial literacy's link to inclusion is well-studied, its integration into Smart City frameworks remains underexplored. There is also limited research on adapting international best practices to local urban contexts, especially in developing and underdeveloped nations.

5) OBJECTIVES OF THE STUDY

- To explore and critically analyze national and international models of financial literacy promotion across different socio-economic contexts.
- To identify the key strategies, frameworks, and components that contribute to the success of financial literacy initiatives globally.
- To find the reach, inclusivity and impact of international financial models among the different countries.

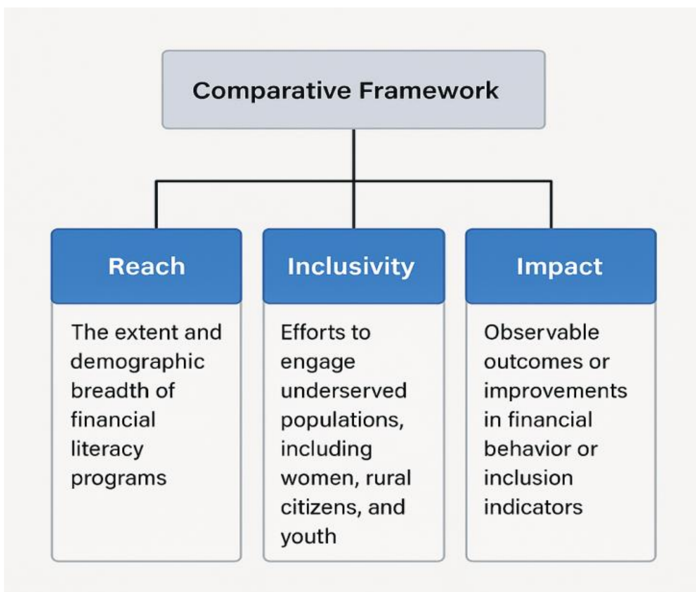
6) PURPOSE/SCOPE OF THE STUDY:

The purpose of this study is twofold: First, it aims to explore and critically analyze both national and international models of financial literacy promotion, with a particular focus on identifying the strategies and frameworks that have proven effective in diverse socio-economic contexts. Second, the study seeks to draw lessons from successful international models of financial literacy promotion and inclusive finance, examining how these best practices can be adapted and implemented within the context of Smart City development. By doing so, the research intends to contribute to the development of innovative and inclusive financial literacy strategies that align

with the goals of Smart Cities, thereby enhancing economic participation and financial well-being for all urban residents.
The study will compare financial literacy initiatives across three countries, focusing on best practices, strategies, and frameworks that have been successful in promoting financial literacy and inclusive finance. The research will explore how these international models can be adapted to the unique financial literacy contexts of Smart City development, with a specific focus on urban populations. The study will concentrate on key themes such as the reach, inclusivity, and impact of financial literacy programs, as well as their integration into broader urban development strategies.

METHODOLOGIES:
This study utilizes a qualitative comparative analysis method to examine financial literacy initiatives across three selected countries: Japan, India, and Bangladesh. This study adopts a conceptual approach and theoretical insights aimed at synthesizing existing literature to develop a comprehensive framework addressing financial literacy initiatives and propositions for future empirical validation. The selection of these countries is based on their geographical location within Asia and their classification as developed, developing, and underdeveloped nations, respectively. Secondary Data for this analysis is sourced from academic articles, government reports, and case studies, enabling the identification of best practices and innovative approaches within each context.
The comparative framework employed in this study emphasizes the evaluation of the reach, inclusivity, and impact of the financial literacy initiatives in these countries.

Source: showing the framework



Primary - Image comparative used for the study

7) FINDINGS:
This section will be describing about the financial literacy and inclusive financial models in developed, developing and underdeveloped countries. As a developed nation, Japan might have well-established financial literacy programs with extensive reach and resources. Being a developing nation, India's programs might be in an evolving phase, focusing on scaling and

addressing diverse demographic needs. As an underdeveloped nation, for Bangladesh the focus might be on foundational literacy and overcoming significant barriers to access.

