The Bangladesh Accountant

Bangladesh National Budget 2025-2026

April - June 2025

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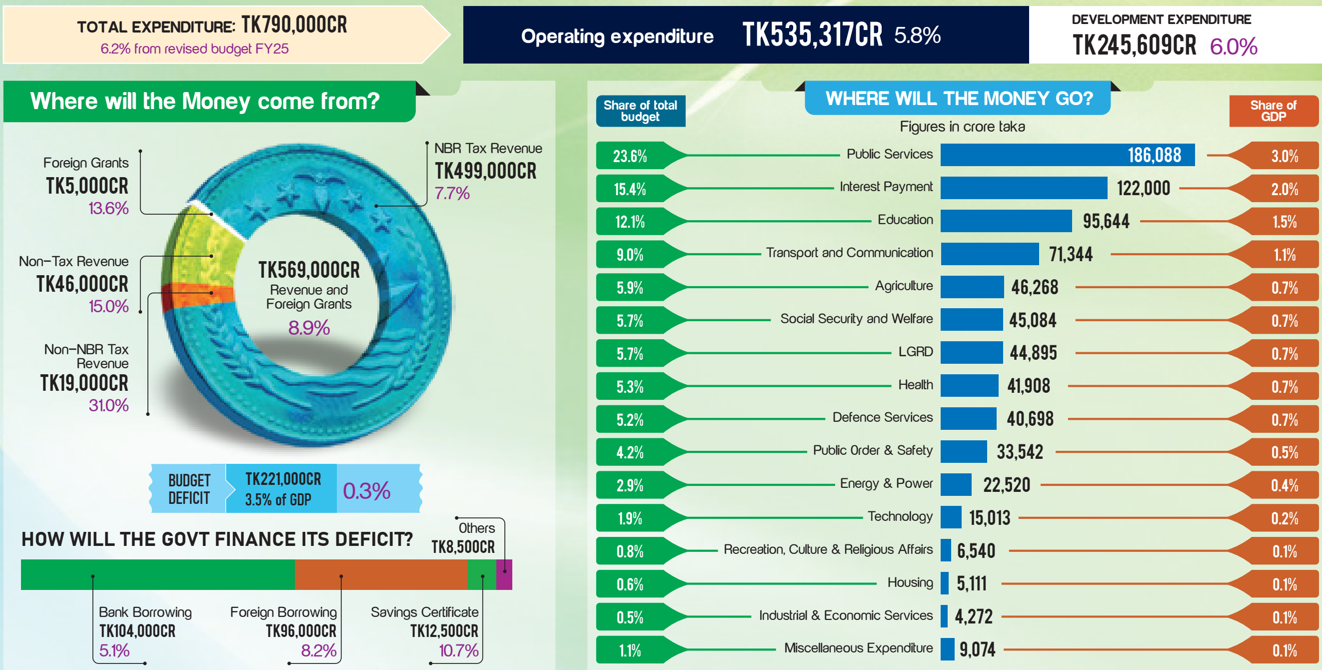
BANGLADESH NATIONAL BUDGET 2025-2026

BUDGET FY2025-26: HOW WILL THE GOVT COLLECT AND SPEND MONEY?



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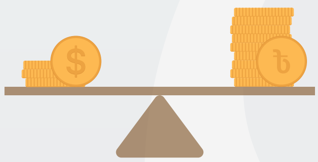

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ICAB publications include, inter alia, a quarterly journal titled 'The Bangladesh Accountant', half yearly Journal 'Bangladesh Economia' and ICAB's mouthpiece ICAB Monthly News Bulletin.

In the quarterly journal, articles of ICAB Members, Members from other Accountancy bodies, Academics and Business Leaders from home and abroad are published.

In half yearly journal, articles focus on macro-economy of the country are published.

The monthly news bulletin publishes different ICAB events of the month. This bulletin acts as an information hub for the Members to keep up-to-date about ICAB and its activities in addition to these publications, ICAB also publishes books, monographs, booklets and Students' Study Manuals regularly.

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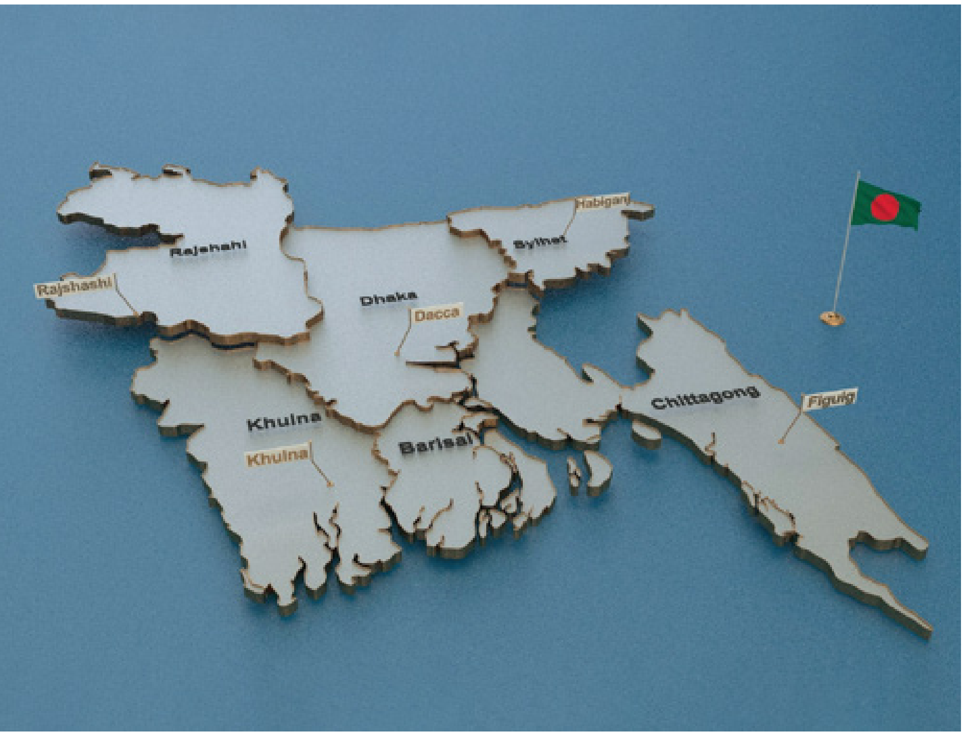

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Editorial

"No doubt, the structure of the economy, however, is undergoing robust changes. At this stage of economic reforms, development needs to have productivity and innovation-driven and sustainable. Skill development of available human resources is crucial for this purpose."

Md. Shahadat Hossain FCA
Chairman - Editorial Board and Past President & Council Member - ICAB

Generally, the April-June issue of The Bangladesh Accountant comes out with details of the National Budget. Bangladesh as a growing and emerging economy is undergoing massive structural reforms.

Amid huge expectations, the Honourable Finance Adviser placed the national budget.

This year our budget is somewhat exceptional. For the first time in the history of the country, the budget 2025-2026 is a smaller budget than the previous year's budget. Moving away from the growth-centric concept, the government has tried to emphasize the concept of overall development.

No doubt, the structure of the economy, however, is undergoing robust changes. At this stage of economic reforms, development needs to have productivity and innovation-driven and sustainable. Skill development of available human resources is crucial for this purpose.

As we see, the people of the country have been suffering for two years due to high inflation. The low-income population is particularly suffering as purchasing power has decreased dramatically. The budget 2025-26 fiscal year has kept this category of people in mind.

'The government's entire budget plan is based on the assumption that it will be able to bring inflation down to 6.5 percent. According to the Bangladesh Bureau of Statistics, inflation has not fallen below nine percent since March 2023. Inflation has never been at this rate for such a long time in the last 40 years.

If actual inflation is more than 6.5 percent, the proposed food subsidy programs will not be able to bring the expected relief to the low-income population. The World Bank recently said that the poverty rate in Bangladesh could increase to 22.9 percent in 2025. It was 18.7 percent in 2022. The extreme poverty rate could also increase from 7.7 percent to 9.3 percent, the main reason for which is being attributed to high inflation.

'Most of the government's measures to combat inflation are demand-side-based. Food subsidy is a kind of compassionate donation for people hit hard by inflation, which alone cannot provide immediate relief. If we want to ensure sustainable relief for the people in the short and medium term, we have to ensure employment along with subsidies.

'If we look at the revenue measures, which are important for everyone, the tax-free income limit in the tax structure has been increased from 3.5 lakhs, i.e. 3.5 lakh taka to 3.75 lakh taka, this is a good step. Especially when inflation is high, the cost of doing business is high. It is necessary to rationalize tariffs, because Bangladesh will exit the least developed country. We have to look at gradually reducing tariffs. To deal with the challenges that will come, initiatives will have to be taken to reduce the cost of doing business.

My dear learned readers and fellow members, I am sure most of the articles in this issue you will find thought provoking and cater a horizon of the government's fiscal plan for the development of our beloved Bangladesh. Any suggestions about improving the overall quality of our journal including articles, cover designs, layout and presentation will be highly appreciated.

President's Desk

"Not being limited to these initiatives, we believe that the proper implementation of the ICAB Document Verification System (DVS) is making a significant contribution to achieving the desired revenue collection and will continue to make a greater contribution to advance the country in the coming days."

The ICAB quarterly journal April-June issue always gives highest priority on the issues relating to the national budget and the microeconomic aspects of fiscal policy that focus on government's spending and taxation and resource allocation. As a professional Institute our boundent commitment is to foster national economic development through pursuit of intellectual analysis and views.

This year we collaborated with the Foreign Investors' Chamber of Commerce & Industry (FICCI) and the Japan-Bangladesh Chamber of Commerce & Industry (JBCCI), for organizing a seminar titled "Fiscal Issues for National Budget 2025-26 to Foster Economic and Business Growth". By bringing together policymakers, business leaders, and economic experts, the event provided a platform to discuss key fiscal priorities ahead of the upcoming national budget.

With a determined stand to grow along with the nation, CA professionals have transformed themselves from being the anchor of our country's fiscal prudence to playing the role of partners in nation building. During this time we submitted ICAB's proposals on VAT, Tax & Custom policies to NBR.

Not being limited to these initiatives, we believe that the proper implementation of the ICAB Document Verification System (DVS) is making a significant contribution to achieving the desired revenue collection and will continue to make a greater contribution to advance the country in the coming days. Direct Taxes are a major source of internal Resource for a country like ours, Dependence on direct taxes in the most preferable source of Revenue as indirect tax cannot be relied on. The DVS helps direct taxes grow legally both all support of transparency, accountability and good governance.

This year the budget introduced some tax policies designed to increase investment, such as withdrawing or reducing supplementary duty on several products to reduce the cost of doing business and reducing duties on other products. These tax policies aim to increase market access and trade competition and emphasize on creating a business-friendly environment to encourage private investment and the FDI.

In the current context, the government is paying special attention to some of the

existing challenges, such as controlling inflation, addressing investment barriers, creating employment and achieving macroeconomic stability, human resource development and higher investment in social security. ICAB always supports the government's initiatives by submitting its proposals to various departments including NBR. We assist taxpayers and the policy makers in tax planning, proper compliance and implementation of tax laws. Above all, the role of chartered accountants in the national economy by increasing revenue is undeniable. Moreover, CAs have been directly and indirectly assisting foreign investors who bring FDI to the country by informing them about the Competitive Edge and comparative Advantage of investing in Bangladesh, encouraging and advising entrepreneurs in new businesses, ensuring ease of doing business, and providing special opinions to contribute to the economy through employment creation.

This country belongs to all of us. The initiatives and effective roles of ICAB and its members are indispensable for the development and progress of the country.

I express my heartfelt thanks to the Chairman, Editorial Board and everyone associated with this publication for illuminating us on this important annual national event.

Best wishes to you all,

Maria Howlader FCA
President - ICAB

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ARTICLES

The Bangladesh Accountant | April - June 2025

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Budget 2025-26
Issues Untapped for Equitable & Sustainable Economic Systems

Dipok Kumar Roy FCA

The Author is a
Fellow Member, ICAB and
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Reforms of the sectoral priority of the National Budget of Bangladesh is a long-debated issues for reframing the budget by strategic shift. Over the years the budget is prepared based on the incremental approach of the traditional framework instead of framing on strategic moves. The question of strategic moves come forward for preparing the national budget by strategic analysis of priority requirement and proper utilization of SWOT matrix of the country for economic development and uplifting the living standard of people. We had the ample scope this year to craft the National Strategy Paper for preparing for five-year plan newly and design the annual budget based on those strategy and five year plan. Over and above this, a lot of fundamental issues were missing over years. As such, the following untapped issues could make the National Budget 2025-26 more dynamic & rational for uplifting the nation as smarter, delighted and developed:

Strategy Based Sectoral Allocation

The budget 2025-26 was also prepared based on incremental basis as done traditionally based on the last year as follows instead of strategic analysis and assessment:

Sector (a)	Share in BFY26 (b)	Share in RBFY25 (c)	Change in FY26B over FY25R (d)	
	%		Crore Tk	%
Public Services	23.6	25.3	-2,362.0	-1.3
Interest	15.4	16.3	500.0	0.4
Education and Technology	14.0	13.3	11,543.0	11.6
Transport and Communication	9.0	8.1	10,844.0	17.9
Agriculture	5.9	6.0	1,700.0	3.8
Social Security and Welfare	5.7	5.7	2,771.0	6.5
Local Government and Rural Development	5.7	6.0	125.0	0.3
Health	5.3	3.8	13,985.0	50.1
Defense Services	5.2	5.3	1,459.0	3.7
Public Order and Safety	4.2	4.3	1,821.0	5.7
Energy and Power	2.9	3.1	-185.0	-0.8
Recreation, Culture and Religious Affairs	0.8	0.7	1,076.0	19.7
Housing	0.6	0.7	-271.0	-5.0
Industrial and Economic Services	0.5	0.5	319.0	8.1
Others (Memorandum Item)	1.1	0.9	2,675.0	41.8
Total Expenditure	**100.0**	**100.0**	**46,000.0**	**6.2**

The article was reviewed by ***Mohammad Zahid Hossain*** *FCA*

The column b and c represent the size of the budget in percentage for FY26 and FY25 where d represents the increase of budget compared to last year (FY25) which is BDT 46,000 crore and 6.2% more of last year budget (FY25). As stated, it is obvious that the above allocation is simply increase and decrease of last year budget without any strategical moves based on the strategy papers. As such, only remarkable increase was done without any strategical assessment in case of education & technology (11.6%), transport & communication (17.9%), health (50.1%), recreation, culture and religious affairs (19.7%) and others (41.8%).

In analyzing the ARMS (Agriculture, Readymade Garments, Manpower & Second-best sector) and LEGS (Liberty & democracy, Education, Governance, Seminal needs & infrastructure) of the country, the strategy could be crafted and budget should be prepared based on the set strategy over years to achieve the set goal strategically. The nation earns with ARMS and as such, we must craft the strategy papers newly for developing of agriculture, ready-made garments, manpower and second-best sector like jute, leather, pharmaceuticals, agro-based products, ceramics, frozen foods, ICT, Light Engineering etc. The nation stands by LEGS and as such, we must craft the strategy to be unified the nation on liberty and democracy, make the education global and standard irrespective of so many methods (Bangla, English and madrasa) for making the nationals delighted and smarter, ensure governance for resisting corruption and implementation of rule of law and other seminal needs of housing, health services etc. & infrastructure under ADP. Design the budget based on the strategy papers specially focusing the strategy on ARMS and LEGS could be more realistic and need based for a faster steady growth of the

country. The sectoral reforms and new size of the budget will be required based on the priority set in the strategy instead of the above traditional increase/decrease.

Public Expenditures Efficiency

Efficiency of public expenditures in Bangladesh is very crucial by ensuring good governance for reducing poverty and achieving sustainable development. Some appreciable good governance initiatives have been taken specially prevention of corruption and public financial management reform. A specific policy reforms could be initiated specially preparation of budget and implementation transparency, strengthening audit mechanism including adoption of technology for IBAS++ management, capacity building of public officials, involve local communities in budget planning and monitoring, technological integration, expand and enforce the use of e-Government Procurement, performance audit by external auditor with set guidelines etc.

