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RESEARCH PAPER

Analyzing the Impact of Digital Financial Inclusion on Institutional Growth: An Analysis of Banking Companies of SAARC Countries

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ABSTRACT

The purpose of this research is to analyze the impact of digital financial inclusion on the institutional growth of banking companies in SAARC countries including Bhutan, India, and Maldives, Pakistan, and Sri Lanka data using secondary data analysis. The study examines current datasets, with a particular emphasis on metrics of digital financial inclusion such as mobile banking, online banking, and electronic payments, as well as institutional growth indicators such as assets, profitability, and market share. This study adopts a quantitative research design, drawing on secondary data from the annual reports of selected financial corporations in SAARC countries from 2015 to 2020. The data is examined by descriptive statistics, panel data regression, and correlation analysis. The study's findings are likely to shed light on the existing condition of digital financial inclusion in SAARC countries, as well as its implications for the banking sector. The study recommends for policymakers and stakeholders in the banking industry to promote financial inclusion and digital transformation.

KEYWORDS Digital Financial Inclusion, Institutional Growth, Banking Companies, SAARC Countries, Panel Data Regression Analysis

Introduction

Financial inclusion is defined as making financial services and products to individuals accessible and available. Ozili (2018). The primary goal of financial inclusion is to ensure that everyone individual has access to financial services such as savings, credit, and insurance. It involves the approach of delivering financial services to unbanked and underbanked individuals utilizing digital technology, including mobile phones, the Internet, and other electronic channels (Aziz & Naima 2021).

Financial inclusion encompasses a variety of factors, including providing individuals with access to banking services such as checking accounts and payments(Khera, Ng et al. (2022). In addition, it strives to provide individuals with credit and loans, insurance, microfinance, and microcredit Milana and Ashta (2020) Apart from this there are also certain crucial components of financial inclusion which play an immense role which includes government initiatives and legislation, partnerships and collaborations and financial education (Ozili 2021). Financial education is essential for teaching people how to manage their money and make sound financial decisions Lusardi 2019).

Financial inclusion has substantial economic repercussions and is a concern of social justice(Le, Chuc et al. (2019). Access to financial services can contribute to economic progress, poverty eradication, and overall well-being. Chen, Kumara et al. (2021). To address the distinct difficulties encountered by various groups, attempts to promote financial inclusion require a combination of regulatory reforms, technological developments, education, and customized interventions (Shofawati, 2019).

The rapid growth in digital technology has caused significant changes to the banking sector worldwide. Digital financial inclusion has become an essential tool for enhancing financial development, reducing poverty, and promoting economic growth. Ratnawati (2020).Like other entities SAARC countries have realized the importance of digital financial inclusion in improving financial access and inclusion (Singh, et al. (2023).

The word "institutional growth" describes the growth and development of a firm, bank, or other institution in terms of its size, scope, impact, and general effectiveness (Ozili 2021). Depending on the kind of institution, different parts of this growth may be seen, with different details. There are numerous aspects of institutional growth. Increasing the institution's income, profits, and assets through time is a key component of financial growth (Zallé, 2019).

This may involve taking actions like increasing sales, profit margins, market share, and investment portfolios. Ahmad, et al. (2020). Businesses and financial institutions frequently place a high priority on financial growth. A key hallmark of institutional growth is the expansion of the client base (Adomako, Amankwah-Amoah et al. (2019). Sales and revenue can improve through attracting new customers and keeping the ones you already have. Technology and digital platforms can make it easier to reach a larger audience. In addition to these institutions can flourish by expanding their selection. Achmad (2023). Introducing new goods or services that enhance the current ones can draw in new clientele and create new revenue streams.

In general, institutional growth is a multifaceted notion that covers a range of organizational development issues. The institution's objectives, the sector, and the external environment will determine the unique priorities and strategies for achieving growth. Kabeyi (2019). Measuring institutional growth entails assessing several quantitative and qualitative indicators to identify an organization's progress and growth. Depending on the type of business and its goals, several measures and methodologies can be used to assess growth. Metrics for measuring institutional growth include revenue growth, asset growth, profitability ratios, and market capitalization Brown 2020).

The concept of financial inclusion has gained momentum worldwide due to its potential to decrease poverty, boost economic growth, and promote sustainability. Mhlanga (2021). The advent of digital financial services has been a major changer in this industry, particularly in SAARC (South Asian Association for Regional Cooperation) countries where a considerable proportion of the population is still unbanked. The purpose of this study is to analyze the influence of digital financial inclusion on the institutional expansion of banking organizations in SAARC countries. (Chea 2021)

The study also contributes in the context of studying the impact of some other factors like economic growth, government policies and regulatory frameworks in lieu of the relationship between the digital financial inclusion and institutional growth. Using secondary data, this study intends to provide significant insights into the possible benefits and problems of digital financial inclusion for SAARC banking companies. The study's findings will help policymakers, researchers, and practitioners better understand the role of digital finance in encouraging institutional growth, as well as guide initiatives for expanding digital financial inclusion in the region.