JAPAN:

The study (Yoshino et. al., 2020) reveals an average financial literacy score of 14.1, with men, older individuals, higher education levels, and higher income groups scoring better. Only 33.3% of respondents met the minimum desirable literacy level. Significant disparities exist by gender, age, education, occupation, and income, highlighting gaps in financial literacy.

The data-driven smart cities that Japan is working on involve a bottom-up approach to realizing data-driven smart cities by integrating DX (digital technologies) that is underway in various fields. This will also assure free, trustworthy and credible norms by focusing on privacy and security (*Japan's Smart Cities*, n.d.).

Financial literacy in Japan is generally low, with a significant portion of the population unable to answer basic financial questions correctly. The 2004 reform of Japan's pension system necessitated a greater individual responsibility for retirement planning, affecting the need for enhanced financial literacy (Sekita, 2011).

Teachers in Tokyo reported higher levels of engagement, with 60% actively teaching financial education, showcasing regional initiatives that can serve as models for other areas (Yoshino, 2015).

Japan's financial policies have long been shaped by a combination of economic challenges and strategic objectives, particularly in managing deflation, fostering economic growth, and maintaining financial stability.

- ❖ **Monetary Policy:**
  - **Low-Interest Rates & Negative Interest Rate Policy (NIRP):** The Bank of Japan (BoJ) has maintained ultra-low interest rates for years to combat deflation and stimulate economic activity. In 2016, the BoJ introduced a negative interest rate policy, charging banks for holding excess reserves, aiming to encourage lending and investment.
  - **Quantitative and Qualitative Easing (QQE):** To further stimulate the economy, the BoJ has engaged in massive asset purchases, including government bonds and exchange-traded funds (ETFs). This is intended to inject liquidity into the economy and push down long-term interest rates.
- ❖ **Fiscal Policy:**
  - **Government Spending:** Japan's government has consistently used fiscal stimulus to support the economy, particularly through infrastructure projects and social spending. However, this has led to a significant increase in public debt, which is among the highest in the world relative to GDP.
  - **Consumption Tax Increases:** To address its debt levels, Japan has periodically raised its consumption tax (VAT), most recently in 2019 from 8% to 10%. However, these increases have been carefully timed and accompanied by mitigating measures, like subsidies and cash handouts, to avoid stalling economic growth.
- ❖ **Structural Reforms:**
  - **Abenomics:** Introduced by former Prime Minister Shinzo Abe, Abenomics aimed to revitalize Japan's economy through the "three arrows": aggressive monetary policy, flexible fiscal policy, and structural reforms. The latter included measures to boost productivity, labor market reforms, and efforts to increase female workforce participation.
  - **Challenges with Aging Population:** Japan faces a rapidly aging population and shrinking workforce, which strain its social security systems and economic growth prospects. The

government has been implementing policies to increase labor force participation and improve productivity through technological innovation.

❖ **Exchange Rate Policy:**

The BoJ's policies have influenced the value of the yen. While Japan generally avoids direct currency manipulation, its monetary policies have often led to a weaker yen, which benefits exporters by making Japanese goods cheaper abroad.

❖ **Banking Sector Stability:**

- Japan's banking system is heavily regulated, with a focus on maintaining stability. The BoJ and the Financial Services Agency (FSA) closely monitor financial institutions to prevent systemic risks, particularly in light of the low-interest-rate environment that pressures banks' profitability.
- Japan has implemented several financial initiatives over the years to address its economic challenges, promote growth, and ensure financial stability. Here are some of the key financial initiatives:

➢ **Abenomics:**

Introduced by former Prime Minister Shinzo Abe in 2012, Abenomics is a comprehensive economic policy framework aimed at revitalizing Japan's economy. It consists of the "three arrows":

- **Aggressive Monetary Easing:** Implemented by the Bank of Japan (BoJ), this involved expanding the money supply and lowering interest rates to combat deflation and stimulate economic activity.
- **Flexible Fiscal Policy:** The government used fiscal stimulus, including infrastructure spending and social programs, to boost demand and support economic growth.

➢ **Structural Reforms:** These were aimed at improving productivity, labor market flexibility, and competitiveness, including policies to increase female workforce participation, deregulate various sectors, and attract foreign investment.