Social Protection and Poverty Reduction

The term social inequality means the gap between rich and poor in terms of income and wealth. Such inequality comprises disparities of income and wealth among individuals and groups within a society. The narrower of the gap between rich and poor, the better is efficiency in governing the state by the government. The budget has the slogan for 'Building an Equitable and Sustainable Economic System' through employment and providing services to all. The govt. has continuation of planning of welfare initiatives, social safety net programs, banking & capital market reforms, minimum wages and some limited programs and projects for manpower development and social safety. In emerging market economy like Bangladesh, with a view to removing social inequality the Government has to focus on (a) welfare benefits through projects & programs (b) progressive income taxes (c) minimum wages at all level (d) keeping track of top incomes (e) better oversight of the financial markets specially the banks and FIs and capital markets and (e) giving high priority to maintaining full employment. As such, some more initiatives could be taken especially on welfare benefits for ultra-poor specially health and nutrition, progressive income tax including imposing wealth tax instead of surcharge tax as a token of distribution of wealth to all in a balanced way, and training and effective steps for employment.

Human Capital and Youth Development

The largest scope of Bangladesh is that there is 20% youth people aged from 15 to 29 of total population in Bangladesh as per latest census in 2023. In the budget speech, youth's power has been recognized to build the nation with theme- 'Let's change the country, change the world'. It

has been stated about youth's education and training for skilled workforce and creating employment opportunities by 'Tarunyer Utshob (Youth Festival) 2025' with a fund size of Taka 100 crore. Young entrepreneurs will be financed from this fund upto the limit of Taka 5 lac for each. Freelancing training and some other skill development training initiatives have been taken. In order to develop human capital and youth, a large number of workforce in Bangladesh as stated, the government must take a holistic, inclusive, and future-ready approach in the budget to serve the national and outside the country bilaterally. As such, the budget could include National Youth Skill Acceleration Program (NYSAP), Technical support of Youth Start-up Fund and Innovation Challenge, National Digital Literacy Mission (NDLM), Youth Mental Health and Wellness Initiative, Green Jobs and Climate-Smart Youth Employment Program, Youth Engagement in Governance and Civic Innovation, Gender-Responsive Youth Empowerment Fund, Returnee Migrant Youth Reintegration Program etc. Our growth could be more if we can address the above issues and use our youth as skilled workforce. Our youth should be made ready to serve the nation country wide and outside the country by exporting skilled manpower bilaterally resulting employment and earning of foreign currency.

Digitization and Innovation

Digitization is a contemporary demand for governance and standard of living of the people. Broadband expansion, 5G Network Development, Digital Inclusion and Cybersecurity, ensuring E-governance and Education & Training on ICT for human capital development could ensure the governance efficient, standard work facility and the uplifting of standard of living, and knowledge-based ICT workforce as well as creating IT based entrepreneurship. The budget could have a comprehensive and specific initiatives to cover all of the above issues of digitization and innovation.

Research and Development

Research and Development (R& D) is much essential to craft the strategical sector focus for budget. It drives the innovation, competitiveness and long term economic growth. In many countries, from 1% to 3% on GDP is allotted for R & D although our budget does not have any such allocation. Based on the specific policies, the different relevant departments of the government, special allocations to universities and reliable reputed companies and organizations could deal with such research. The findings are helpful for development strategy and set budget accordingly. As such, our budget should have a minimum allocation with clear guidelines to look for the tools of growth and development findings.

Blue Economic Development

Blue economy is the sustainable use of ocean and water

resources effectively and efficiently for economic growth, improved livelihoods, and jobs—while preserving the health of ocean ecosystems. This will include (a) Fisheries and aquaculture – sustainable seafood production.(b) Marine transport and shipping – efficient and eco-friendly sea transport.(c) Tourism and recreation – coastal and marine ecotourism. (d) Renewable energy – offshore wind, tidal, and wave energy.(e) Marine biotechnology – using marine organisms for pharmaceuticals and industry.(f) Seabed mining – extracting minerals responsibly (still controversial). (g) Desalination and water services – turning seawater into drinkable water. In order to focus of blue economy we need to Develop and update a clear policy with actionable targets and coordination mechanisms and establish a dedicated Blue Economy authority or task force involving fisheries, shipping, environment, tourism, and energy sectors.

Formalizing the Informal Sector

Informal sectors are frequently missing to address in the budget to increase productivity and impact on the society on the GDP and national income. The agricultural labour and smallholder farming, construction workers, street venders & hawker, domestic workers, rural money lender etc. could be brought under policy, monetary support and regulation to impact more on productivity resulting increase of GDP and national income.

Survival and Remedy Measures for FIs

The financial institutions (FIs) especially the leasing companies regulated by Bangladesh Bank under the Financial Company Act, 2023 are at a cross road of four (4) problems. These four problems are- (i) higher cost of fund (ii) limited scope of income (iii) higher rate of income tax and, (iv) disallowance of depreciation for tax purpose for computing taxable income. The industry is suffering from those acute problems in addition to problem of management and unless the government works on it, the FI industry will be abolished in near future without refunding the people's money. They are borrowing money from banks and lending to the same borrowers of banks which creates uneven competition with banks. The FIs have limited scope of income compared to banks. The rate of income tax of FIs is as same as for banks in spite of less profitability for high cost of funds and limited scope of income. In computing taxable profit of FIs, the depreciation on finance lease is not allowed as allowable expense in computing tax liability. In Bangladesh, about 100% of portfolio is finance lease and such tax inefficient regulation weakens the industry performance. In India the court verdict allows this depreciation allowance on finance lease to lessor for tax purpose. As such a clear

initiatives could be focused for survival and remedy measures of FIs like (a) Recapitalization and Resolution Framework by creating a "Financial Sector Stability Fund" (FSSF) to support viable but stressed FIs and introducing a resolution mechanism for bankrupt NBFIs under a special tribunal to protect depositors and investors, (b) liquidity support and interbank market access, (c) Strengthening governance & Accountability, (d) Tightening the Regulatory Oversight, (e) Deposit Insurance Scheme Extension , (f) Consolidation and Merger and finally (g) allowing depreciation to FIs for tax purpose.

Promotion of Private Equity and Venture Capital

Fund injection to Small and Medium Enterprises (SMEs) by banks and FIs are not adequate. Practically, the banks and FIs could not reach SMEs at remote area having no branch to deal with these and the Micro-credit Financing Institutions (MFIs) could not serve SMEs as MFIs finance small size of fund and SMEs need a bigger size than MFIs offer. In other words- SMEs are too big for MFIs and too small for banks and FIs, and they cannot get adequate funds to grow as required. As such, it is called 'Missing Middles'. Private equity and venture capital fund could play active role in supporting SMEs by investing in the form of equity and quasi-equity. Bangladesh Securities and Exchange Commission (BSEC) introduced a rule on alternative investment fund covering such private equity and venture capital fund in June, 2015. The budget could express the milestone of reaching with this fund for strengthening SMEs and industrialization. The Budget could provide some tax incentives for such funds with a view to ensuring a better model of financing to SMEs. The SMEs capital market will be accelerated too by effective and efficient operation of private equity and venture capital with entrepreneur friendly policy.

Very good initiatives were taken this year by the government specially (a) revenue reform and crackdown of black money , (b) continued support to mega infrastructure project, (c) Climate-resilient Development, (d) education rebalancing toward technical and higher education, (e) electric vehicle incentive (surcharge waiver), (f) digital VAT collection and e-governance, (g) increase in social safety net allocation, (h) Governance reforms and reforms of banking sector, (h) tax exemption of essential health care products and (i) reduction of budget deficit. Yet, the above untapped sectoral priority and issues essential for the country based on country strategy papers could build a better equitable & sustainable economic systems of the country for the brightest days in future.

National Budget 2025-26
A Manifesto to Revive Economy

Mohammad Zahid Hossain FCA

The Author is a Fellow Member, ICAB and Finance Director AkijBashir Group

The article was reviewed by ***Dipok Kumar Roy*** *FCA*

The national budget for 2025-26 has been placed recently by the Interim Government under a different context. The spirit of mass uprising of July 2025 was to eliminate discrimination from the society and bring justice, accountability and transparency and thereby building a corruption-free Bangladesh. This Interim Government was formed to carry out various reforms in the critical sectors of the Government system and thereafter, it would hold a general election to bring back democracy which was in "prison" during last 15 years. As part of the routine functions of any Government of Bangladesh, National Budget of 2025-26 was prepared with an objective to build an equitable and sustainable economic system in Bangladesh.

Size of the Budget

Total expenditure has been estimated at BDT 7.9 trillion for the budget of FY 2025-26 which is 12.7% of the GDP, 6% higher than revised budget of 2024-25 and 29% higher than actual expenditure of FY 23-24. Two major challenges in widening the budget size: (a) sourcing of fund and (b) implementation of budget with proper transparency and accountability. Advisers to the Interim Government responsible for various ministries has stated on many occasions that various projects' size was inflated to protect the interest of vested group of people. With an objective to remove the fat, total Budget Expenditure has been rationalized.

Gross Domestic Product (GDP) Rate

The interim government has set a growth target of 5.5% for FY2025-26, which is slightly higher than the revised 5.25% for the current FY2024-25. Most of the economic indicators (Export, remittances, foreign exchange rate, inflation etc.) are showing positive trend, it is expected that GDP growth rate for FY 2025-26 may be close to the target.

Revenue Target

BDT 5.64 trillion is the target revenue for 2025-26 which is 9% of GDP. This target is 9% higher than revised budget for revenue of FY 2024-25. Surprisingly, in terms of tax-GDP ratio, the target of 2025-26 has been reduced though Government has commitment to the development partners to improve tax-GDP ratio. The revised target of NBR tax for FY 2024-25 has been reduced by 3% from the original NBR tax budget. The National Board of Revenue (NBR) collected only BDT 3.7 trillion in FY25, falling short of the revised BDT 4.63 trillion target by BDT 0.94 trillion and missing the original target by over BDT 1.1 trillion (source: The Business Standard, date: 30th June 2025). Considering the recent performance of revenue collection, ongoing instability in National Board of Revenue (NBR), slow pace of private sector investments in the backdrop of debacle in Banking sector, slugging progress of automation in NBR, this conservative target appears to be undoable. However, by the effective and efficient revenue governance systems in the reform framework, the scenario could be different and target may be achieved.

Annual Development Program (ADP)

Development projects are implemented by the

Government through allocation of funds in line with 5-year plan. The original allocation for 2024-25 was BDT 2.65 trillion which was slashed by 18.5% and revised at BDT 2.16 trillion. However, in budget 2025-26, it's allocated at BDT 2.3 trillion. The experience of Bangladesh Government in implementing ADP has always been unsatisfactory. Similarly, during the first 10 months of FY25, ministries, divisions and departments have managed to spend only 41.31% of their allocated ADP funds. The government spent BDT 0.93 trillion from the revised ADP in the July-April period of FY25, which is BDT 0.32 trillion less than in the same period last fiscal, when BDT 1.07 trillion was spent. (source: The Business Standard, date: 19th May 2025). After the unprecedented change over in the Government system of last year, this kind of negative deviation in ADP implementation may be reduced. . Moreover, the Interim Government has vowed to bring accountability in spending public money which may ensure public expenditure efficiency in ADP implementation.

Deficit Budget and its Financing

The overall budget deficit estimated for FY 2025-26 is BDT 2.21 trillion which is 3.5% of GDP. Generally, this rate ranged from 4-5% during last many years. With an objective to create more investment and employment, moderate deficit budget for the growing economy of Bangladesh is completely appropriate. However, the biggest challenge for Bangladesh is to finance this deficit. Currently, Government has two prime sources: (a) Internal banking system and (b) foreign borrowings. Internal borrowing from banking system will reduce the capacity of lenders to invest in industrial undertakings. Target of Government to borrow from banking system in FY 2025-26 is BDT 1.04 trillion while it was BDT 1.23 trillion (actual) in FY 2023-24. If the estimated borrowing from foreign sources is not timely arranged, this deficit will force Government to borrow exceeding target from local sources predominantly from banking system. It will eventually result in a declined private sector investment and employment also. The consequence of it will be unmanageable and economy will become more vulnerable. Boosting up revenue collection is the only solution to avoid this kind of unwarranted state.

Inflation

Real income of people squeezed during last couple of years due to inflationary pressure caused by multiple reasons. Government has taken contractionary monetary policy to tame inflation. Though it was 10.89% in December 2024, it reduced to 9.17% in April 2025. Government is expecting to reduce it to 8% in June 2025 and 6.5% in June 2026. The main challenge of the Government is to keep the price of essentials including fuel within the reasonable limit to meet the target.

Allocation of budget for social security

The role of social security is enormous in the reduction of poverty rate. BDT 0.82 trillion has been allocated for social safety net. It's undoubted that this amount of fund is not adequate to alleviate large number of populations from poverty while the size of this fund needs to be increased with the improvement of local resource mobilization. It's also important to ensure that real poor people is the ultimate beneficiary of the allowances and selection process cannot abuse the sacred objective of the Government.

Budget for Martyrs and Injured in July Uprising

The role of July warriors will be remembered for their supreme sacrifice to eradicate discrimination and bring back democracy. A budget of BDT 4.05 billion was allocated for the martyrs and wounded in connection with July Mass Uprising. This fund will be spent on account of allowances, treatment, grants and rehabilitation for the families of the martyrs and injured.

Boosting Investment

Various policy support (Through VAT, Tax and Customs Law) has been extended in this budget to motivate local and foreign entrepreneurs to invest in Bangladesh. Much criticized "minimum income tax" provision has also been rationalized, advance income tax on industrial raw material import has been reduced. Such initiatives will not only attract the investors but also reduce the cost of production and thereby will contain inflation.

Conclusion

Due to the ongoing reform exercises in Government system and "dry" state in money market, the economy is currently undergoing a slow phase. The shortfall in revenue collection target has also made the entire situation very dicey. Moreover, without ensuring uninterrupted supply of power and gas, the investment climate of Bangladesh will not be shiny. Government has taken initiative to improve gas and power supply though it will not fix the situation overnight. Hence, the implementation of budget will be challenging while concerted efforts of all stakeholders can make it possible.

Evaluating the Impact of Standard VAT Rates and Reducing Withholding Burdens for a Fairer Tax System

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The Value Added Tax and Supplementary Duty Act, 2012, introduced in 2019, aimed to simplify VAT regulations and streamline their implementation. Initially, as per SRO no. 187-Law/2019/44-VAT dated 13 June 2019, only 1/3rd of the standard-rated VAT, along with the truncated and specific VAT, was required to be deducted at source at the time the payments against supply of goods or services (which are not exempted or zero-rated) exceeding Tk. 10,000, provided that the supplier issued a VAT Invoice (Mushak 6.3). This arrangement required suppliers to pay output tax (VAT on Supply) from their own funds, differing from the Value Added Tax Act, 1991, which allowed adjustments of withheld VAT through Note 29 of the monthly VAT return (Mushak 9.1) instead of paying the output tax.

The Value Added Tax and Supplementary Duty Act, 2012, initially offered a rational approach, as only 1/3rd of the standard-rated VAT was withheld at the source, allowing adjustment of the remaining output tax with input tax and decreasing adjustments. Businesses were also allowed to make increasing adjustments for VAT withheld at sources against the supply received and pay only the net VAT liability (output tax – input tax + increasing adjustments – decreasing adjustments) to the government. Although businesses faced an initial burden of paying VAT from their funds for a few months until they received VDS certificates (Mushak 6.6) from customers, they ultimately benefited from adjustments that balanced VAT liabilities.

However, subsequent amendments to the Act and its accompanying Rules have progressively realigned the VAT system with the principles of the

Value Added Tax Act, 1991. This shift has significantly increased the financial burden on businesses, compelling them to finance a greater portion of their output obligations from their own resources and to deposit VAT deducted at source (VDS) on various supply received. Although, in theory, the VAT refund option remains available, in practice, substantial amounts of working capital remain stuck for extended periods under this approach.

Additionally, businesses are burdened with the responsibilities of VAT withholding on the supply received and are subsequently subjected to audits and penalized for alleged non-compliances- even in relation to accrued expenses- thereby adding layers of complexities that extend well beyond their core operational focus.

To streamline the VAT regime, it may be prudent to consider a broader application of standard-rated VAT, with limited exceptions for truncated VAT rates where appropriate. In such cases, the application of VDS may be confined to those specific sectors of truncated VAT rates. This approach is likely to mitigate administrative complexities, reduce unwanted audits, and facilitate more effective enforcement by the VAT authorities.

A comprehensive analysis of the implications of implementing a standard-rated VAT structure, accompanied by minimal rule modifications, could demonstrate how a fair and balanced VAT policy may alleviate compliance burdens, contribute to controlling inflation by reducing product prices, while promoting efficient revenue collection.