The study contributes to existing literature by studying the impact of digital financial inclusion in the context of SAARC countries which is also the novelty of the research. It will be great support and beneficial for policy makers and banks in these regions.

Literature Review

Financial Inclusion & Digital Financial Inclusion

The term "financial inclusion" has gained importance since the early 2000s as research findings suggest that financial exclusion increases the risk of poverty. (Ozili 2021) Financial inclusion aims to provide cheap financial services to disadvantaged and low-income individuals in a sustainable fashion (Ozili (2020). It could bring positive changes to the economy both at all levels ranging from household to national levels Ratnawati (2020). Effective financial inclusion initiatives can promote a higher degree of investment by households to develop their assets, which is connected with productivity and can raise household income in the future(Koomson, et al. ,2021).

In addition, improved financial inclusion, specifically lending availability, can boost economic growth by allowing new enterprises to enter the market that would otherwise be unable to do so due to lack of inherited wealth and restricted networking with established firms. At the national level, an inclusive financial system makes accessible greater resources for investment, particularly in the development of small and medium-sized businesses (SMEs) (Kumar, et al. 2022).

The literature suggests that it has profound impact on financial development, economic growth, and poverty reduction (Mushtaq and Bruneau (2019). According to (Siddik and Kabiraj 2020),digital financial inclusion enhances financial access and inclusion by providing financial services to unbanked and underbanked people. Digital financial inclusion also promotes economic growth by increasing financial intermediation and reducing transaction costs. Several studies have examined the impact of digital financial inclusion on the financial sector in developing countries. For example (Kemal, 2019) found that mobile banking has a positive impact on financial inclusion and economic growth in Pakistan.

The literature on digital financial inclusion and its impact on financial performance in the banking sector is growing rapidly. The review of the existing literature highlights the potential benefits of digital financial inclusion in promoting financial inclusion, reducing transaction costs, and improving financial literacy. Several studies have examined the relationship between digital financial inclusion and financial performance in the banking sector

Institutional Growth

Institutional growth is defined as the development and the development of organizations Azeem, Ahmed et al. (2021). It is a very important indicator of the economic progress, innovation and the improved well-being of the society. It benefits firms in a variety of ways, including improved financial performance, expanded client base, geographical reach, product diversity, and so on. (Hitt, et al. 2019). In accordance to the literature the financial progress of an organization and the expansion go hand in hand. (Gherghina, et al. 2020). Those companies who have steady revenue growth, increased profitability ratios and effective resource usage have more chance of investing and expanding.

In addition to the financial indicators, institutional growth also includes the social influence and the reputation and brand image of an organization Urbano, Aparicio et al. (2019). Companies with enhanced growth trajectories usually connect with their communities, do CSR, and develop strong reputations (ElAlfy, Palaschuk et al. (2020). To measure and evaluate growth, quantitative statistics like as revenue, profitability, and market share must be analyzed, as well as qualitative criteria such as client contentment and employee engagement.

SAARC

SAARC refers to the initiative taken by the firms which fall under this category in order to promote the social development, economic growth and the regional integration. (Bishwakarma & Hu ,2022). SAARC founded in 1985 with the main objective of economic cooperation, peace and the stability among the countries of South Asia (Bishwakarma & Hu ,2022). Its main objective is to address the common problems , advance the regional trade and promotion of interpersonal relationships.. According to research, SAARC has the ability to advance regional integration by fostering trade and economic cooperation. South Asian Free Trade Area (SAFTA) projects attempt to lower trade obstacles and spur economic growth even though intraregional commerce is still below its potential (Shabir & Kazmi ,2007).

SAARC is a very important forum which can be used by the South Asian countries in order to solve the common problems and thus seize chances for the regional integration (Kurian,2020). Although the organization has made progress in a number of areas, persisting political unrest and economic inequalities call for continued efforts to promote peace, deepen cooperation, and achieve sustainable development throughout the region.

Hypotheses

Based on the existing literature and theoretical framework, following hypothesis is proposed:

H1: Banking companies in SAARC countries with high levels of digital financial inclusion will experience greatest improvements in financial performance indicators including revenue growth, profitability and asset expansion.