➢ **Quantitative and Qualitative Easing (QQE):**

As part of Abenomics, the Bank of Japan introduced Quantitative and Qualitative Easing in 2013, significantly expanding its asset purchase program. The BoJ bought large amounts of government bonds and other financial assets, including ETFs and real estate investment trusts (REITs), to inject liquidity into the economy and lower long-term interest rates. QQE was designed to stimulate economic growth by encouraging lending and investment, raising inflation expectations, and weakening the yen to boost exports.

➢ **Negative Interest Rate Policy (NIRP):**

In 2016, the Bank of Japan adopted a negative interest rate policy, applying a negative rate to a portion of commercial banks' reserves held at the central bank. This was intended to encourage banks to lend more by penalizing them for holding excess reserves. NIRP aimed to boost borrowing and spending in the economy, although it also put pressure on bank profitability and the financial sector.

➢ **Corporate Governance Reforms:**

Japan has implemented various corporate governance reforms to improve transparency, accountability, and shareholder value in Japanese companies. These include the introduction of the Corporate Governance Code and the Stewardship Code, which encourage companies to adopt better governance practices and institutional investors to engage more actively with the companies they invest in. These reforms have led to increased foreign investment, better management practices, and a focus on shareholder returns, contributing to the overall competitiveness of Japanese businesses.

- **Womenomics:**
  As part of the broader structural reforms under Abenomics, "Womenomics" refers to policies aimed at increasing female participation in the workforce. This includes measures such as expanding childcare facilities, promoting work-life balance, and encouraging companies to adopt more flexible working arrangements. The initiative seeks to address Japan's demographic challenges, including an aging population and shrinking workforce, by better utilizing the potential of women in the labor market.
- **Regional Revitalization Initiatives:**
  Japan has launched various initiatives to revitalize its regional economies, which have been affected by depopulation and economic stagnation. These include the "Local Abenomics" strategy, which focuses on promoting tourism, supporting local industries, and encouraging entrepreneurship in rural areas. The goal is to create sustainable economic growth outside the major urban centers and reduce the economic disparity between regions.
- **NISAs (Nippon Individual Savings Accounts):**
  Launched in 2014, NISAs are tax-exempt investment accounts designed to encourage individual savings and investment in financial markets. Japanese residents can invest a certain amount annually in stocks, bonds, or mutual funds without paying taxes on dividends or capital gains. NISAs aim to shift household savings from traditional bank deposits to more productive investments, supporting economic growth and improving personal financial security.
- **MyNumber System:**
  Introduced in 2016, the MyNumber system assigns a unique identification number to each resident of Japan. This system is used for social security, taxation, and disaster response purposes. It also facilitates the integration of various public services and enhances transparency in financial transactions. MyNumber improves the efficiency of public administration, simplifies tax filings, and helps in the identification of social security beneficiaries, while also supporting financial inclusion.
- **Financial Inclusion Initiatives:**
  Japan has promoted financial inclusion through various initiatives, including the expansion of digital banking services, fintech development, and ensuring access to financial services in remote areas. The government and the BoJ have supported innovation in payments systems, including the widespread adoption of mobile payments and digital currencies. These efforts aim to ensure that all citizens have access to essential financial services, reducing inequality and supporting economic participation across the population.

INDIA:

India's financial policies are shaped by a dynamic blend of objectives aimed at sustaining economic growth, controlling inflation, fostering financial inclusion, and managing fiscal discipline. The policies are formulated within the context of a rapidly growing economy with diverse challenges, including large-scale poverty reduction, infrastructure development, and the need to support a burgeoning population.

1. Monetary Policy:

- **Inflation Targeting**: The Reserve Bank of India (RBI) follows a flexible inflation targeting framework, with a target 4.6 per cent in 2024 and 4.2 per cent in 2025. This approach aims to balance price stability with economic growth. The RBI adjusts interest rates (repo rates) to manage inflation and ensure that it remains within the target range.

- **Interest Rates and Liquidity Management:** The RBI uses various tools such as the repo rate, reverse repo rate, and open market operations (OMOs) to manage liquidity in the economy. During periods of economic slowdown, the RBI has often reduced interest rates to stimulate borrowing and investment.
- **Forex Management:** The RBI actively manages the foreign exchange market to ensure the stability of the Indian rupee. This involves intervention in the forex market to curb excessive volatility and maintain a stable exchange rate, which is crucial for an economy that relies significantly on imports.