Scenario Analysis

To explore the impact of standard-rated VAT, a hypothesis was developed with an assumed input (raw material) cost of Tk. 1,000, excluding VAT. A 15% input tax was imposed, amounting to Tk. 150. The sale price, including profit but excluding Tax, was set at Tk. 1,350. Three scenarios were analyzed with output tax rates of 5%, 7.5%, and 15% while examining how maintaining constant profit affects outcomes as well as consumer prices.

Scenario - 1 (Output tax 5%)

Input cost (excluding Tax)	Input tax (15%)	Rebate able	Non-rebate able	Total cost	Profit	Value of Supply (Selling price excluding Tax)	Output tax (5%)	Consideration (Price to consumer including Tax)	Mark-up (Profit % of Cost)	Total VAT deposited to Govt. Exchequer
(A)	(B)	(C)	(D)	(E)=(A+D)	(F)	(G)=(E+F)	(H)	(I)=(G+H)	(J)=(F/E)	(K)=(D+H)
1,000	150		150	1,150	200	1,350	67.50	1,417.50	17.39%	217.50

Under scenario 1, the output tax (VAT on Supply) is 5%, which is below the standard VAT rate of 15%. Therefore, according to the conditions stipulated under section 46(1) of the Value Added Tax and Supplementary Duty Act, 2012, the supplier cannot claim input tax credits. Accordingly, the entire input tax is incorporated into the supplier's total cost of the product.

Scenario - 2 (Output tax 7.5%)

Input cost (excluding Tax)	Input tax (15%)	Rebate able	Non-rebate able	Total cost	Profit	Value of Supply (Selling price excluding Tax)	Output tax (7.5%)	Consideration (Price to consumer including Tax)	Mark-up (Profit % of Cost)	Total VAT deposited to Govt. Exchequer
(A)	(B)	(C)	(D)	(E)=(A+D)	(F)	(G)=(E+F)	(H)	(I)=(G+H)	(J)=(F/E)	(K)=(D+H)
1,000	150		150	1,150	200	1,350	101.25	1,451.25	17.39%	251.25

Under scenario 2, the output tax (VAT on supply) is 7.5%, which is also below the standard VAT rate of 15%. Therefore, according to the conditions stipulated under section 46(1) of the Value Added Tax and Supplementary Duty Act, 2012, the supplier cannot claim input tax credits. Accordingly, the entire input tax is incorporated into the supplier's total cost of the product.

Scenario - 3 (Output tax 15%, profit remains same)										
Input cost (excluding Tax)	Input tax (15%)	Rebate able	Non-rebate able	Total cost	Profit	Value of supply (Selling price excluding Tax)	Output tax (15%)	Consideration (Price to consumer including Tax)	Mark-up (Profit % of Cost)	Total VAT deposited to Govt. Exchequer
(A)	(B)	(C)	(D)	(E)=(A+D)	(F)	(G)=(E+F)	(H)	(I)=(G+H)	(J)=(F/E)	(K)=(B+H-C)
1,000	150	150		1,000	200	1,200	180	1,380	20.00%	180

Under scenario 3, the output tax (VAT on supply) is 15%, which is the standard VAT rate. Therefore, according to the conditions stipulated under section 46(1) of the Value Added Tax and Supplementary Duty Act, 2012, the supplier is eligible to claim input tax credits. Accordingly, the entire input tax is adjusted with the supplier's output tax collected from the buyer, and the supplier is responsible for depositing only the differential amount to the government exchequer.

Summary of the Scenarios	Profit	Selling price to consumer	Lower selling price to consumers	Mark-up	Total VAT deposited to Govt. Exchequer
Scenario- 1 (Output tax 5%)	200	1,418.50	2	17.39%	218.50
Scenario- 2 (Output tax 7.5%)	200	1,451.25	3	17.39%	251.25
Scenario- 3 (Output tax 15%, profit remains the same)	200	1,380	1	20.00%	180

Key Observations

Impact on Consumer Prices

Transitioning to a 15% VAT rate can decrease consumer prices (Scenario 3) if businesses pass on the benefit of input tax rebates by lowering costs (currently, super shop examples can be taken into account).

Profitability and VAT Contributions

- Scenarios 1 and 2 maintain a profit of Tk. 200 but the price increased due to VAT, whereas Scenario 3 allows businesses to lower prices while retaining the same profit.
- Scenario 3 demonstrates a balanced approach with reduced consumer prices and moderate VAT contributions, aligning with a fair and transparent VAT system.

VAT Deposit Reduction

- A 15% output VAT rate results in lower VAT deposits when businesses leverage input tax credits.
- Scenario 3 records a VAT deposit of Tk. 180, compared to Tk. 218.50 in Scenario 1 and Tk. 251.25 in Scenario 2.
- This reduction reflects the offsetting impact of input tax credits, which may affect overall government revenue collection if businesses optimize their tax liabilities.

Behavioral Risks

- A significant risk remains of businesses exploiting standard-rated VAT to

justify price hikes, especially in markets like Bangladesh, where price adjustments often exceed reasonable margins.

- Industries like restaurants, with minimal input tax impact, may still experience consumer price hikes under a 15% output VAT rate due to insufficient rebate offsets.

Key Challenges

1. Industries with VAT-exempted inputs will undoubtedly face price increases under a standard output tax.

2. Profit-driven pricing may offset consumer benefits from standard VAT implementation. For example, businesses may increase profit, representing the benefits of input tax and maintain the same price or increase prices for the consumers with the excuse of VAT increase. Eventually, the consumers will not receive any benefit, and the businesses will make higher profits.

3. Government revenue may decline due to input tax credits and decreasing adjustments.

Recommendations

There is still scope for adjustments in the current VAT practices if we implement a principle-based approach. In this regard, my recommendations are as follows:

Eliminating Unnecessary Withholding VAT for Standard-rated Output Tax:

- Where VAT Invoice (Mushak 6.3) is issued against a supply subject to standard-rated VAT, withholding at source should not be required.

- A government -administered authentication mechanism could serve to ensure proper VAT payments and prevent fraudulent input tax credit claims. For example, a dedicated government portal may be launched, enabling suppliers to input key transaction details and generate a unique identification number. This number would then be used as the serial reference for the relevant Mushak 6.3 form. When a purchaser seeks to claim input tax credit through the online VAT System, the entry of this unique number would enable the system to verify the transaction details and allow the corresponding credit to be claimed against the specific Mushak 6.3 record. Concurrently, for the supplier, the VAT return (Mushak 9.1) would automatically reflect the output tax liability corresponding to these authenticated transactions within the applicable tax period. Such a system would enhance transparency and traceability in VAT transactions, thereby facilitating improved oversight by the government while easing compliance for both suppliers and supply recipients.

- At present, the government appears to be shifting the burden of VAT enforcement on to business entities. However, this approach is fundamentally misplaced. The primary function of businesses is to carry out commercial activities, not to act as de facto enforcement agents by withholding VAT at source and depositing it into the government exchequer. It remains the government's core responsibility to ensure effective implementation under the VAT net through proper regulatory measures. The government can foster a more structured and self-sustaining compliance environment where procedural adherence naturally follows once VAT registration is secured.

Sector-specific VAT Adjustments

- Some industries may still require below-standard (truncated) or specific VAT rates to prevent price surges and optimize government revenue collection.
- In such cases, withholding VAT at sources may remain, provided that instead of depositing the VDS separately; VAT withholding entities can make only increasing adjustments in the monthly VAT return (Mushak 9.1) and pay the net VAT payable (Output tax – input tax + increasing adjustments – decreasing adjustments) to the government exchequer. However, proper research should be conducted to address such industries requiring below standard-rated or specific VAT.

Enhancing Compliance Mechanism

- The provision of section 49 of the Value Added Tax and Supplementary Duty Act, 2012, which mandates entities to pay VAT in the absence of Mushak 6.3, should be maintained to reduce informal business transactions.

Conclusion

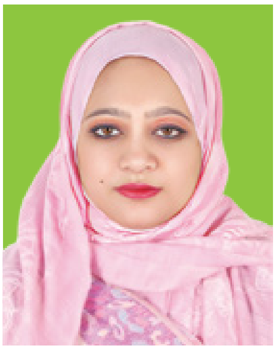
Moving to a standard output tax (VAT) rate of 15% offers potential advantages, including improved transparency and fairer utilization of input tax credits. However, effective implementation requires mitigating risks such as profit-driven price hikes. Policymakers should:

- Encourage businesses to pass on the benefits of input tax credits to consumers through lower prices.
- Establish safeguards against unjustified price increases attributed to VAT rate changes.
- Execute research for determining industries requiring below standard-rated or specific VAT, where the input tax credit impact is minimal.
- Monitor the potential reduction in VAT deposits to the government exchequer due to increased input tax credits and evaluate its long-term fiscal implications.
- Pay special attention to sectors like restaurants and similar service industries, where input tax impacts are minimal, to ensure consumer protection.

By addressing these challenges, a standard VAT rate can foster a more equitable and efficient tax environment while protecting consumer interests and ensuring sustainable government revenue.

Loan Classification & Provision in Bangladesh
The Myth and the Practice Over Bank's Profit Creation

Asma Akhter FCA



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Background

Bangladesh Bank (BB), the country's central bank, regulates loan classification and provisioning guidelines for scheduled banks. The objective is to ensure the financial health of banks, protect depositors, and maintain systemic stability. In theory, this framework should reflect the true financial status of banks by categorizing loans based on their repayment status and creating provisions against potential losses.

The Official Framework (The Myth)

According to BB's Regulations

- **Loans are classified into four categories:**

1. Unclassified (UC) – performing loans.
2. Sub-standard (SS) – overdue for 3 to 6 months.
3. Doubtful (DF) – overdue for 6 to 9 months.
4. Bad/Loss (BL) – overdue for 9 months or more.

- **Provisioning rates (as per asset type) range from:**

1. 1% for unclassified loans.
2. 20% for sub-standard.
3. 50% for doubtful.
4. 100% for bad/loss.

Theoretically, this ensures banks maintain adequate capital buffers and accurately reflect their financial risks.

The Real-World Practice

In practice, several discrepancies and regulatory loopholes allow banks to paint a healthier financial picture:

1. Rescheduling and Restructuring Culture

- o Chronic defaulters often have loans rescheduled or restructured with relaxed terms, sometimes multiple times, allowing banks to avoid classifying these as non-performing assets (NPAs).
- o This delays actual recognition of bad debts and minimizes provisioning requirements.

2. Evergreening of Loans

- o Fresh loans are extended to defaulting borrowers to repay earlier loans, a tactic known as evergreening, artificially maintaining a performing status.

3. Political and Elite Influence

- o Large borrowers, often connected to political or economic power centers, receive preferential treatment — avoiding classification, provisioning, and even legal action.

4. Under-Provisioning and Profit Inflation

- o By minimizing classified loans, banks reduce required provisions and inflate profits on paper.
- o This improves Return on Assets (ROA) and Return on Equity (ROE), creating an illusion of profitability and capital adequacy.

Impact on Bank Profitability

- Short-term profit enhancement through reduced provisions.
- Dividend payouts from inflated profits, weakening long-term capital position.
- Erosion of financial soundness as hidden NPAs accumulate.
- Risk of future financial crises due to masked asset quality deterioration.

Regulatory Responses

While Bangladesh Bank occasionally tightens regulations — e.g., restrictions on loan rescheduling terms and increased disclosure requirements — enforcement remains inconsistent. Political and business influence still undermines regulatory effectiveness.

The contrast between the myth (regulatory ideal) and practice (profit-driven maneuvering) in Bangladesh's banking sector highlights deep systemic issues. While loan classification and provisioning frameworks in Bangladesh are designed to safeguard financial stability, their frequent manipulation for short-term profit motives undermines the resilience of the country's banking sector. The persistent practices of loan rescheduling, restructuring, ever greening, and selective enforcement dilute the true

reflection of asset quality on banks' balance sheets. This not only inflates reported profitability but also postpones the recognition of underlying financial risks, increasing systemic vulnerability. Unless regulatory frameworks are enforced with greater transparency, consistency, and political independence, the disconnect between the financial reports and actual financial health of banks will continue to threaten long-term economic stability.

Option 1: Formal Academic Tone

Unless regulatory frameworks are implemented with unwavering transparency, uniformity, and insulation from political influence, the disparity between reported financial performance and the actual condition of banks will persist, posing a sustained risk to the country's financial and economic stability.

Option 2: Policy Recommendation Style

To safeguard long-term financial stability, it is imperative that regulatory oversight in Bangladesh's banking sector be strengthened with greater transparency, consistency, and independence from political and vested interests, closing the gap between reported figures and actual financial health.

Option 3: Sharper, Critical Tone

Without decisive reforms ensuring transparent, impartial, and consistent enforcement of banking regulations, the ongoing manipulation of financial reporting will continue to erode confidence and endanger the long-term stability of Bangladesh's financial system.

Option 4: Concise Executive Summary Style

A lack of transparent and independent regulatory enforcement will prolong the gap between banks' reported profits and their real financial position, jeopardizing economic resilience.

Here are the pinpointed a key idea there. Let's refine that line a bit for clarity and impact. Here are a few polished versions which might consider:

1. Clean, Clear Statement

Without transparent and independent regulatory enforcement, the gap between banks' reported profits and their actual financial health will continue to widen, undermining trust in the financial system.

2. Slightly Stronger, Policy-Oriented

The absence of transparent and politically independent regulatory enforcement will perpetuate the disconnect between banks' reported profits and their true financial position, posing risks to financial sector integrity.

3. Academic Tone

A failure to enforce regulations with transparency and independence will sustain the divergence between reported profitability and actual financial conditions within banks, ultimately threatening long-term economic stability.

4. Executive Summary Style

Weak, opaque, and politically influenced regulatory enforcement continues to mask the true financial state of banks, creating a dangerous gap between official reports and economic reality.

Bangladesh's banking sector has long struggled with a weak credit culture, where borrowers — particularly influential and large corporate clients — frequently seek interest waivers and loan rescheduling as a tactic to delay repayments without adjusting the principal. This practice not only hampers effective asset recovery but also undermines financial discipline and promotes moral hazard.

Problem Statement

While provisioning exit plans offer a legitimate mechanism for banks to clean up their balance sheets and resolve distressed assets, their intended benefits are often diluted by borrowers exploiting the system to negotiate repeated interest waivers. This unhealthy culture creates a cycle where default becomes habitual, eroding the integrity of the banking system.

Policy Recommendations

1. **Restrict Repeated Interest Waivers:**

   Bangladesh Bank should implement strict guidelines limiting the frequency and conditions under which interest waivers can be granted, with exceptions only for proven, genuine hardship cases.

2. **Mandatory Repayment/ Adjustment Requirement:**

   Any loan restructuring or provisioning exit should be conditional upon a significant upfront repayment or a mandatory partial adjustment of the outstanding amount, ensuring borrower commitment.

3. **Public Disclosure of Large Waivers:**

   To enhance transparency, banks should be required to publicly disclose major interest waiver decisions, particularly for large corporate borrowers, to discourage undue political and business influence.

4. **Incentivize Voluntary Settlements:**

   Develop regulatory incentives (such as temporary interest reductions or partial provisioning reversals) for borrowers who voluntarily settle non-performing loans within a stipulated timeframe without seeking waivers.

5. **Strengthen Credit Information Sharing:**

   Ensure that habitual defaulters and waiver-seeking borrowers are flagged within the national credit information bureau (CIB), restricting their access to fresh credit until liabilities are adjusted.

Conclusion

Unless Bangladesh addresses this entrenched practice of interest waiver demands as a tool to defer loan repayment, the financial sector's stability and credit culture will remain fragile. A balanced approach combining stricter regulation, borrower accountability, and transparency is critical to restoring discipline and resilience in the banking sector.

Financed Emissions is Not Just an Environmental Issue, But a Balance Sheet Imperative
A Measurement and Reporting Approach for Financial Institutions in Bangladesh

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Climate Risk Has a Balance Sheet

As the world reels from a convergence of economic fragility, geopolitical turbulence, and ecological breakdown, one truth has become increasingly clear: the climate crisis is not a future risk—it is a present financial reality. Extreme weather events, driven by atmospheric shifts from centuries of unchecked industrial emissions, now pose material threats to economies, societies, and the financial system itself. For financial institutions, this isn't just an environmental issue—it's a balance sheet issue.