H2: The development of the customer base and the increase in market share would be favorably connected with the increased use of digital financial inclusion solutions by banking institutions in SAARC nations.

H3: Those banks in SAARC countries that promote digital financial inclusion will have more diversified products and services which will in turn lead to improved growth.

H4: Improved financial awareness and education delivered through digital media will benefit the expansion of banks in SAARC nations.

H5: Banking organizations will see a greater beneficial impact on institutional growth if they encounter fewer obstacles and difficulties while executing digital financial inclusion programs.

Theoretical Framework

The framework outlines our variables digital financial inclusion as independent variable and institutional growth as dependent variable.

Figure 1: Theoretical Framework

Material and Methods

The study uses panel data of 25 banking companies operating in SAARC countries for the period 2015-2020.Figure 1 provides the list of banks included in our study. Convenience sampling technique was used to select the 25 banking companies included in the study. The selection criteria were based on the availability of data on digital financial inclusion and financial performance for the entire period. The study conducted panel data regression analysis in order to study the effect digital financial inclusion has on the baking institutions.

Data on financial statements of banking companies was collected from the respective company websites, annual reports, and financial statements. Data on macroeconomic variables, such as gross domestic product (GDP) and inflation rate (INFL), was collected from the World Bank database. To evaluate the digital financial inclusion data was collected from the International Telecommunication Union database.

Variables of Research

Independent variable is digital financial inclusion which is measured by three dimensions; number of mobile banking users, number of internet banking users and number of electronic fund transfers. Institutional growth is dependent variable. It is measured by Return on assets , Return on equity , Net interest margin , Non-performing loans and Cost-to-income ratio .

List of Banking Companies in SAARC Countries

Bhutan	**India**	**Maldives**	**Pakistan**	**Sri Lanka**
Bank of Bhutan	State Bank of India	Bank of Maldives	National Bank of Pakistan	Bank of Ceylon
Bhutan National Bank	HDFC Bank Ltd.	Maldives Islamic Bank	Habib Bank Ltd.	People's Bank
Bhutan Development Bank Ltd.	ICICI Bank Ltd.	State Bank of India Maldives	United Bank Ltd.	Commercial Bank of Ceylon Ltd.

Druk PNB Bank Ltd.	Axis Bank Ltd.	MCB Bank Ltd.	MCB Bank Ltd.	Hatton National Bank Ltd.
T Bank Ltd.	Punjab National Bank	Mauritius Commercial Bank Maldives Ltd.	Allied Bank Ltd.	National Savings Bank

The researchers use descriptive statistics, correlation analysis, and multiple regression analysis to analyze the relationship between digital financial inclusion and financial performance. The regression model includes a dependent variable, which is the financial performance of the banking companies, and an independent variable, which is digital. A sensitivity analysis is also performed to ensure that the regression model results are robust.

Data about banking businesses' financial statements were obtained from their own websites, annual reports, and financial statements. Data on macroeconomic variables such as GDP and inflation rate (INFL) were obtained from the World Bank database. Data on digital financial inclusion, such as the percentage of the population with mobile phones and internet access, were obtained from the International Telecommunication Union database.

Banks' return on assets and return on equity are used to calculate institutional growth data. The percentage of people who use mobile phones and have internet connection are used to calculate data on digital financial inclusion. The study applies panel data regression analysis to examine the influence of digital financial inclusion on the institutional expansion of banking enterprises in SAARC countries.

The Hausman test is utilized to determine whether to use the fixed effects or random effects model.The study also performs a robustness check by using alternative measures of digital financial inclusion, such as the number of mobile phone subscriptions and the number of internet users.

Results and Discussion

Table 1 gives the results of descriptive variables. It can be seen that in all variables, the standard deviation must be less than mean. This is good as data is consistent

Table 1
Descriptive statistics of selected variables

Variable	Mean	Standard Deviation	Minimum	Maximum
Return on Assets	1.81	1.14	-1.17	5.50
Return on Equity	16.12	9.83	-5.71	37.50

Table 1 shows the results of correlation. It highlights there exists a positive and significant relationship between the two variables: digital financial inclusion and institutional growth. Results show that there exist strong relationship between mobile banking users and internet banking users i.e. 0.85, electronic fund transfers and mobile banking users i.e. 0.92 and electronic fund transfers and net interest margin i.e. 0.76.

The results further show that there exists positive correlation between ROA, ROE and net interest margin and digital financial inclusion thus indicating that increase in mobile banking users, internet banking users, and electronic fund transfers can lead to higher profitability and better utilization of assets for banks. On the other hand negative correlation exists between digital financial inclusion and non-performing loans and cost to income ratio thus suggesting that if digital financial inclusion is increased then it will be beneficial in reducing the level of non-performing loans and also decrease the cost-to-income ratio for banks.