2. Fiscal Policy:

- **Government Spending and Infrastructure Development:** The Indian government has focused on increasing public investment in infrastructure, including roads, railways, ports, and urban development. This is seen as a catalyst for long-term economic growth and employment generation.
- **Fiscal Consolidation:** India aims to maintain fiscal discipline by gradually reducing the fiscal deficit. The government has set targets for fiscal deficit reduction, although these targets have sometimes been adjusted in response to economic conditions, such as during the COVID-19 pandemic.
- **Subsidy Rationalization:** The government has been working on rationalizing subsidies, particularly in areas like fuel, food, and fertilizers. This includes targeting subsidies more effectively to those who need them most and reducing leakages.

3. Financial Inclusion Initiatives:

- **Pradhan Mantri Jan Dhan Yojana (PMJDY):** Launched in 2014, this program aims to provide universal access to banking services, particularly in rural and underserved areas. It has led to the opening of millions of bank accounts, bringing a large section of the population into the formal financial system.
- **Jan-Suraksha:** Pradhan Mantri Suraksha Bima Yojana (PMSBY) is part of the broader "Jan Suraksha" (people's protection) initiative aimed at providing a safety net to economically vulnerable sections of society, ensuring that they have access to basic insurance coverage in case of unforeseen accidents.
- **Mudra:** Pradhan Mantri Mudra Yojana has been instrumental in fostering entrepreneurship, generating employment, and promoting financial inclusion by enabling access to credit for small businesses, especially those in the informal sector.
- **Digital Payments and Fintech:** India has witnessed a rapid expansion in digital payments, driven by initiatives like the Unified Payments Interface (UPI). The government and RBI have encouraged the growth of fintech to enhance financial inclusion and efficiency in the financial sector.

4. Structural Reforms:

- **Goods and Services Tax (GST):** Introduced in 2017, GST is one of the most significant tax reforms in India, aiming to create a unified tax structure across the country. It replaced multiple indirect taxes with a single tax, simplifying the tax system and improving compliance.
- **Banking Sector Reforms:** India has undertaken various reforms to strengthen its banking sector, including the recapitalization of public sector banks, resolution of non-performing assets (NPAs), and consolidation of banks to create stronger institutions.

5. Foreign Investment and Trade Policies:

- **Foreign Direct Investment (FDI) Liberalization:** India has progressively liberalized FDI policies, allowing higher foreign ownership in various sectors such as retail, insurance, and defense. This is aimed at attracting more foreign capital to boost economic growth.
- **Export Promotion:** The government has focused on promoting exports through schemes like the Merchandise Exports from India Scheme (MEIS) and Production-Linked Incentive (PLI) schemes, which incentivize manufacturing and exports in key sectors.

6. Response to COVID-19 Pandemic:

- **Atmanirbhar Bharat (Self-Reliant India) Initiative:** Launched in response to the economic challenges posed by the pandemic, this initiative includes a mix of fiscal stimulus, monetary easing, and structural reforms aimed at making India self-reliant in key sectors and boosting domestic production.
- **Emergency Credit Line Guarantee Scheme (ECLGS):** This scheme was introduced to provide collateral-free loans to businesses, particularly MSMEs, to help them cope with the economic disruption caused by the pandemic.

Along with the above policies, India has recently introduced several financial initiatives to address current economic challenges, promote sustainable growth, enhance financial inclusion, and foster innovation. Here are some of the latest financial initiatives in India:

1. National Monetization Pipeline (NMP):

Launched in 2021, the National Monetization Pipeline aims to unlock value in brownfield public sector assets by leasing them to private players. The initiative seeks to generate additional revenue for the government without selling the assets outright. The NMP covers sectors such as roads, railways, power, telecom, warehousing, and aviation, among others. The funds raised through this initiative are intended to be reinvested in infrastructure development.