In Bangladesh, where the impacts of climate change are already acute, the financial sector is stepping into a new era of responsibility. Recognizing its exposure to climate-related risks—and its potential role in enabling a low-carbon transition—the Country has enacted forward-thinking regulatory reforms. Through its updated Nationally Determined Contribution (NDC) under the Paris Agreement, Bangladesh has committed to reducing greenhouse gas emissions by 5% by 2030, targeting key sectors such as energy, transport, and industry. This National Agenda is now being supported by a bold financial disclosure framework adopted by Bangladesh Band and the Financial Reporting Council: all financial institutions are mandated to report their climate risks and impacts under IFRS Sustainability Standards which includes reporting of financed emissions.

This last point is crucial. Financed emissions—the emissions tied to financial institution's lending and investment portfolios—far exceed their direct operational footprint, often by several

The article was reviewed by ***Md. Shahadat Hossain*** *FCA*

Financed Emissions is Not Just an Environmental Issue, But a Balance Sheet Imperative

A Measurement and Reporting Approach for Financial Institutions in Bangladesh

hundred times. According to Bloomberg, banks generate approximately 700 times more emissions through financed activities than from their direct operational (e.g., office) emissions. Yet for many institutions, these emissions remain invisible, unmeasured, and unmitigated. As global standards evolve and capital flows are increasingly scrutinized for their climate impact, the ability to quantify, disclose, and manage financed emissions is no longer optional—it is essential.

In this article, the term financial institution (FI) refers collectively to both banks and finance companies.

Understanding Financed Emissions

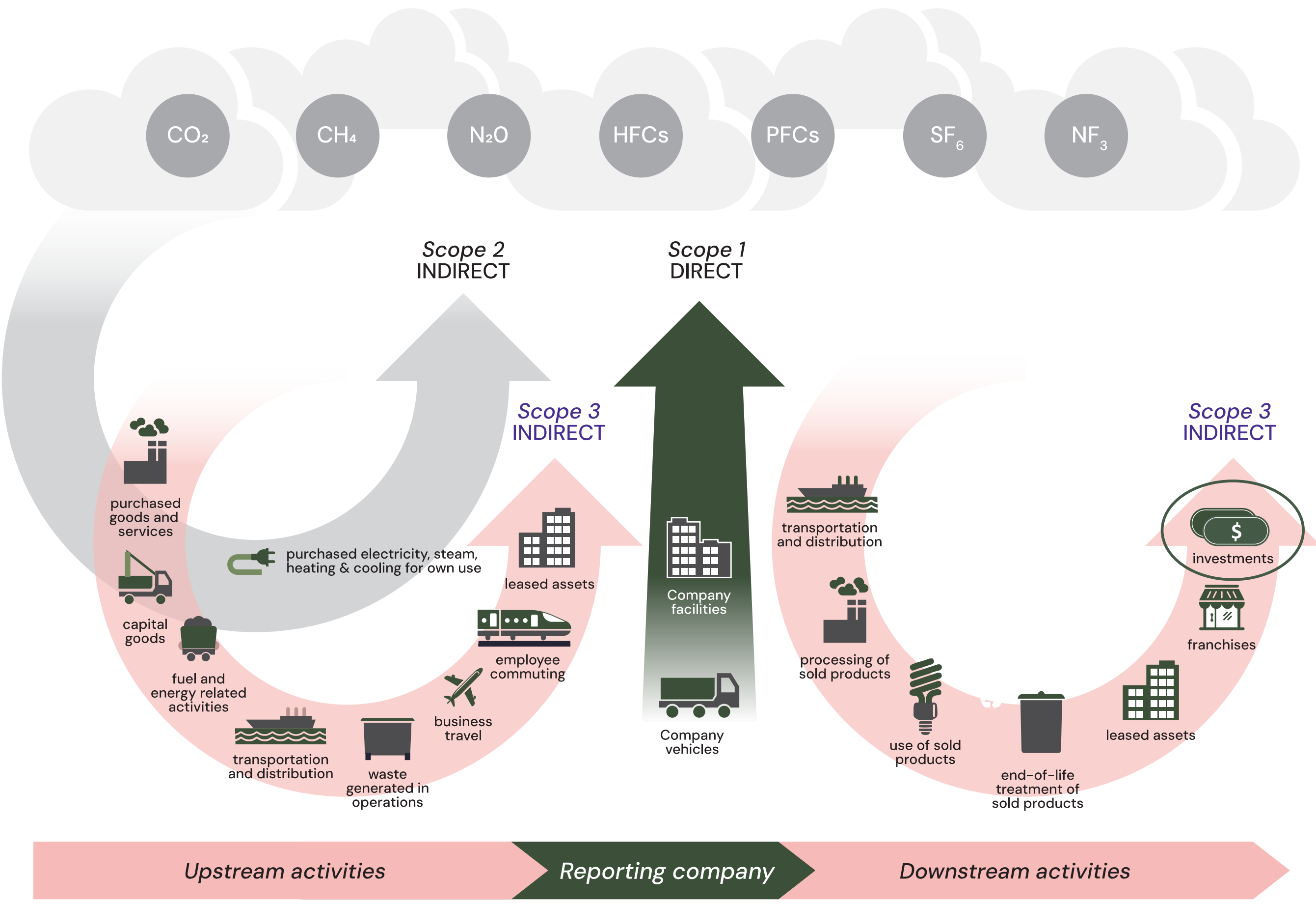
For financial institutions, climate risk has become a balance sheet issue—not just a sustainability sidebar. As climate regulations tighten and investor scrutiny sharpens, banks and finance companies are being held accountable not just for the emissions they produce, but for those they enable.

These "financed emissions"—the greenhouse gases tied to lending, investing, and capital markets activity—are now a defining metric of climate responsibility. Representing the indirect yet powerful impact of capital allocation, financed emissions are classified under Scope 3, Category 15 by global frameworks such as the Greenhouse Gas Protocol and PCAF. Their measurement, expressed in tonnes of CO_2 equivalent, captures the carbon footprint of a FI's financial influence.

This shift is reshaping how climate risk is understood and managed across the financial sector. The message is clear: what FIs finance is just as critical as what they operate.

To understand financed emissions, it is important to place them in the broader emissions classification framework. The Greenhouse Gas Protocol organizes GHG emissions into three scopes:

- Scope 1: Direct emissions from sources an entity owns or controls—think fuel combustion in fleet vehicles or emissions from boilers.
- Scope 2: Indirect emissions from the generation of purchased electricity, steam, or heat.
- Scope 3: All other indirect emissions in the value chain, which are often the largest share and most difficult to track.



Source: (WRI and WBCSD, 2011)

Scope 3 is further broken down into 15 categories, and Category 15—Investments—is where financed emissions reside. This includes emissions associated with corporate loans, project finance, equity holdings, and other capital market instruments.

Financed emissions reveal the climate impact of where capital flows—whether it supports carbon-intensive industries or drives the low-carbon transition.

For FIs, ignoring this metric means exposing themselves to mounting transition risks, regulatory scrutiny, and reputational fallout. Measuring and managing financed emissions, however, unlocks strategic advantages: it helps align portfolios with the Paris Agreement, reduces exposure to climate-related risks, and supports Bangladesh's Nationally Determined Contributions (NDCs).

Key Asset Classes for Measuring Financed Emissions – Follow the Money

As Bangladesh Bank's SFD Circular No. 6 ushers in mandatory climate-related disclosures—starting in 2025 and scaling to full transparency by 2027—financial institutions face a pivotal challenge: financed emissions are no longer optional metrics, but essential indicators of portfolio

risk and resilience. Forward-thinking FIs must move beyond treating these requirements as regulatory checkboxes. Instead, they may consider frameworks like the Partnership for Carbon Accounting Financials (PCAF), which offer robust methodologies for measuring and managing emissions embedded in loans, investments, and capital market activities. Climate risk has moved to the balance sheet—and institutions that quantify it credibly will be better positioned to navigate the transition economy.

Financed emissions can be measured across seven core asset classes, each with its own methodological considerations. For each class, PCAF outlines the following categories:

Sl. No.	Asset Class	Key Consideration
1.	Listed equity and corporate bonds	Asset definition, emission scope, emission attribution, calculation formula, data requirements, limitations
2.	Business loans and unlisted equity	
3.	Project finance	
4.	Commercial real estate	
5.	Mortgages	
6.	Motor vehicle loans	
7.	Sovereign debt	

At the heart of PCAF's approach is a simple but powerful principle: follow the money. The goal is to trace capital flows as far as possible to understand the climate consequences of financial decisions.

1. Listed Equity and Corporate Bonds

Definition and Scope

This asset class covers all on-balance-sheet, publicly traded corporate bonds and equities used for general corporate purposes. It excludes green bonds, sovereign debt, derivatives, and private equity, as well as short-term trading assets or those held for sale.

FIs must report Scope 1 and Scope 2 emissions—direct and energy-related emissions—of their borrowers and investees across all sectors. Scope 3 emissions, representing broader indirect emissions linked to an investee's value chain, are phased in with an initial focus on high-impact sectors such as oil, gas, and mining from 2021, expanding to all sectors by 2025. This phased approach encourages gradual improvement in emissions data quality and alignment with evolving regulatory standards.

Bangladesh's adoption of IFRS S1 and S2 standards sets the stage for phased Scope 3 emissions reporting by financial institutions. Prioritizing high-exposure sectors—like cement, food, power, steel, and

automobiles—offers a practical path to align emissions disclosure with national climate goals and regulatory timelines. Prioritization may be informed by sector-wise loan concentrations, as outlined in Bangladesh Bank's 2023 Financial Stability Report.

Attribution of Emissions

FIs attribute a portion of an investee's annual emissions based on their share of financial exposure, using an attribution factor. This is calculated as the ratio of the FI's investment to the investee's enterprise value (including cash). Market value is used for listed equity, while book value applies to corporate bonds.

For listed company:

$$\text{Attribution Factor}_c = \frac{\text{Outstanding Amount}_c}{\text{Enterprise Value including Cash}_c}$$

For private company bond:

$$\text{Attribution Factor}_c = \frac{\text{Outstanding Amount}_c}{\text{Total Equity}_c + \text{Debt}_c}$$

Where c is each borrower or investee company.

Emissions Equation

Financed emissions represent a portfolio's share of an investee's greenhouse gas emissions. They are calculated by multiplying the attribution factor by the investee's emissions.

$$\text{Financed Emissions (FE)} = \sum_c (\text{Attribution Factor}_c \times \text{Emissions}_c)$$

Data Required for Financed Emissions Calculation

There are three methods for calculating financed emissions from listed equity and corporate bonds, depending on the type of emissions data available. Similar considerations also apply to other asset classes.

Option 1: Reported Emissions

Use verified or unverified emissions data directly from the company or through third-party providers. Emissions are then allocated using the attribution factor.

Sl.	Sector	Loan amount (Tk Billion)	Percentage of total loans (%)
1	Large Industries	4,340.90	28.21
2	Wholesale and Retail Trade (CC, OD etc.)	2,938.84	19.10
3	Miscellaneous	1,835.33	11.93
4	Import Financing	1,559.93	10.14
5	Service industries	920.40	5.98
6	Small and Medium Industries	856.97	5.57
7	Agriculture	731.90	4.76
8	Export Financing	720.65	4.68
9	Residential Urban Housing	373.60	2.43
10	Other construction	344.75	2.24

Option 2: Physical Activity-Based Emissions

Estimate emissions using primary physical activity data (e.g., MWh of gas used, tons of steel produced). Data is collected from the company and allocated using the attribution factor.

Option 3: Economic Activity-Based Emissions

Estimate emissions using economic data (e.g., revenue, assets) and apply region- or sector-specific emissions factors (e.g., from EEIO tables like TASA Analytics for Bangladesh). Allocation is based on the attribution factor.

Options 1 and 2 offer higher data quality and accuracy, while Option 3 provides a viable alternative when direct or physical data is unavailable.

2. Business Loans & Unlisted Equity Emissions Reporting

Definition and Scope

- Business loans: On-balance sheet loans and credit lines not traded in markets, used for general corporate purposes.
- Unlisted equity: On-balance sheet equity investments not traded in markets, also for general corporate purposes.

Both are treated as unknown use of proceeds under the GHG Protocol.

Emission Scopes

- Scope 1 and 2: Financial institutions must report absolute emissions across all sectors.
- Scope 3: A phase-in approach applies, based on the borrower's sector. Bangladesh institutions may follow the listed equity and corporate bond method.

Attribution of Emissions

FIs account for a share of a company's annual emissions using an attribution factor—the ratio of the outstanding amount to the company's total value. This determines the institution's proportional responsibility for the borrower's emissions.

For business loans and equity investment to/in private companies

$$\text{Attribution Factor}_c = \frac{\text{Outstanding Amount}_c}{\text{Total Equity}_c + \text{Debt}_c}$$

$$\text{Outstanding Amount}_c = \left(\frac{\text{Number of Shares Held}}{\text{Total Share}_c}\right) \text{x Total Equity}_c$$

Emissions Equation

Calculate by multiplying the attribution factor by the emissions of the respective borrower or investee.

$$\text{Financed Emissions (FE)} = \sum_c (\text{Attribution Factor}_c \text{ x Company Emissions}_c)$$

3. Project finance

Definition and Scope

Includes all on-balance sheet loans or equity investments designated for a specific project or activity (i.e., known use of proceeds, per GHG Protocol).

Emission Scopes Covered

- Scope 1 & 2: Must be reported across all sectors.
- Scope 3: Required if relevant.
- Avoided/Removed Emissions: May be disclosed separately.

Attribution of Emissions

The FI's share of a project's emissions is based on its attribution factor:

$$\text{Attribution Factor}_p = \frac{\text{Outstanding Investment}_p}{\text{Total Equity}_p + \text{Debt}_p}$$

$$\text{Outstanding Amount}_p = \left(\frac{\text{Shares Held}_p}{\text{Total Shares}_p}\right) \text{x Total Equity}_p$$

Emissions Equation

$$\text{Financed Emissions (FE)} = \sum_p (\text{Attribution Factor}_p \text{ x Project Emissions}_p)$$

Where p is individual financed project.

4. Commercial Real Estate

Definition and Scope

Covers on-balance sheet loans or equity investments in income-generating commercial properties (e.g., retail, hotels, offices, industrial, large multifamily). The institution does not have operational control over the property.

Emission Scopes Covered

- Scope 1 & 2: Required for operational energy use of completed buildings.
- Construction/Renovation emissions: Optional to report.

Attribution of Emissions

Emissions are attributed using the ratio between the outstanding amount and the property's value at origination.

$$\text{Attribution Factor} = \frac{\text{Outstanding Amount}}{\text{Property Value at Origination}}$$

Emissions Equation

$$\text{Financed Emissions (FE)} = \sum_{b,e} (\text{Attribution Factor}_b \times \text{Energy Consumption}_{b,e} \times \text{Emission Factor}_e)$$

Where b is individual building and e is energy source.

5. Mortgage

Definition and Scope

Includes on-balance sheet loans for residential property purchases and refinancing—such as individual homes or small multifamily units. Excludes commercial property, construction or renovation loans, home equity loans, and credit lines.

Emission Scopes Covered

- Scope 1 & 2: Required — covers operational energy use by occupants.

Attribution of Emissions

Emissions are allocated using a loan-to-value ratio, also known as the attribution factor:

$$\text{Attribution Factor}_b = \frac{\text{Outstanding Amount}_b}{\text{Property Value at Origination}_b}$$

Emissions Equation

$$\text{Financed Emissions (FE)} = \sum_{b,e} (\text{Attribution Factor}_b \times \text{Energy Consumption}_{b,e} \times \text{Emission Factor}_e)$$

Where b is individual building and e is energy source (e.g., electricity, natural gas).

6. Motor Vehicle Loans

Definition and Scope

Covers on-balance sheet loans and credit lines issued to businesses and consumers for financing one or more motor vehicles. Vehicle types (e.g., cars, trucks, buses) are defined by the financial institution based on internal policy.

Emission Scopes Covered

- Scope 1: Direct emissions from fuel combustion in the vehicle.
- Scope 2: Indirect emissions from electricity consumption (for EVs and hybrids).
- Scope 3: Excluded (production, delivery, decommissioning).