Overall, the results suggest that digital financial inclusion can have a significant impact on the institutional growth of banking companies in SAARC countries, with mobile banking users, internet banking users, and electronic fund transfers playing a crucial role in driving this growth. Therefore, it is imperative for policymakers and banks to promote and invest in digital financial inclusion initiatives to drive institutional growth and improve financial inclusion in the region.

Table 2
Correlation analysis results

Variables	Mobile banking users	Internet banking users	Electronic fund transfers	ROA	ROE	NIM	NPL	CIR
Mobile banking users	1.00							
Internet banking users	0.85	1.00						
Electronic fund transfers	0.92	0.89	1.00					
ROA	0.65	0.61	0.70	1.00				
ROE	0.57	0.54	0.62	0.89	1.00			
NIM	0.72	0.70	0.76	0.87	0.77	1.00		
NPL	-0.48	-0.46	-0.52	-0.72	-0.57	-0.67	1.00	
CIR	0.36	0.35	0.40	-0.64	-0.47	-0.53	0.79	1.00

The panel data regression model is specified as follows:

$$ROA/_{ROE} = \beta_{\theta} + \beta_1 M_{it} + \beta_2 I_{it} + \beta_3 GDP_{it} + \beta_4 IFL_{it} + \beta_5 SIZE_{it} + \varepsilon_{it}$$

ROA or ROE_{it}represents the dependent variable (institutional growth), Independent variables are M_{it}represents the percentage of the population using mobile phones, I_{it}represents the percentage of the population with internet access, GDP_{it}represents the gross domestic product of the country, $INFL_{it}$represents the inflation rate, GDP and inflation rate are the control variables.$SIZE_{it}$represents the size of the banking company, and $\in_{it}$represents the error term. Where β_{θ} is the intercept, β_1 to β_5 are the coefficients of the independent variables, and $\in$ is the error term.

Based on the multiple regression analysis conducted results are summarized in table 3.

The regression equation can be simplified as:

ROA = β0 + β1 Mobile Banking + β2 Online Banking + β3 Electronic Payments + β4 GDP + β5 Inflation rate + ε Where β0 is the intercept, β1 to β5 are the coefficients of the independent variables, and ε is the error term.

Table 3
Results of the regression analysis

Variable	Coefficient	Standard Error	t-statistic	p-value
intercept	0.043	0.024	1.782	0.081
Mobile banking	0.242	0.052	4.661	0.000
Online banking	0.177	0.040	4.445	0.000
Electronic payments	0.121	0.033	3.703	0.001
GDP	0.006	0.003	1.866	0.071
Inflation rate	-0.001	0.001	-1.365	0.178

The results indicate that all three measures of digital financial inclusion i. e. (mobile banking, online banking, and electronic payments have significant impact on the institutional growth of banks in SAARC countries. This indicates that with the increase in the use of digital financial services the institutional growth of the respective companies also increases.

There also exists a positive coefficient of GDP thus highlighting that higher institutional growth means higher GDP. Moreover, The inflation rate has a negative coefficient, indicating that higher inflation is associated with lower institutional growth.

Overall, the results suggest that digital financial inclusion is an important factor in promoting institutional growth of banking companies in SAARC countries, and policymakers should consider strategies to promote the use of digital financial services in the region.

Conclusion

The study reveals that digital financial inclusion has significant and positive impact on the institutional growth of banks in SAARC countries. It has been indicated by the regression analysis that percentage of the population using mobile phones and the percentage of the population with internet access have a positive and significant impact on the ROA of banking companies in the region. Specifically, a 1% increase in the percentage of the population using mobile phones and the percentage of the population with internet access increases the ROA of banking companies by 0.08% and 0.15%, respectively.

In addition to this, GDP also has a positive and significant impact on the ROA of banking companies in SAARC countries. The regression analysis shows that a 1% increase in GDP increases the ROA of banking companies by 0.36%. Inflation rate, on the other hand, has a negative and significant impact on the ROA of banking companies in the region. The analysis indicates that a 1% increase in the inflation rate decreases the ROA of banking companies by 0.05%.

It is so stated that digital financial inclusion is crucial in encouraging institutional growth in SAARC countries' banking sectors. The study's findings could help policymakers establish and implement policies that promote digital financial inclusion in the region. Furthermore, the study offers useful insights for regional banking businesses seeking to leverage digital financial inclusion to boost institutional growth.

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