2. Production-Linked Incentive (PLI) Schemes:

The Indian government has introduced several PLI schemes across key sectors to boost domestic manufacturing and reduce reliance on imports. These schemes offer financial incentives to companies that meet specific production targets. The PLI schemes cover sectors such as electronics, pharmaceuticals, automotive, textiles, and solar modules. The initiative aims to enhance India's manufacturing capabilities and create job opportunities.

3. Gati Shakti - National Master Plan for Infrastructure:

Launched in 2021, Gati Shakti is a comprehensive infrastructure development plan that aims to integrate various modes of transport and logistics to improve connectivity and efficiency. It seeks to streamline infrastructure projects across sectors by promoting coordinated planning and execution. The plan includes investments in roads, railways, airports, ports, mass transport, waterways, and logistics infrastructure. It also leverages technology and geographic information systems (GIS) for better planning.

4. Digital Currency (Central Bank Digital Currency - CBDC):

The Reserve Bank of India (RBI) has been exploring the introduction of a Central Bank Digital Currency (CBDC), known as the digital rupee. The RBI has initiated pilot programs to test the viability and functionality of the CBDC in various use cases, including retail and wholesale transactions. The digital rupee aims to complement physical cash, enhance payment efficiency, reduce transaction costs, and promote financial inclusion.

5. Financial Inclusion through Digital Payments:

- **UPI Expansion:** The Unified Payments Interface (UPI) continues to be a key driver of digital payments in India. The government and RBI are promoting the expansion of UPI to rural areas and smaller towns, aiming to make digital payments accessible to all segments of the population.
- **UPI Lite:** To further enhance digital payments, the RBI introduced UPI Lite, a simplified version of UPI designed for low-value transactions. It reduces transaction costs and aims to encourage micro-payments in rural and semi-urban areas.

6. Bad Bank - National Asset Reconstruction Company (NARCL):

In 2021, the Indian government established the National Asset Reconstruction Company Limited (NARCL), commonly referred to as the "bad bank," to address the issue of non-performing assets (NPAs) in the banking sector. NARCL is tasked with purchasing stressed assets from banks and managing their resolution. The initiative aims to clean up the balance sheets of banks, allowing them to focus on fresh lending while improving the overall health of the financial sector.

7. Privatization and Disinvestment Initiatives:

The Indian government has accelerated its privatization and disinvestment agenda to reduce its stake in public sector enterprises and raise capital for infrastructure and social sector investments. Key initiatives include the sale of stakes in major public sector companies and the privatization of certain state-owned enterprises. The government has set ambitious targets for disinvestment, including the privatization of Air India and other public sector undertakings (PSUs) in sectors such as banking, insurance, and steel.

8. Micro, Small, and Medium Enterprises (MSMEs) Support:

- **Emergency Credit Line Guarantee Scheme (ECLGS):** Introduced in response to the COVID-19 pandemic, the ECLGS provides collateral-free loans to MSMEs to help them recover from the economic disruption. The scheme has been extended multiple times to support ongoing recovery efforts.
- **Raising Credit Limits:** The government has also raised the credit limits for MSMEs under various schemes, including the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), to facilitate access to finance for small businesses.

9. Agriculture and Rural Development Initiatives:

- **Digital Agriculture Mission:** The Indian government is promoting the use of technology in agriculture through the Digital Agriculture Mission. This includes initiatives like the use of drones for crop assessment, smart irrigation systems, and the development of digital platforms for farmers.
- **Kisan Credit Card (KCC) Expansion:** The government has expanded the coverage of the Kisan Credit Card scheme to include more farmers, particularly those in the animal husbandry and fisheries sectors, ensuring that they have access to timely credit.

10. Social Security and Pension Reforms:

- **Atal Pension Yojana (APY) Expansion:** The government has been promoting the expansion of the Atal Pension Yojana, which provides a guaranteed pension to workers in the unorganized sector. The initiative aims to enhance financial security for the elderly, particularly in rural areas.
- **National Pension System (NPS) Reforms:** The NPS has undergone several reforms to make it more attractive, including increased tax benefits, higher equity exposure, and easier withdrawal rules, aimed at encouraging long-term retirement savings.