Attribution of Emissions

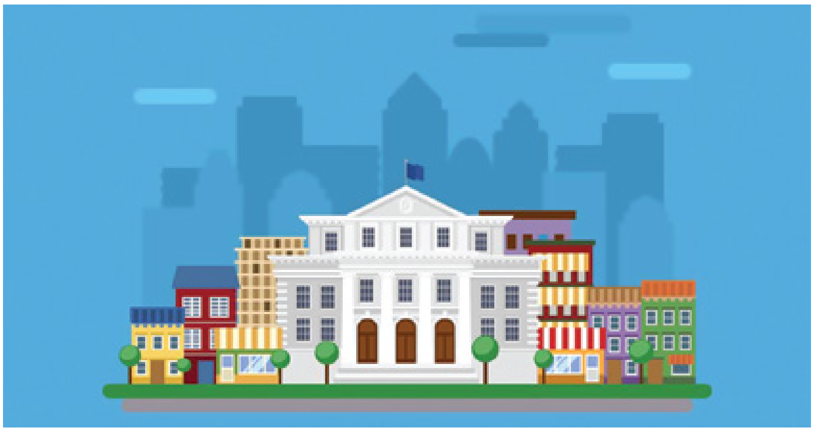
Emissions are attributed based on the loan-to-value ratio at origination:

$$\text{Attribution Factor}_v = \frac{\text{Outstanding Amount}_v}{\text{Property Value at Origination}_v}$$

Emissions Equation

$$\text{Financed Emissions (FE)} = \sum_{v,f} (\text{Attribution Factor}_v \times \text{Distance Traveled}_v \times \text{Fuel Efficiency}_{v,f} \times \text{Emission Factor}_f)$$

Where v is vehicle or vehicle fleet and f is fuel type (e.g., gasoline, diesel, electricity)



7. Sovereign Debt

Asset Class Definition

Covers sovereign bonds and loans issued by national governments in any currency. Includes debt issued directly by sovereigns or central banks acting on their behalf. Excludes the following:

- Central bank exposures not tied to sovereign debt
- Sub-sovereign and municipal debt
- Supranational (except for engagement purposes, not attribution)

Emission Scopes Covered

Financial institutions must report Scope 1 and are encouraged to include Scope 2 and 3, adapted to sovereign context:

- Scope 1: Domestic emissions from within national borders
- Scope 2: Imported energy used domestically
- Scope 3: Emissions from non-energy imports (goods/services) produced abroad

Adaptation is based on UNFCCC territorial accounting and the GHG Protocol.

Attribution of Emissions

Traditional debt-based attribution misrepresents emissions, as countries also operate on tax revenue—not just debt. This can skew results, overstating emissions in low-debt nations. Instead, PPP-adjusted GDP is used to represent a country's true economic value, providing a fairer basis for attributing emissions. While attribution uses Scope 1 emissions, it can also apply to consumption-based emissions (Scope 1 + 2 + 3 – exports).

$$\text{Attributed emissions} = \left(\frac{\text{Sovereign Bond Exposure (USD)}}{\text{PPP-adjusted GDP (Int'l USD)}}\right) \times \text{Sovereign Scope 1 Emissions } (tCO_2e)$$

Emissions Equation

$$\text{Financed Emissions (FE)} = \sum_s (\text{Attribution Factor}_s \times \text{Sovereign Emission}_s)$$

Where s is sovereign borrower.

Two intensity metrics are defined by PCAF for sovereign emissions:

- Production emissions intensity = Production Emissions ÷ PPP-adjusted GDP
- Consumption emissions intensity = Consumption Emissions ÷ Population (per capita)

Measuring What Matters in Bangladesh's Financial Sector

Financial institutions in Bangladesh can structure their financed emissions reporting around four key focus areas:

1. Climate Strategy
2. Financed Emission Methodology
3. Financed Emissions Calculation Approach
4. Sector-Specific Methodologies

1. Climate Strategy

A robust climate strategy is essential for meaningful climate-related disclosures. It should reflect both the FI's commitment to climate goals and the risks and opportunities posed by climate change. Three core priorities form the

backbone of an effective strategy:

- **Achieving Net Zero:** Define a pathway toward net-zero operations in line with the Paris Agreement.
- **Reducing Financed Emissions:** Detail how the institution aims to lower emissions linked to its lending and investment portfolios.
- **Enabling Transition Finance:** Highlight initiatives to finance green and low-carbon solutions for clients and communities.

Effective strategy disclosure should recognize the complexity of the low-carbon transition and avoid unrealistic promises. Success depends on the decarbonization efforts of clients, which are influenced by external factors such as:

- Market and technological developments
- Regulatory and policy frameworks
- Financial viability and investment readiness
- Social and geopolitical dynamics

Transparency and realism are key—climate strategy should reflect ambition, but also the realities of a transitioning economy.

2. Financed Emission Methodology

Financial institutions in Bangladesh may align their financed emissions estimation methodology with the PCAF Standard, focusing on Scope 1 and Scope 2 emissions for all clients, and including Scope 3 emissions for select high-emitting sectors, based on defined emission reduction targets. Any guidance issued by the regulators must take precedence.

Institutions may clarify whether emissions are assessed at the client activity level, client level, or parent company level—with activity-level data generally providing higher accuracy due to differing emission intensities across business operations. Given data limitations, especially for market-based Scope 2 and Scope 3 emissions, FIs may rely on external datasets such as PACE, Energy Performance Certificates (EPCs), and PCAF's emission factor database.

Where granular data is unavailable, fallback methods like sector averages or emissions intensities may be used. Expert judgment and adjustments (overrides) may apply in cases where data is outdated or inconsistent. Carbon offsets (e.g., purchased credits) should not be included in financed emissions calculations; only direct removals (e.g., on-site carbon capture) should be counted.

FIs should also disclose how they assess data quality, referencing the PCAF Data Quality (DQ) scoring system (DQ1–DQ5).

Finally, entities may report whether they develop portfolio benchmarks based on recognized climate scenarios to

align with a 1.5°C goal, and if they set emissions reduction targets—either in absolute terms or using intensity-based metrics, depending on sector characteristics.

3. Calculation Approach

FIs in Bangladesh may take a broader approach to estimating financed emissions by covering their full in-scope balance sheets, not just the standard PCAF asset classes. This includes activities aligned with national climate goals under the NDC. For initial full reporting in FY2027, emissions estimates may be based on FY2026 or earlier data to allow for adequate preparation and analysis. Institutions can exclude exposures already disclosed elsewhere—such as retail loans, trading assets, or retirement benefit holdings—but are encouraged to include additional exposures like undrawn commitments or contingent liabilities in key sectors, even where specific methodologies are still evolving.

Capital Markets Activities

FIs may account for their role in capital market facilitation (e.g., underwriting bonds or equities), as per the updated PCAF guidance on facilitated emissions (Dec 2023). A share of emissions proportional to the institution's participation in such transactions should be attributed accordingly.

Special Emission Categories

Given agriculture's position as the 7th largest loan sector in Bangladesh, biogenic emissions may be significant. Other PCAF-specified emissions—such as avoided/removed emissions, carbon offsets, and lifetime emissions from project finance—may also be reported separately. If not feasible, entities must disclose the reason for non-reporting and describe any constraints (e.g., data or modeling limitations).

Data Sources

Globally, emissions and activity data are generally be sourced from:

- S&P Trucost for client emissions
- Asset Impact for upstream energy, power, and automotive
- PACE for aviation
- PCAF Emission Factor Database and S&P sector averages for emission factors

Bangladesh-Specific Data Approach

Given the limited availability of localized emissions data, institutions may adopt a contextualized data strategy:

- Rely on a blend of global (e.g., PCAF, S&P) and regional sources.
- Partner with local agencies or research institutions to enhance data over time.
- Focus on high-impact sectors (e.g., agriculture, energy, manufacturing, transport).
- Adjust global emission factors to reflect local economic and operational contexts.

4. Sector - Specific Methodologies

A critical component of financed emission disclosure is the sectoral approach. FIs may tailor their methodologies to the unique emissions characteristics of key sectors such as power, agriculture, cement, steel, manufacturing, and real estate. The following considerations are essential:

Selection and Justification of Metrics

Each sector's emissions should be tracked using relevant and well-justified metrics. Institutions should disclose the rationale for metric selection—options include:

- Absolute emissions (tCO_2e)
- Emission intensity (e.g., tCO_2e per MWh, per tonne of product, etc.)
- Physical activity-based metrics
- Secto r- specific performance indicators

Use of Climate Scenarios for Benchmarking

To set sector-specific benchmarks, financial institutions may align with internationally recognized climate scenarios—adapted to Bangladesh's economic and emissions context. Recommended scenarios include:

- **Energy & Power:**
    i. IEA Net Zero Emissions by 2050 (NZE)
    ii. IEA Sustainable Development Scenario (SDS) as fallback
- **Agriculture & Livestock:**
    i. FAO Climate Scenarios
    ii. UK CCC Balanced Net Zero Pathway (as proxy where localized data is lacking)
- **Manufacturing:**
    i. IEA NZE 2050
    ii. Sectoral Decarbonization Approach (SDA) by SBTi
- **Real Estate, Housing & Construction:**
    i. Carbon Risk Real Estate Monitor (CRREM) Pathways
- **Cement:**
    i. IEA NZE 2050

These scenarios help FIs assess alignment with the 1.5°C goal while supporting Bangladesh's Nationally Determined Contributions (NDCs). Bangladesh Bank may consider adopting or contextualizing these global benchmarks for national application.

Additional Sectoral Considerations

For each sector, financial institutions should define and disclose:

- Scope of emissions included (e.g., Scope 1, 2, and material Scope 3)
- Data sources used for emissions and physical activity metrics
- Financing activities in scope (e.g., loans, guarantees, capital markets facilitation)
- Linkage methodology between financing and the borrower's emissions (e.g., share of debt/enterprise value)

These sectoral disclosures should align with the PCAF

Methodology and asset class-specific guidance, ensuring both consistency and transparency.

A New Priority for the Boardroom

As climate regulation tightens in Bangladesh, financed emissions—the greenhouse gases linked to a FI's loans and investments—are becoming a critical measure of climate risk. No longer a fringe sustainability concern, they now represent a core financial exposure tied directly to capital allocation decisions. With Bangladesh Bank's SFD Circular No. 6 mandating climate disclosures, FIs must urgently treat financed emissions as a strategic priority.

Using frameworks like PCAF and aligning with localized climate scenarios will enable institutions to report credibly and manage risk effectively. Those who lead in emissions accountability will not only comply but also unlock investor trust, portfolio resilience, and alignment with national climate goals.

Climate risk is financial risk. Financed emissions are no longer optional—they are a boardroom agenda.

Disclaimer: The views expressed in this article are solely those of the author and do not reflect the official position or opinions of the author's organization.

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Bangladesh Economic Uplift
An In-depth Review and Analysis of – Is Rapid Industrialization a Sin Qua Non?

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The article was reviewed by ***Masih Malik Chowdhury** FCA*

Introduction

Industralization has been a life-changing vigor in economic histories, reforming societies, economies, and the livings of people & their works. This progression, marked by the swing from farming and handicraft-based economies to ones dominated by industry and mechanized manufacturing, has been continually affecting developments. Had profound effects on the global economy. The people of industrially developed countries didn't starve due to industrialization. Industrialization gave the people better jobs, higher wages and cheaper goods with every new machine they invented, with every scientific discovery or technical advance and thus the whole country was moving forward and benefitting adding values in lives.

The industrialization opened up new vista of aspirations & hopes as envisioned from the industrially developed countries around the world. The Industrial Revolution in Europe and the Americas brought in a modern era for the world populace. Other regions, particularly in Asia, had followed their such transition later while Arica in on the verge of transformation too. The process continues into the 21st century. "If you go back to 1800, everybody was poor. I mean everybody. The Industrial Revolution kicked in, and a lot of countries benefited, but by no means everyone." So said by Bill Gates. Bangladesh, a country with 170 million people & too meagre land, needs rapid industrialization for quick economic uplift and social progress. The economy needs to be diversified from the single base on Ready-Made Garments (RMG) to other sectors of exports Bangladesh to onboard a rapid industrialization.

Aims and Objectives of Rapid Industrialization

To Increase Gross Domestic Products (GDP)

GDP represents the economic and social status quo of a country. In the 21st century, the industrially developed countries around the world have been enjoying highest GDP. Industrialization helps increase GDP by eclectic ways. Bangladesh has been striving hard to increase its GPD since its independence in 1971 but failed to achieve a desirable GDP due to non-industrialization in comparison to industrially developed countries. In the FY 2023-24 the GDP per capita income of Bangladesh is US $ 2,624. Whereas, most industrially developed countries GDP per capita varies from US$ 25,000 to US$ 55,000. Industrialization enables maximum utilization of natural resources. As a result, production of goods and services increases, GDP and GNP of the economy increase, labor force receives higher wages, living standard of the people increases.

Industrialization increases the supply of goods for internal and external markets. The government receives more revenue in the form of customs and excise duties on exports and imports and income taxes from the industrialists and businessmen. Thus, the prime objective of rapid industrialization is to increase GDP.

To Provide Employment to Working Labor Force

Bangladesh is a country of 178 million people. To provide employment to the working people of Bangladesh is the main task of the Government of Bangladesh (GOB), public and private sector industrialists and businessmen. Millions of people are unemployed and under employed. The aim of industrialization is to create employment opportunities by establishing local and export-oriented industries and businesses. In the process of industrialization, workers are pulled out of low productivity agriculture to manufacturing, leading to both an increase in overall productivity in the economy as well as an increase in the share of workers employed in better paid jobs in manufacturing as compared to the subsistence income they may get in agriculture. Agriculture employs 74 percent of the country's total female labor force who are mostly under employed. However, studies had revealed that only 4-5 percent of women hold effective ownership of land. Rapid industrialization will divert the huge underemployed female workers from agriculture to better paid industrial sector. This would foster development faster indeed. It would be a paradigm shift for Bangladesh Economic Journey.

To Support Agriculture and Service Sectors

Industrialization stimulates progress in other sectors of the

economy. A development in one industry brings into macro effect on overall industrial sectors' progressions. For example, building a modern fruit processing plant demands more fruits from the farmers in agricultural sector. Thus, the farmers shall increase the cultivation of more fruits and get economic benefits. Increase of exports shall increase the activities in service industries like banks, insurance companies, freight forwarders, transport companies, etc. and they will get the benefits from industrialization.

Highly Prospective Areas of Industrialization in Bangladesh

Textile Industries

Industrialization in textile sector industries by new investment, renovation and modernization may help achieve the objectives of industrialization. Textile product like cloth, has a gigantic local market and international market. "The poor quality of fabrics produced by the local textile industries is due to old, back dated and low quality, low-cost plants and machineries used in the textile industries" said by a Managing Director, who wanted to be unanimous. The Government of Bangladesh (GOB) should come forward with fiscal and monetary policies such as, impose 0% import duty on brand new textile plants and machineries for at least 10 years, provide tax holiday to local textile industries for 10 years. In addition, GOB may supplement it by giving low-cost finance to the textile manufacturers. This will immensely help the local textile industries, save huge foreign exchange, increase employment and many more

Jute Industries

Jute has been used for centuries to make various products and is well-known for its productivity, affordability, biodegradability and eco-friendliness in Bangladesh. In Bangladesh, the jute industry contributes 1% to the country's GDP and accounts for 3% of the overall export earnings in the FY 2023-24. Next to RMG and Textile Industries, Jute Industries form an important area where industrialization may be multifariously boosted up in Bangladesh economy.

"According to experts, 78.54 percent of the total raw jute exports in the world now go from Bangladesh. The market for jute products is growing in every year. It is a rare instance in the world when a country is sending its raw materials—jute in the case of Bangladesh—abroad without utilizing it themselves". (Source: Daily Star 17/11/2024). This is not an acceptable economic picture in the era of Industrial Revolution.

Dairy Industries

There's huge demand for dairy products - like pasteurized and powdered milk, yogurt, cheese and butter in Bangladesh. Due to low-production, supply constraints and lack of optimal quality development the country has to import dairy products. Bangladesh Bank Imports Report shows that in the FY 2022-23 Bangladesh imported dairy products equivalent to BDT 4,209 crores. Flat land, congenial weather and population size of Bangladesh

are suitable to establish mega dairy industries. According to Department of Livestock Services (DLS) report the size of Bangladesh's milk market is $2.51 billion which is expected to grow over 5.0 per cent annually in the coming years. It is a huge but prospective market size that justifiably deserves measures for rapid industrialization through local private, public and foreign direct investment.