11. Banking Sector Reforms:

- **Privatization of Public Sector Banks:** The government has announced plans to privatize certain public sector banks as part of its broader banking sector reforms. This is intended to improve efficiency, reduce government ownership, and enhance competition in the banking sector.
- **Mergers and Consolidation:** The government has continued its policy of merging and consolidating public sector banks to create stronger, more resilient institutions. This is aimed at improving operational efficiency and capital adequacy.

12. Renewable Energy and Sustainable Finance:

- **Green Bonds and Climate Financing:** India has been actively promoting the issuance of green bonds to fund renewable energy projects and other sustainable initiatives. The government is also working on establishing frameworks for climate financing to support its commitment to reducing carbon emissions.
- **National Hydrogen Mission:** Launched in 2021, this initiative aims to develop India as a global hub for green hydrogen production and export. The mission includes financial incentives for research, development, and the commercialization of hydrogen technologies.

BANGLADESH:

Bangladesh has implemented a range of financial policies aimed at promoting economic growth, financial inclusion, and stability, while also addressing challenges such as poverty, inequality, and the impacts of climate change. Here are some key financial policies and initiatives in Bangladesh:

1. Monetary Policy Framework:

- **Inflation Targeting:** The Bangladesh Bank (the central bank) follows a monetary policy aimed at controlling inflation while supporting economic growth. The central bank sets an inflation target and uses tools such as open market operations, the policy rate, and reserve requirements to achieve it.
- **Exchange Rate Policy:** Bangladesh follows a managed floating exchange rate system, where the value of the Bangladeshi Taka (BDT) is determined by the market but the central bank intervenes occasionally to stabilize the currency.

2. Financial Inclusion Initiatives:

- **Mobile Financial Services (MFS):** Bangladesh has seen rapid growth in mobile banking and financial services, providing financial access to millions of unbanked and underbanked individuals. The central bank has played a key role in regulating and promoting MFS, including services like bKash, which has become a leading mobile money provider.
- **Agent Banking:** To extend banking services to rural and remote areas, Bangladesh Bank has promoted agent banking. This model allows banks to operate through local agents, offering basic banking services like deposits, withdrawals, and remittances.
- **Microfinance Programs:** Bangladesh is known for its pioneering role in microfinance, primarily through institutions like Grameen Bank and Bangladesh Rehabilitation Assistance Committee (BRAC). These programs provide small loans to low-income individuals, particularly women, to promote entrepreneurship and reduce poverty.

3. Green Finance and Sustainable Development:

- **Green Transformation Fund (GTF):** Bangladesh Bank launched the Green Transformation Fund to provide financing for the import of capital machinery and accessories for green industries, particularly in the textile and leather sectors. The fund supports projects that reduce environmental impact and promote sustainable practices.

- **Green Bond Guidelines:** Bangladesh Bank has introduced guidelines for the issuance of green bonds to finance projects that contribute to environmental sustainability. This is part of the broader effort to integrate environmental considerations into the financial sector.

4. Agricultural and Rural Finance:

- **Agricultural Credit Policy**: Bangladesh Bank issues annual agricultural credit policies, mandating commercial banks to allocate a certain percentage of their loan portfolio to agriculture. The policy aims to support farmers, improve agricultural productivity, and ensure food security.
- **Subsidized Credit for Farmers:** The government provides subsidized loans to farmers for crop production, livestock, fisheries, and other agricultural activities. This initiative helps reduce the cost of borrowing for farmers and promotes rural development.

5. Industrial and SME Financing:

- **SME Credit Policy:** Bangladesh has a focused policy on providing credit to small and medium enterprises (SMEs), recognizing their role in job creation and economic growth. The central bank mandates banks to allocate a certain portion of their loan portfolio to SMEs, with special emphasis on women entrepreneurs.
- **Special Funds and Refinancing Schemes:** Bangladesh Bank has established various refinancing schemes to support SMEs, including the Export Development Fund (EDF) for exporters and a refinancing scheme for women entrepreneurs. These funds provide loans at lower interest rates to encourage investment and expansion.

6. Social Safety Nets and Financial Inclusion:

- **Social Safety Net Programs:** The government of Bangladesh runs several social safety net programs aimed at supporting the poor and vulnerable populations. These programs include cash transfers, food assistance, and pension schemes, often distributed through digital financial platforms.
- **National Social Security Strategy (NSSS)**: The NSSS aims to reform and consolidate social safety net programs to improve their effectiveness, coverage, and targeting, with a focus on reducing poverty and promoting financial inclusion.