Fruit and Vegetables Processing Industries

From the itinerant age to the present day, fruits have been considered an essential source of nourishment. Bangladesh thrives with a large variety of tropical and sub-tropical fruits. Major fruits, such as mango, banana, jackfruit, pineapple, papaya, litchi, guava, coconut, palm fruit and watermelon are produced in Bangladesh. 19 types of vegetable are grown in abundant in Bangladesh. Many non-conventional fruits of exogenous origins are now cropped in Bangladesh employing huge agro-lands & people. According to recent figures, total fruit production accounts for more than 34 million metric tons. "The fruit and vegetable processing international market size has grown strongly in recent years; it will grow from 221.74 billion in 2023 to 238.84 billion in 2024 at a compound annual growth rate (CAGR) of 7.7%". (Source: The Business Research Company, October 2024).

Recommendations

Provide Easy Loans, Grants, Subsidies and Incentives to New and Old Industries

Providing easy loans, grants, subsidies and incentives to new and old industries is not a new modus operandi. The conception had been practiced by the industrially developed countries before industrial revolution took place. Bangladesh had also been practicing the concept for many years that needs to be reviewed and reassessed. RMG is a significant sector of economy in Bangladesh that earns 75% to 80% of the total export earnings of the country. Special cash incentives against exports of readymade garment products have been reduced to 0.3% while the export subsidy for the new markets has also been decreased to 2% from 3%. "The garment sector is now in ICU. If proper treatment is not given it will soon be put on life support," said Executive President of Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA), in opposing the step.

The GOB reduced rates of cash incentives against exports for all 43 categories including RMG, up to 50% for FY25, effective immediately. The Bangladesh Bank in a circular said that the government had decided to reduce the cash incentives against exports gradually. This is because post-graduation of the country from the LDC status in 2026, the export subsidy would be prohibited under the

provision of the World Trade Organization. Many developing countries including India, Vietnam and Thailand have been supporting their industries by proving subsidies, grants, incentives, etc. "Incentives are being reduced, but we need to enhance various policy benefits for the garment industry. India, China, and Vietnam offer significant policy benefits from their governments, and we should consider implementing similar measures in our country," a Director of BGMEA said. (Source: The Business Standard dated 30/06/2024).We are to look beyond RMG to all potential prospect sectors to reap optimum returns on subsidy & incentives..

Reopen the Closed Govt. Owned Jute Mills, Textile Mills and Sugar Mills

On July 01, 2020 the GOB closed 25 Jute Mills under Bangladesh Jute Mills Corporation (BJMC) in public sector with the plea that these Jute Mills were running at loss. Prime Minister's Principal Secretary said that BJMC could not make profit and incurred loss in 44 years out of 48 years after 1972-73 fiscal year. "The cumulative loss of the BJMC stood at Tk10,674 crore in 2018-19 fiscal year (since 1972)," said PM's Principal Secretary. (Source: The Daily Star dated July 02. 2020).

The brighter side is that by accepting Tk 200 crore to Tk 300 crore loss annually, BJMC were providing employment of 50,000 to 60,000 skilled and semi-skilled workers, earning huge foreign currency by exporting jute products. The economists, accountants, prominent state policy makers and famous philanthropists termed the decision to close the 25 Jute Mills under BJMC was a wrong, immature, unethical and unprofessional decision. Like Govt. owned Jute Mills, many Govt. owned Textile and Sugar Mills were closed justifying incurring losses every year. GOB closed the mills in on hand, on the other hand spent billions of foreign currencies by importing textile products and sugar every year. The same sectors in private sectors are running on profit & driving exports also. It needs to be pondered by the Government.

GOB Should Increase Budget Allocation for Industrialization

The short analysis of the budget for FY 2024-25 shows that 22% (Tk 175,340 crore) of the total budget of Tk 797,000 crore, has been allocated to Public Administration and 0.7% (Tk 5,579 crore) has been allocated to Industrial and Economic Services. It's worth mentioning here that for rapid industrialization of a country government's fiscal and monetary support are a must. It is highly recommended that GOB should support industrialization by its fiscal budget allocating more fund in Industrial and Economic Sector slashing heavy allocation to Public Administration Sector slowly but steasdily.

Encourage Local Industrialists and Businessmen to Invest in Bangladesh

It has been noticed that during the last few years huge foreign exchange had been drained out of the country by illegal and corrupt ways by politicians, industrialists and businessmen. GOB should take effective steps

to stop the exodus of money outside the country. GOB should find out the causes of exodus of money outside the country and also to find out why the local entrepreneurs are reluctant to invest in Bangladesh.

Improving Doing Business Index of Bangladesh

Doing business Index of a country is calculated taking account of starting a business, dealing with construction permits, employing workers, registering property, getting credit, protecting investors, taxes, trading across borders, enforcing contracts, getting a electric connection and closing a business. The doing business of Bangladesh in FY 2024 is 168th and the score is 45. This index is not satisfactory and not lucrative to attract local and foreign investors.

Improve Infrastructure Needed for Industrialization

Power supply, telecommunication, transport, gas, water supply etc. facilities are not adequate which have hindered process of industrialization in Bangladesh since independence of the country. Lack of proper technological know-how is also another reason of our industrial backwardness. Power and gas crises are still being continued that is affecting business. Inadequate gas and power supply to the primary textile sector and garment industries was another problem in the outgoing year even though energy prices were hiked by nearly 100 percent in FY 2013-24. Improving infrastructure and keep energy sector free from the hands of corruption - plagued bureaucracy is most important for rapid industrialization.

Conclusions

According to BBS quarterly Labor Force Survey revealed that the number of capable people aged 15 years and above totaled 122.01 million. (Source: BSS 28/11/2024). Proper use of the vast workable population can change the country to an industrially developed country. Four Asian tigers, namely, Hong Kong, Singapore, South Korea and Tawain have no other vast natural resources than man-power. They industrialized their countries by utilizing their labor force and reached the topmost level of economic, social and cultural development. The previous Governments of Bangladesh promised a lot on industrialization since its independence in 1971, now time has come to turn the promises into performances. I conclude with the saying of former US President Barak Obama, “Change will not come if we wait for some other person or some other time. We are the ones we’ve been waiting for. We are the change that we seek”.

Influential Economic Factors on Bank Rate in Bangladesh

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Abstract

This paper aims to identify the key factors that significantly impact the Bank rate in Bangladesh. Utilizing fifteen years (2008-2022) of data, a multiple linear regression model has been constructed to assist in the analysis. Exploring a regression model where the Bank rate is the dependent variable, the analysis explores how various predictor variables (inflation, unemployment rate, bank lending rate, foreign direct investment, and Balance of payments) influence its fluctuations. Following a step-by-step approach helps choose the right datasets for the regression model. Conducting a multicollinearity test (including correlation matrix, variance inflation, eigenvalue, and tolerance rate) is essential for ensuring that all independent variables in a dataset are distinct and influence the bank rate in various ways. When examining the F-test, the entire model shows statistical significance, while in the t-test, only the Balance of Payment appears to have a major effect on shaping shifts in the bank rate individually. Conducting normality tests (Histogram, P-P plot) and checking for homoscedasticity have confirmed that the basic assumption in the multiple linear regression model is met, ensuring the model's validity.

Keywords

Bank Rate, Inflation, Unemployment rate, Bank lending rate

Introduction

The bank rate also called the base lending rate, is crucial for effectively managing bank funding. It is influenced by a range of factors, such as the deposit interest rate and the cost of loanable funds (Nabilah & Mawardi, 2016). Research has shown that adjustments in the bank rate can greatly influence bank lending. For instance, a mere 1 percentage point increase can decrease cumulative loan growth, as demonstrated by (Beutler et al., 2020). Central banks use bank rates as a tool to support their monetary policy, ensure price stability, control inflation, safeguard the value of the domestic currency, and effectively implement other policy measures in the economy ("Principles and formation features of the Central Bank's interest rate," 2022). In developing countries such as Bangladesh, the central bank must make decisive choices regarding implementing the new monetary policy and determining the utilization of the bank rate, taking into account the current dollar crisis and the rise in import costs.

The Objective of the Study

The main goal of this study is to develop a model that can accurately predict the bank rate at any given time. Bank rates have a wide range of applications in a country's economy. With this proposed regression model, policymakers can forecast the bank rate to a certain extent, provided that all the independent data is known. Collecting 15 years of data was necessary to construct a regression model for the bank rate to achieve the proposed objective.

Literature Review

Bank rates play a crucial role in central bank operations, influencing various aspects of monetary policy. Maystrenko (2022) examined the discount rate of the National Bank of Ukraine, emphasizing its significance as an indicator for other interest rates, a benchmark for valuing borrowed and placed money, and a key determinant of credit rates. Similarly, Brock (2010) analyzed the relationship between commercial bank profit rates and banking concentration in Canada, Western Europe, and Japan. The study found that when central banks raise discount rates, commercial banks increase lending rates more than deposit rates. Furthermore, Brock highlighted the risk of misalignment in policy settings if central banks fail to distinguish between

interbank and other short-term rates, potentially leading to errors of up to 4% per annum. Additionally, Goodfriend and McCallum (2007) argued that shocks in banking productivity or collateral effectiveness necessitate substantial adjustments in the policy rate. These studies collectively underscore the pivotal role of discount rates in shaping monetary policy and financial stability.

Maigua (2016) examined 23 commercial banks in Kenya to assess the correlation between multiple rate fluctuations and bank performance. The study found that discount, inflation, and exchange rates positively influenced commercial banks' performance, indicating a direct relationship between higher rates and improved banking outcomes. In contrast, Girotti (2016) argued that monetary policy changes could impact the availability of zero-interest deposits, leading banks to adjust interest-bearing deposits. A tightened rates monetary policy could result in increased costs and reduced performance for commercial banks due to higher interest and a lower supply of zero-interest deposits. However, opportunities exist to explore cost-reducing alternatives.

Similarly, Ndungu (2003) found that higher discount rates lead banks to increase lending rates, boosting performance. However, this negatively affects individuals with variable interest rate loans, such as credit cards and mortgages. In China, wealth management products (WMPs) significantly reduce banks' cost of funds, lowering borrowing costs for consumers. Wang et al. (2022) identified four mechanisms for reducing banks' cost of funds: structural deposit changes, cross-subsidization, liquidity effects, and related-party transactions.

In Bangladesh, research suggests that the bank rate does not substantially impact inflation determinants (Morshed Bhuiya et al., 2024). Meanwhile, Dlamini (2023) examined the effects of monetary policy instruments on private-sector credit in Eswatini. The study found a negative correlation between the discount rate, reserve requirements, and liquidity requirements with bank credit to the private sector. However, a rise in real GDP (LRGDP) was associated with increased private-sector credit. These studies highlight the complex interactions between discount rates, monetary policies, and banking sector performance across different economies.

An increase in the bank rate affects various economic parameters. Obura (2023) found a strong correlation between foreign exchange rates and bank interest rates in Kenya, particularly between the Euro and bank deposit rates. However, the bank rate is not fixed; it is determined by calculations influenced by liquidity preference and monetary policy operations (Brugger et al., 2020). Obiero (2012) noted that an increased discount rate does not immediately impact the stock market but leads commercial banks to borrow and invest less. Additionally, bank performance influences the bank rate, as better-performing banks face lower risks, reducing rates.

Akber et al. (2024) highlighted that second-generation banks significantly shape the bank rate.

Explore the literature to see how central banks can employ other tactics to maximize the yield on their monetary policy, aside from relying solely on the bank rate. Research suggests that increased transparency in the central bank's monetary policy leads to a more effective transmission mechanism for that policy. Central banks prioritizing transparency can achieve desired output and price dynamics through more measured policy rate actions, as Papadamou et al. (2015) suggested. A study by Lepetit (2007) analyzed a broad set of European banks from 1996-2002. The findings revealed that banks that engage in non-interest income activities are associated with higher risk and a greater likelihood of insolvency than banks that primarily focus on providing loans.

Methodology

Two variables are identified to achieve the study's objective: the bank rate as the dependent variable and Inflation, Unemployment Rate, Bank Lending Rate, Foreign Direct Investment, and Balance of Payments as independent variables. All variables are continuous and interdependent. A multivariate regression model establishes a causal relationship between the dependent and independent variables, providing an understandable formula to explain their complex connections.

Among the three common types of multivariable regression—multiple linear regression, logistic regression, and Cox proportional hazards regression—the multiple linear regression model is selected due to the continuous nature of all variables. Before applying the model, multicollinearity analysis uses a correlation matrix, variance inflation factor, tolerance, and eigenvalue methods.

To assess the statistical significance, the F-test and t-test are used to evaluate the overall model and individual independent variables' impact on the bank rate. Additionally, R^2 and adjusted R^2 will help determine the proportion of variability the independent variables explain. SPSS software is utilized for statistical analysis.

Variables

This article categorizes all the observed variables into two groups: the dependent variable, the bank rate, and the independent variables, including others. The bank rate has been chosen as the dependent variable in a multiple linear regression analysis to observe the movement of the dependent factors.

i. Inflation Rate

ii. Unemployment Rate

iii. Bank lending Rate

iv. Foreign Direct Investment (Net inflow)

v. Balance of Payment (Current Account)

Variables Selection and Justification

At the beginning of the variable collection stage, a thorough analysis of the existing literature in this field was conducted. Previous research provides valuable insights and aids in refining the search for the specific variable being investigated in this paper. A step-by-step approach has been employed to determine the most suitable data set that could significantly impact the bank rate. The analytical framework considers various data points to identify the most appropriate dataset. A dataset with a statistically significant impact on the bank rate is selected through inclusion and exclusion. The resulting output is valuable and can be utilized by policymakers and other interested parties.

Data Sources

The World Bank and the Bangladesh Bureau of Statistics (BBS), two reliable entities, from where all of the information for the dependent variable (bank rate) as well as the independent variables (inflation, unemployment rate, bank lending rate, foreign direct investment, and Balance of payments) has been collected.

Table 1: Dataset

Year	Y	X_1	X_2	X_3	X_4	X_5
2008	5.00	12.30	4.5	12.30	748	926.18
2009	5.00	7.60	5.0	11.87	961	3556.13
2010	5.00	6.82	3.4	11.31	913	2108.50
2011	5.00	10.92	3.8	12.42	775	-161.84
2012	5.00	8.69	4.1	13.75	1191	2575.50
2013	5.00	6.78	4.4	13.67	1726	2058.47
2014	5.00	7.35	4.4	13.10	1474	755.79
2015	5.00	6.41	4.4	11.67	1172	2579.62
2016	5.00	5.92	4.3	10.39	1285	931.39
2017	5.00	5.44	4.4	9.56	1653	-5984.99
2018	5.00	5.78	4.4	9.95	1778	-7095.17
2019	5.00	5.48	4.4	9.58	2628	-2948.53
2020	5.00	5.65	5.2	7.95	1271	1192.77
2021	4.00	5.56	5.1	7.33	1355	-15775.41
2022	4.00	6.10	4.7	7.09	2179	-14379.59

Y-Bank rate; X_1- Inflation; X_2- Unemployment Rate; X_3- Bank Lending rate X_4- Foreign Direct investment (Net inflow) X_5- Balance of payment;

Explanation of Independent Variables

Inflation Rate: It results from an oversupply of money without a proportional rise in production or GDP, leading to currency devaluation and reduced real income. While controlled inflation promotes spending and investment, excessive inflation erodes purchasing power and causes income inequality. Inflation is measured using CPI, PPI, and the GDP deflator.

Unemployment Rate: Unemployment occurs when individuals of working age actively seek but cannot find work. It can stem from structural, frictional, or cyclical factors, leading to reduced income, lower consumer spending, and increased government welfare costs. The unemployment rate is the percentage of unemployed individuals in the total labor force.

Bank Lending Rate: This is the interest rate at which commercial banks provide loans, influenced by central bank policies, economic conditions, and risk factors. High lending rates discourage borrowing and investment, while lower rates stimulate economic growth. Bank profitability depends on the difference between lending rates and operational costs.

Foreign Direct Investment (FDI) Net Inflow: FDI occurs when foreign entities invest in another country's businesses. It enhances economic growth by providing capital, technology, and global market access, increasing productivity and employment. However, concerns over sovereignty, environmental impact, and market dominance by foreign investors must be considered.

Balance of Payments (BoP) – Current Account: The current account reflects a nation's financial transactions, including trade balances and income flows. A surplus indicates strong exports, while a persistent deficit signals reliance on foreign investment or borrowing, which may threaten long-term economic stability.