7. Digital Finance and Fintech Development:

The "Digital Bangladesh" initiative aims to integrate digital technologies into all aspects of government, business, and daily life by 2021. In the financial sector, this includes the promotion of digital payments, online banking, and fintech innovations. Bangladesh Bank has been working on creating a regulatory framework to support the growth of fintech companies while ensuring consumer protection and financial stability.

8. Capital Market Development:

- **Reforms in Stock Exchanges**: Bangladesh has implemented reforms to improve the governance, transparency, and efficiency of its capital markets. These include demutualization of stock exchanges and the introduction of new financial products like corporate bonds and mutual funds.
- **Capital Market Stabilization Fund (CMSF):** Established to support the capital market, the CMSF provides liquidity and stabilizes the market during periods of volatility. The fund is financed by unclaimed dividends and dormant accounts in listed companies.

9. Tax and Fiscal Reforms:

- **Value-Added Tax (VAT) Act:** The government implemented the new VAT Act in 2019, which aims to streamline the tax system, broaden the tax base, and improve compliance. This reform is part of the broader effort to increase government revenue and reduce dependency on external borrowing.
- **Public-Private Partnership (PPP) Framework:** Bangladesh has been promoting PPPs as a means to finance large infrastructure projects, such as roads, ports, and power plants. The government provides policy support and incentives to attract private investment in critical sectors.

7) DISCUSSION/RESULTS:

The comparative analysis of financial literacy and inclusion in Japan, Bangladesh, and India reveals varying levels of progress, challenges, and opportunities shaped by the socioeconomic and cultural dynamics of each country. Enhancing financial literacy is essential for fostering economic stability and growth in Smart Cities. By examining successful national and international models, this research provides valuable insights and recommendations for integrating financial literacy into the Smart City framework. Policymakers and stakeholders can utilize these findings to develop effective strategies that promote financial well-being and inclusion, ensuring that technological advancements contribute to sustainable urban development. At the national level, numerous countries have implemented diverse programs. Many focus on enhancing financial education to promote financial inclusion and stability.

TABLE I
COMPARISON BETWEEN INTERNATIONAL FINANCIAL LITERACY AND INCLUSIVE FINANCE AMONG DIFFERENT COUNTRIES

Countries	Parameters of Comparison		
	Reach	**Inclusivity**	**Impact**
Japan	High, but with potential gaps.	Moderate	High economic impact, evolving smart city impact.
India	High, but with challenges in rural areas.	High focus, with implementation gaps.	Positive impact on poverty reduction, growing impact on smart city development.
Bangladesh	Moderate, with challenges in rural areas	Moderate focus, with disparities.	Positive impact on poverty reduction, early stages of smart city impact

Source: Primary

Japan leads in financial literacy reach due to its advanced infrastructure and comprehensive programs. India follows with significant strides in urban areas, while Bangladesh is improving, particularly through mobile financial services. Japan's model is the most inclusive, with a strong focus on diverse populations. India has made significant progress but still faces challenges in rural inclusivity. Bangladesh has a strong focus on low-income and rural populations, but overall inclusivity remains limited. Japan has the highest overall impact due to its stable economy and integration of sustainability. India's impact is substantial, particularly in economic growth, though challenges remain in fully realizing social and environmental benefits. Bangladesh has a strong economic and social impact in rural areas but is still developing its broader smart city and environmental initiatives.

OECD Member Countries: Most OECD countries have implemented national strategies for financial literacy. These strategies often involve a multi-stakeholder approach, including government agencies, financial institutions, and educational institutions. (National Strategies for Financial Education - OECD, 2022)

- **India and China:** These nations have launched large-scale programs to improve financial literacy and reach a significant portion of their populations. (Kaiser et al., 2022)
- **United States:** Organizations like the Financial Literacy and Education Commission work to improve financial literacy through various initiatives and programs. (Members of the Financial Literacy and Education Commission, n.d)

These national programs often involve:

- **School-based education:** Integrating financial literacy concepts into school curricula.
- **Public awareness campaigns:** Using media and outreach programs to disseminate financial information.
- **Financial counseling services:** Providing personalized guidance on financial matters.
- **International Models**
- Several international organizations play a crucial role in promoting financial literacy globally:
- **OECD International Network for Financial Education:** This network facilitates knowledge sharing and collaboration among countries on financial literacy initiatives. (National Strategies for Financial Education - OECD, 2022)
- **World Bank:** The World Bank supports developing countries in strengthening their financial education programs.
- **International organizations:** Other organizations, such as the G20 and the Asia-Pacific Economic Cooperation, have also recognized the importance of financial literacy and have undertaken initiatives to promote it.

These international models often focus on:

- **Developing global financial literacy standards.**
- **Providing technical assistance to countries.**
- **Conducting research and evaluation of financial literacy programs.**

Adapting Models for Smart Cities

When considering financial literacy in the context of Smart City development, it's essential to learn from both national and international models. Key elements to consider include:

- **Collaboration:** Fostering partnerships between city governments, financial institutions, educational institutions, and technology providers.
- **Customization:** Tailoring programs to the specific needs of the city's population, considering factors like demographics and technological literacy.
- **Innovation:** Leveraging technology to deliver financial education in engaging and accessible ways, such as through mobile apps or online platforms.

By adapting successful models and incorporating innovative approaches, Smart Cities can effectively promote financial literacy and empower their citizens to make informed financial decisions.

8) IMPLICATIONS:

The findings of this study have significant implications for policymakers, urban planners, and financial institutions aiming to foster inclusive economic participation within Smart Cities. By identifying and analyzing successful financial literacy models from diverse socio-economic contexts, the study provides actionable insights on how these best practices can be adapted to local realities, particularly in developing and underdeveloped countries. The research emphasizes the need for integrating financial literacy initiatives into Smart City strategies to ensure that technological advancements lead to equitable financial access and empowerment. Furthermore, it highlights the importance of designing culturally sensitive and digitally enabled financial education programs, which can bridge gaps in financial inclusion and contribute to the sustainable economic growth of urban populations.

9) CONCLUSION

Discussion highlights persistent challenges. Despite significant strides in account ownership, low levels of financial literacy hinder optimal usage of financial services. For instance, a considerable portion of the rural population still prefers cash transactions, signaling a need for enhanced digital literacy campaigns and trust-building efforts around digital financial services. Additionally, the rising number of retail investors, particularly among younger demographics, reflects a growing interest in financial markets. While this trend can stimulate economic growth, it also raises concerns about speculative behavior and the risks associated with uninformed investing. The findings underscore the importance of increasing registered account usage to encourage deeper engagement with formal financial systems. The lack of financial literacy remains a significant barrier, preventing many individuals from effectively utilizing financial products and services. Targeted financial education programs and policy interventions are necessary to bridge this gap and ensure the sustainability of financial inclusion efforts. The discussion reveals that while Japan's financial inclusion levels are high due to its robust financial infrastructure, gaps in literacy and awareness can pose risks, particularly as more individuals engage in financial markets without adequate knowledge. These gaps emphasize the importance of continuous education and support for investors to ensure sustained participation in financial systems.

10) LIMITATIONS OF THE STUDY:

The availability and quality of data may vary significantly across Japan, India, and Bangladesh. While Japan might have extensive, reliable data, India and Bangladesh may face challenges with incomplete or outdated records, limiting the comparability of the analysis. Government reports and case studies might present a biased view, focusing on successes while underreporting failures or challenges. It may be difficult to directly attribute improvements in financial literacy or behavior solely to the initiatives under study, as other factors (e.g., economic conditions, education systems) could also play a significant role. Differences in technological infrastructure and digital literacy between the countries could affect the reach and effectiveness of online or digital financial literacy programs.

11) FUTURE SCOPE

The study paves the way for future research involving primary data collection to assess the direct impact of financial literacy programs. Comparative studies across more countries can offer a broader global perspective. Longitudinal research could evaluate the sustainability and long-term outcomes of such initiatives. There is scope to explore digital financial literacy in the context of Smart Cities. Sector-specific and policy simulation studies can further refine inclusive finance strategies.

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