Analysis

In this part, to fit the multiple linear regression for the Y-Bank rate with all independent variables X1- Inflation; X2- Unemployment Rate; X3- Bank Lending rate X4- Foreign Direct Investment (Net inflow) X5- Balance of payment. The formula for multiple linear regression would be:

$Y = \beta 0+\beta 1X1+\beta 2X2+ \beta 3X3+ \beta 4X4+\beta 5X5+\epsilon$

Y is the dependent variable.

The independent variables are X1, X2, X3, X4, and X5.

β0, β1, β2, β3, β4, and β5 are the coefficients of regression are a representation of the effects that the independent variables have on the variable that is being studied.

∈ is the error term for the dependent variable's unexplained variation.

Multicollinearity Test

Multicollinearity occurs when two or more independent variables correlate, and it can complicate the interpretation and introduce errors in the coefficient of the multiple linear regression model. The reason for this may be the overlap of the independent variable, where two or more variables examine the same aspects. One of the most common negative impacts of multicollinearity issues includes decreased precision in parameter estimates, unstable coefficient estimates, reduced predictive accuracy, and diminished reliability of the regression model.

We will use four tools to examine the multicollinearity in the data collected for this study. They are correlation matrix, variance inflation factor, tolerance, and eigenvalue.

i. Correlation Matrix

Decision rule: Examining the correlation matrix reveals the interrelationships between independent variables. At a significance level of 0.05, no pair exhibits any issues. However, at the 0.01 level, the Balance of payment and bank lending rate demonstrate a correlation exceeding the acceptable threshold of 0.7, standing at 0.767.

ii. Variance Inflation

VIF quantifies the degree to which independent variables are magnified by multicollinearity. Mathematically, VIF is calculated as below, and the R2 is collected from the regression model.

$$VIF_i = \frac{1}{-R_i 2}$$

VIF=1 indicates low multicollinearity and A VIF between 5 and 10 may indicate some issues that need to be addressed based on the study's context.

iii. Tolerance Test

Understanding tolerance involves looking at how much variance of an independent variable is not explained by other independent variables. Low tolerance values and higher VIF values indicate increased multicollinearity among independent variables. When

Table 2: Correlation Matrix

		Inflation Rate	Unemployment Rate	Bank Lending Rate	Balance of Payment	Foreign Direct Investment
Inflation Rate	Pearson Correlation	1	-.306	.587*	.383	-.628*
	Sig. (2-tailed)		.267	.021	.159	.012
Unemployment Rate	Pearson Correlation	-.306	1	-.515*	-.351	.207
	Sig. (2-tailed)	.267		.049	.200	.459
Bank Lending Rate	Pearson Correlation	.587*	-.515*	1	.767**	-.430
	Sig. (2-tailed)	.021	.049		.001	.110
Balance Of Payment	Pearson Correlation	.383	-.351	.767**	1	-.486
	Sig. (2-tailed)	.159	.200	.001		.066
Foreign Direct Investment	Pearson Correlation	-.628*	.207	-.430	-.486	1
	Sig. (2-tailed)	.012	.459	.110	.066	

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

tolerance values are lower, it indicates that the independent variable has more shared variance with other predictors in the model, pointing to a greater level of multicollinearity. This mathematical equation reveals where tolerance can be found.

$$\text{Tolerance} = \frac{1}{VIF}$$

$$\text{Tolerance}_i = 1 - R_i^2$$

iv. Eigenvalue

Examining eigenvalues is useful for evaluating multicollinearity in multiple regression models. When dealing with multicollinearity, eigenvalues are derived from the correlation matrix of the independent variables. When one or more eigenvalues of the correlation matrix are close to zero or significantly smaller than others, multicollinearity is detected. It suggests that the independent variables have a strong linear relationship.

Decision rule: None of the independent variables surpass the VIF threshold, with values below 5 for X1, X2, X3, X4, and X5. In the tolerance segment, all values exceed 0.2, indicating that the other independent variables do not account for over 20% of the variance in the independent variable.

Logical Argument About the Regression Equation

Inflation

The regression equation indicates a slight negative relationship between inflation and the bank rate, where a 1% rise in inflation reduces the bank rate by 0.001%. Central banks raise the bank rate during high inflation to limit commercial banks' borrowing, reduce lending, and control the money supply, which helps curb inflation.

Unemployment Rate

A significant negative relationship exists, with a 1% rise in unemployment decreasing the bank rate by 0.107%. During low unemployment, central banks increase rates to control inflation, while high unemployment prompts rate cuts to stimulate growth and job creation. High unemployment signals weak demand, encouraging spending and investment through lower rates.

Bank Lending Rate

A slight negative correlation is observed, with a 0.008% opposite movement. While a higher bank rate typically increases lending rates, banks may keep previous rates to maintain profitability. Anticipating future central bank rate cuts, banks may proactively lower lending rates, leading to a negative correlation. Lower bank rates may also increase perceived credit risk, prompting banks to adjust loan rates accordingly.

Foreign Direct Investment (FDI)

The relationship between bank rates and FDI is complex. A higher bank rate attracts foreign investors seeking better returns, strengthening the domestic currency but making investments costlier. Increased rates reduce consumption and business activity, potentially lowering investor confidence and economic growth.

Balance of Payments (BoP)

A minor positive correlation exists, where a 1% rise in BoP increases the bank rate by 0.00005406. A higher bank rate strengthens the domestic currency, making exports expensive and imports cheaper, potentially causing a trade deficit. However, controlling inflation through bank rate adjustments can lower imports, improving the Balance of Payments.

Individual Test

Although the entire model is statistically significant at a 0.05% confidence level, further investigation is needed to determine the independent variables that significantly impact the bank rate. We perform a t-test at a significance level of 0.05% to achieve this objective.

Conducting the individual regression coefficient test for five independent variables involves calculating the t-statistic test. Individual tests have been conducted

For "Inflation rate"

H0: $\beta1=0$

H1: $\beta1\neq0$

For "Unemployment rate"

H0: $\beta2=0$

H1: $\beta2\neq0$

For "Bank Lending rate."

H0: $\beta3=0$

H1: $\beta3\neq0$

For the "Foreign Direct Investment"

H0: $\beta4=0$

H1: $\beta4\neq0$

For the " Balance of payment."

H0: $\beta5=0$

H1: $\beta5\neq0$

α= .05

t-test statistics will be used

Decision rule: Reject H0 if tcomp > 2.228 or < -2.228

Decision rule: Among the five variables, there are no variables that exceed the threshold of the t-test critical value (t>2.262, t<-2.262) except the Balance of payment (3.583>2.262). In that case, we could say that for not exceeding the threshold of t-test statistics, all the Null hypotheses are accepted ($\beta1=\beta2=\beta3=\beta4=0$), which means no variable independently affects the dependent variable, except the Balance of payment ($\beta5\neq0$).

Limitation of the Study

Although the regression model can forecast the bank rate, it's recommended to include scenario analysis and stress testing. Investigating different economic assistance scenarios to assess the model's reaction to a range of economic situations. Regularly reviewing and updating the model with the latest data is crucial for policymakers and other stakeholders to improve its predictive capabilities.

Table 3: Model specification

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	5.368	.936		5.734	.000
Inflation Rate	-.001	.040	-.004	-.019	.986
Unemployment Rate	-.107	.136	-.142	-.787	.451
Bank Lending Rate	-.008	.049	-.052	-.171	.868
Foreign Direct Investment (Net Inflow)	.000	.000	.184	.852	.417
Balance of Payment (Current Account)	5.406E-5	.000	.946	3.583	.006

Recommendation & Policy Implications

The study developed a model capable of predicting the bank rate at any given time, provided all predictor variables are known. Anticipating the bank rate is essential for policymakers, particularly central banks, in formulating effective monetary policy. Understanding the factors influencing the bank rate helps achieve macroeconomic goals such as price stability, employment, inflation control, economic growth, and socio-economic development.

During economic downturns or inflationary pressures, the regression model aids central banks in determining the appropriate adjustments to independent variables to regulate the bank rate effectively. By leveraging the model's findings, policymakers can implement regulatory actions that enhance financial stability, limit excessive risk-taking, and ensure smooth financial market operations. Reliable bank rate predictions strengthen confidence among consumers and investors, encouraging spending, investment, and economic activity and supporting economic stability and growth.

Furthermore, aligning monetary policy with other macroeconomic strategies, including fiscal policy and regulatory measures, is crucial for minimizing unintended consequences and optimizing outcomes. Improved policy coordination enhances the effectiveness of monetary measures in achieving macroeconomic stability and maintaining financial resilience in the face of economic challenges.

Conclusion

Bangladesh, an expanding South Asian economy, has a promising chance to reach middle-income status in the coming decades. This economic performance indicator provides intriguing insights into the potential and trajectory of future growth. Nevertheless, there are notable challenges, including an underdeveloped financial system and issues in the banking sector, such as insolvency, unfavorable bank loan performance, interest rate risk management, competition from fintech firms, and cybersecurity concerns. Consequently, they cannot take full advantage of Bangladesh's thriving economy. By using its monetary tools and enacting essential measures that strengthen the financial sector, particularly the banking industry, the central bank can significantly contribute to addressing the current situation. By fully realizing the potential of this industry, it could become the backbone of Bangladesh's economy.

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The Current Economic Situation of Bangladesh Opportunities and Challenges

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Following the political turmoil on August 5, 2024, Bangladesh is navigating a critical interval in its economic and governance landscape. The resignation of Sheikh Hasina, following months of protests, has led to an interim government that is now facing significant challenges, including economic instability, strained international relations, and concerns over governance reforms. While the country contends with inflationary pressures, vulnerabilities in the banking sector, and the need for structural economic adjustments, it also retains potential for growth. However, political uncertainty, including delays in setting election dates and rising communal tensions, may impact investor confidence and economic stability

Key Economic Challenges

Political Instability and Governance Issues

Following the political changes after August 2024, Bangladesh has faced uncertainties that have affected investor confidence and business operations. The unrest during the last half of 2024 temporarily disrupted industrial activities, particularly in the ready-made garments (RMG) sector, leading to concerns over long-term economic stability. The new administration's policy approach will be critical in restoring governance effectiveness and fostering economic confidence.

Rising Inflation and Cost of Living

Inflation remains a pressing concern, driven by rising global commodity prices and domestic supply chain inefficiencies. According to the International Monetary Fund (IMF), inflation in Bangladesh hovered around 9.8% in 2024, significantly impacting household purchasing power and business operating costs. The price surge in essential commodities has also contributed to slowing down domestic consumption, creating challenges for economic recovery.

Vulnerabilities in the Banking Sector

Bangladesh's financial sector continues to struggle with a high volume of non-performing loans (NPLs), weak regulatory oversight, and liquidity concerns. As of mid-2024, NPLs accounted for approximately 9.36% of total loans, undermining the confidence of investors and depositors. The IMF has urged stricter financial reforms and improved governance to stabilize the banking sector.

Energy Crisis

Industries continue to face disruptions due to unreliable power supply and rising fuel costs. The country remains highly dependent on imported

energy, exacerbating foreign exchange challenges. The transition to sustainable energy solutions is increasingly seen as a necessity to improve industrial productivity and long-term economic stability

Economic Strengths and Opportunities

Boom in Remittances

In 2024, remittance inflows reached a record $26.67 billion, providing critical support to foreign exchange reserves and import payments. This has helped stabilize the economy amidst global economic headwinds.

Thriving Ready-Made Garments (RMG) Sector

The RMG industry remains the backbone of Bangladesh's export economy, experiencing a 13% growth in the latter half of 2024, despite temporary disruptions due to political unrest. The depreciation of the Bangladeshi Taka by 1.67% against the US dollar further enhanced export competitiveness. However, future expansion will depend on trade policies and diversification of export markets.

Stabilized Foreign Exchange Reserves

Improved remittance inflows and reduced imports have helped stabilize foreign exchange reserves at $21.33 billion by late 2024, providing a buffer against external shocks. However, the reserves remain lower than the peak levels of previous years, necessitating continued caution in economic management.

Shift toward Renewable Energy

Bangladesh is increasing investments in renewable energy to reduce dependence on costly fossil fuels. The government has announced new policies to attract international investment in solar and wind energy projects, aligning with global sustainability trends

Strategic Recommendations for Growth

To drive sustainable economic growth and overcome current challenges, Bangladesh must implement a comprehensive strategy that addresses both its economic strengths and vulnerabilities. The following strategic recommendations can serve as a roadmap for achieving long-term development:

Governance Reforms

Transparency and efficiency are crucial for ensuring that economic policies are effectively implemented and resources are allocated appropriately. Strengthening governance structures, particularly in the financial and public sectors, will help address issues like corruption, inefficiency, and regulatory failures. For example, the IMF has highlighted the need for greater accountability and reforms in Bangladesh's banking sector to improve credit flow and reduce non-performing loans (NPLs), which stood at 9.36% in mid-2024. Reforming governance systems to ensure

regulatory oversight will restore investor confidence, enhance fiscal discipline, and boost economic growth.

Infrastructure Development

Robust infrastructure is essential for supporting industrial growth and economic expansion. In Bangladesh, the energy crisis has posed significant challenges to industrial productivity, with frequent power shortages and rising energy costs. Prioritizing investments in renewable energy and upgrading the power generation capacity will reduce dependency on fossil fuels and mitigate energy costs. Similarly, expanding transportation infrastructure, including roads, ports, and railways, will facilitate trade and improve domestic logistics, supporting the growth of industries like ready-made garments (RMG), a key export sector for the country. According to the Asian Development Bank (ADB), infrastructure development in the power and transport sectors could lead to improved economic outcomes, increasing GDP growth by up to 2% annually.

Public-Private Partnerships (PPPs)

Engaging the private sector in public-private partnerships (PPPs) is essential for fostering innovation, addressing inefficiencies, and meeting infrastructure needs. By encouraging collaboration between the government and private companies, Bangladesh can mobilize resources for large-scale projects and attract foreign investment. In sectors such as renewable energy, transportation, and healthcare, PPPs can help bring in both capital and expertise, addressing infrastructure bottlenecks. As of 2024, the country has begun exploring such collaborations, with notable PPP projects in the energy and transport sectors. The government's Public-Private Partnership Authority can streamline the process and ensure that projects are developed efficiently and transparently.

Skill Development and Diversification

A diversified economy is key to ensuring long-term sustainability and competitiveness in global markets. In addition to maintaining its strong performance in the RMG sector, Bangladesh must diversify its industries by investing in technology, digital services, and green industries. The government should focus on up-skilling the workforce to meet the needs of new industries. According to the World Bank, Bangladesh must invest in education and vocational training to equip its labor force with the skills required for emerging sectors such as information technology (IT), renewable energy, and advanced manufacturing. This will ensure that the workforce can adapt to changing global market demands and help Bangladesh remain competitive in the global economy.

Conclusion

Bangladesh's economic trajectory shows significant promise, driven by consistent remittance inflows, a strong export performance, and growing potential in renewable energy. As of 2024, remittances have reached record levels of $26.67 billion, supporting the country's foreign exchange reserves and offering stability amid global economic challenges. The ready-made garment (RMG) sector, a pillar of the export economy, continues to thrive, expanding into new markets despite short-term political instability. Additionally, Bangladesh's push toward renewable energy investments aligns with global sustainability trends, offering a path to address the ongoing energy crisis while attracting international investment.

However, sustaining this growth will require addressing several systemic challenges. Political stability remains essential to fostering an environment conducive to business and investment, particularly with the upcoming general elections and the need for governance reforms to resolve issues like corruption, inefficiency, and regulatory deficiencies. As the International Monetary Fund (IMF) has suggested, reforms in governance and the banking sector are crucial for restoring confidence and ensuring sustained growth.

Moreover, while Bangladesh's economic strength is apparent, overcoming critical challenges - such as inflation, energy shortages, and the need for infrastructural improvements - will require strategic policy measures. These should focus on infrastructure development, particularly in the energy and transport sectors, to support industrial growth and improve the business climate.

By addressing these critical areas through inclusive reforms, Bangladesh has the opportunity to unlock its full economic potential and solidify its position as a rising economic power in the region. With the right policies and sustained effort, the country can build on its strengths and pave the way for a more resilient and diverse economy in the future.

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Accounting to Forensic Accounting, Audit to Forensic Audit
AI Tools use for Capacity Building

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Introduction

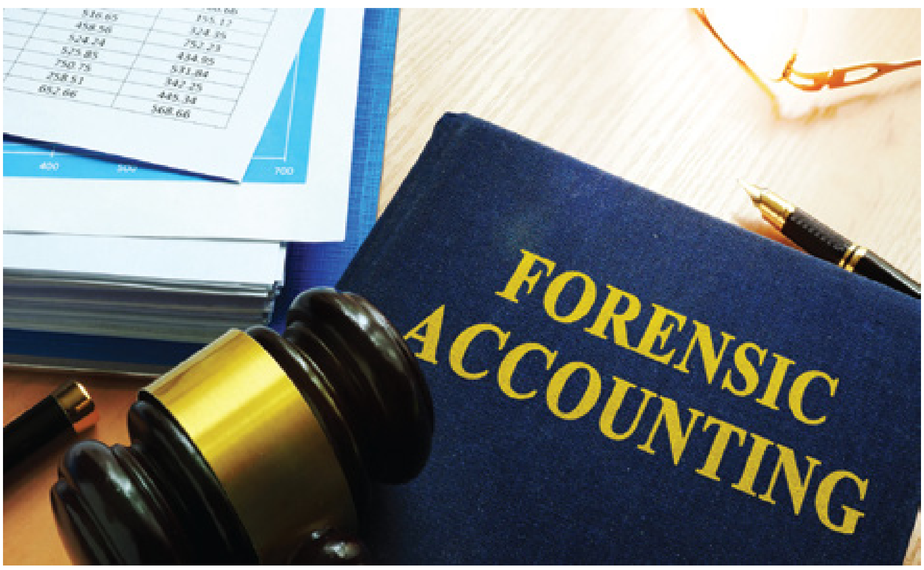
The world of accounting and auditing has seen a remarkable shift, thanks to the rise of Artificial Intelligence (AI). Traditional methods are being enhanced - and in some cases, even replaced by AI-driven tools that boost accuracy, efficiency, and fraud detection. Forensic accounting and auditing, which zero in on uncovering financial discrepancies and fraud, have especially reaped the rewards of these AI advancements.

This writing delves into how AI tools are transforming the landscape of accounting, auditing, forensic accounting, and forensic auditing, while also highlighting their importance in building capacity for Chartered Accountants (CAs).

Traditional Accounting vs. AI-Enhanced Accounting

The Evolution of Accounting

We all know, traditional accounting used to be all about identification, recording, classifying, and summarizing financial transactions. It relied heavily on manual processes, which could be quite tedious and often led to mistakes/errors. Nowadays, technology - especially Artificial Intelligence (AI) - is shaking things-up. AI takes care of repetitive tasks like data entry and reconciliation, which helps cut down on human errors. Plus, it boosts speed, accuracy, and provides real-time financial insights. A move, this change represents, from reactive accounting to a more proactive approach to financial management.



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AI Tools in Accounting

AI-driven software's are changing the game in bookkeeping by automating tasks, which not only saves time but also helps reducing errors. On top of that, few tools intact leverage predictive analytics to forecast cash flows and financial trends, which allows for smarter, more proactive decision-making in every steps.

- Automated Bookeeping
- Automated Financial Statements
- Natural Language Processing (NLP)
- Predictive Analytics

At the same time, AI chatbots utilize natural language processing to tackle financial questions and create reports on the fly, making financial data more accessible and actionable than ever before.

Benefits for CAs

When businesses lighten their manual workload, they can really ramp up efficiency and cut down on the chances of human error. With instant financial insights, decisions can be made quicker and based on solid data, which boosts overall performance and agility. Plus, staying on top of tax and regulatory standards means fewer penalties, smoother audits, and a stronger sense of trust from stakeholders.

Traditional Auditing vs. AI-Driven Auditing

Traditional audits often depend on sampling methods, which can overlook some irregularities and misstatements. It is true that, the manual processes involved can be quite time-consuming and prone to human errors. However, AI is changing the game by analyzing every single transaction in real time which leads to more profound insights and a better ability to spot fraud or anomalies. Now, auditors can shift their focus to interpreting the results instead of getting bogged down in routine checks. In summary, AI significantly boosts both the efficiency and accuracy of the auditing process.

AI Tools in Auditing

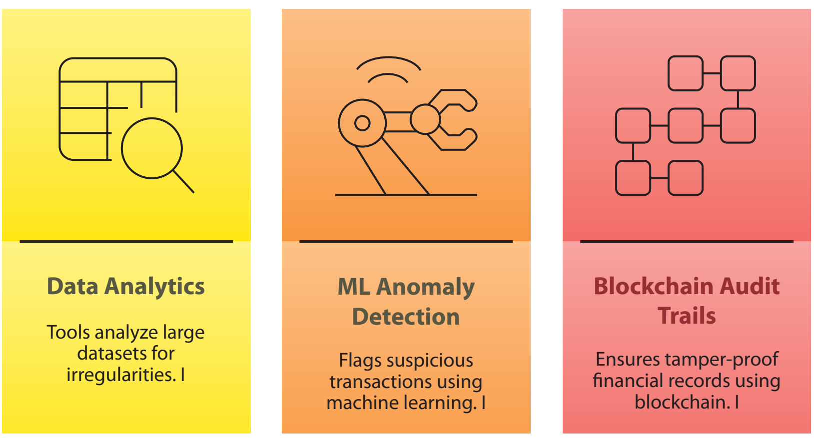
In today's world of data-driven audits, cutting-edge technologies are reshaping the way financial reviews are carried out. Tools like ACL, IDEA, and Tableau give auditors robust data analytics capabilities, enabling them to efficiently navigate through massive datasets to spot patterns, trends, and potential irregularities. These tools not only cut down on manual work but also help catch inconsistencies that traditional sampling methods might overlook. On another front, platforms like MindBridge AI Auditor leverage machine learning (ML) for anomaly detection, meticulously scanning every transaction to highlight any unusual activities that could signal fraud or errors.

This proactive strategy boosts both the speed and reliability of audits. Additionally, blockchain technology is gaining traction for ensuring the integrity and transparency of audit trails. With its tamper-proof and time-stamped ledger system, blockchain protects financial records from manipulation, providing a greater level of trust and accountability in the auditing process.

Benefits for CAs

Artificial Intelligence and advanced analytical tools are opening up a world of transformative benefits for Chartered Accountants. Audits are becoming faster and more accurate, which means there's more time available for in-depth analysis and strategic advisory roles. With the ability to scan data in real-time and detect anomalies, potential fraud risks can be spotted before they escalate. These innovative tools also improve risk assessment by providing a broader perspective on financial data, enabling CAs to deliver more insightful recommendations to clients or management.

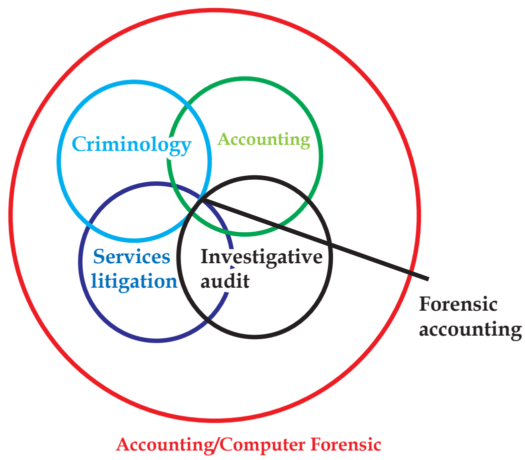
AI tools in auditing



Forensic Accounting: AI as a Game-Changer

Forensic accounting is all about digging into financial fraud, embezzlement, and providing solid evidence for legal cases through thorough analysis. While it used to be a time-consuming task, the advent of Artificial Intelligence has changed the game. In this AI era, it supercharges forensic investigations by quickly sifting through massive amounts of data, revealing hidden patterns, and spotting anomalies that could indicate fraudulent behavior.

Skills of the Forensic Accountant



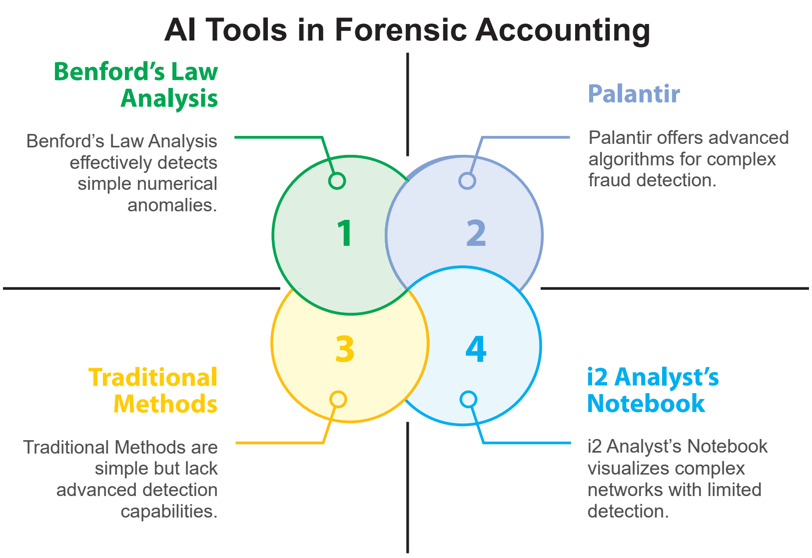
Source: Crumbley and Smith (2009, p. 83).

This means forensic accountants can work more efficiently, with greater accuracy, and deliver stronger, data-driven findings in court or during regulatory reviews.

AI Tools in Forensic Accounting

AI is transforming the world of forensic accounting by providing professionals with cutting-edge tools to more effectively detect and investigate financial fraud. Usable advanced fraud detection algorithms can uncover complex and hidden fraud schemes that traditional methods might overlook. AI also utilizes statistical techniques, such as Benford's Law Analysis, to highlight unusual number patterns that could indicate manipulation.

Moreover, network analysis tools like i2 Analyst's Notebook help visualize and map the relationships between different entities, making it easier to reveal hidden connections within fraud networks. Together, these innovative tools significantly improve the accuracy, speed, and depth of forensic investigations.



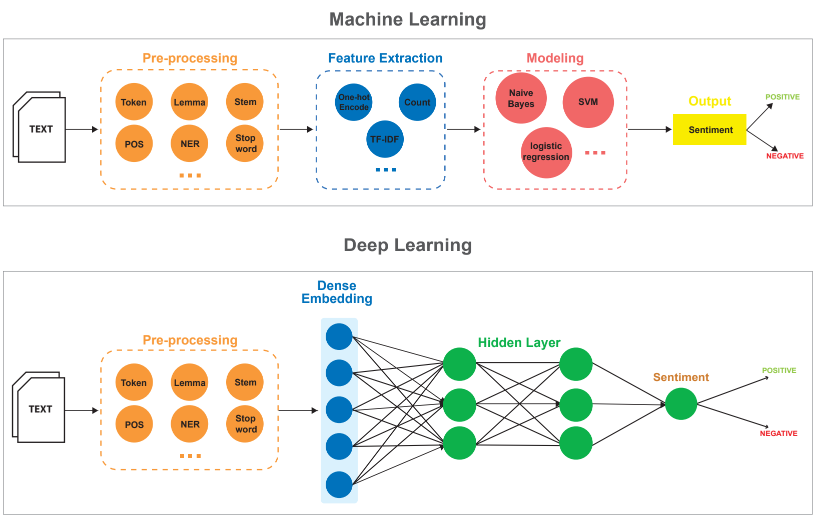
Benefits for CAs

AI has really transformed the world of forensic accounting, making fraud investigations faster and more accurate when it comes to tracking down illegal transactions. Thanks to its ability to sift through and analyze huge amounts of financial data in real time, AI tools can spot hidden anomalies and suspicious patterns with impressive precision. This boost in capability not only speeds up the investigative process but also strengthens litigation support by providing evidence that is data-driven, consistent, and can hold up in court. As a result, forensic accountants are now able to build stronger cases and approach legal actions with a lot more confidence.

Forensic Audit: AI-Powered Investigations

Forensic audits are more than just standard compliance checks; they dig deep to reveal intentional financial misstatements and fraud. Artificial Intelligence is crucial in boosting these investigations with its advanced features, like pattern recognition, which can

Sentiment Analysis Based on



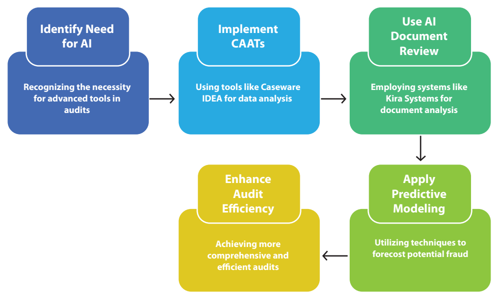
spot hidden entities such as shell companies involved in illegal activities.

Moreover, AI-driven sentiment analysis can help identify misleading or fraudulent communication by examining the tone and context of the language used.

When combined, these technologies empower forensic auditors to uncover intricate schemes more effectively and accurately.

AI Tools in Forensic Audits

AI-powered tools are transforming the world of forensic audits by boosting data analysis and fraud detection capabilities. Computer-Assisted Audit Tools (CAATs) like CaseWare IDEA are fantastic at sifting through massive amounts of transactional data to spot irregularities and suspicious patterns. Meanwhile, AI-driven document review systems like Kira Systems make it easier to pull out important clauses from contracts, which saves time and enhances accuracy.



On top of that, predictive modeling techniques help auditors predict where fraud might occur, enabling them to focus their investigations and manage risks proactively. All these tools work together to help forensic auditors perform more comprehensive and efficient audits.

Benefits for CAs

AI-driven technologies are transforming the way Chartered

Accountants tackle financial crimes. By revealing hidden patterns and anomalies with impressive accuracy, these tools allow for deeper investigations. They also cut down on the time spent on investigations by automating data analysis and making workflows more efficient. Plus, the insights generated by AI offer robust, data-backed legal evidence, which boosts the credibility and effectiveness of cases in court. All these advantages empower CAs to provide top-notch forensic services with greater efficiency and impact.

Capacity Building for CAs: Upskilling with Artificail Intelligent

In today's rapidly changing financial world, Chartered Accountants need to get comfortable with AI to keep up and stay relevant. Those who are adept at using AI technologies really stand out, making them highly desirable to both employers and clients. AI is also essential for navigating the tricky waters of complex regulations like IFRS, other applicable standards, and Anti-Money Laundering laws, helping ensure compliance and minimize risks. Plus, by mastering AI tools, CAs can better uphold their ethical duties by spotting fraud early, which ultimately protects stakeholders' interests and helps maintain trust.

How to Integrate AI into Practice

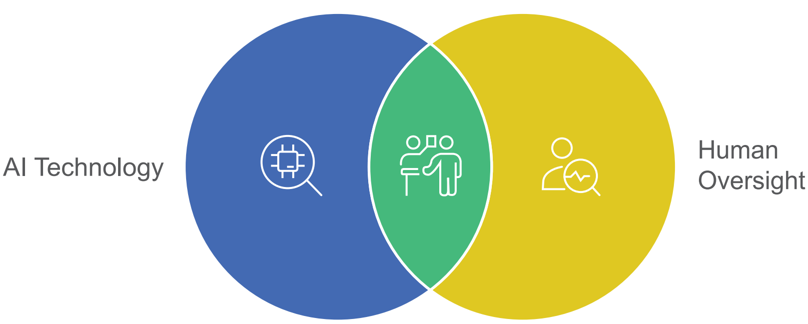
To effectively weave AI into their practice, Chartered Accountants should kick things off by getting trained and certified in AI-driven accounting software. Starting with user-friendly tools can really help build confidence before moving on to more sophisticated forensic and analytics platforms. Plus,

working closely with data scientists and tech experts can offer invaluable insights and support, especially when tackling complex investigations. This collaboration not only bridges the gap between accounting know-how and cutting-edge technology but also leads to more effective and accurate results.

Challenges and Ethical Considerations

While AI brings some amazing benefits to the table, weaving it into accounting and forensic practices isn't without its challenges. One major concern is data privacy, which demands strict compliance with regulations to safeguard sensitive information. Plus, it's crucial that AI models are trained on a wide range of diverse datasets to reduce bias and ensure fair, accurate results. Another big obstacle is the hefty cost of implementation, which can be a tough nut to crack for small and medium-sized firms eager to embrace advanced AI tools. Tackling these challenges with care is key to unlocking AI's full potential in a responsible and ethical way.

Ethical Forensic Practice



Ethical Use of AI in Forensic Work

The ethical use of AI in forensic accounting hinges on being open about when and how these technologies are used in investigations. It's crucial to clearly explain AI's role to everyone involved to foster trust and accountability. Just as important is the need for human oversight - AI should act as a robust support tool that enhances, but never takes the place of, the professional judgment and expertise of forensic accountants.

Striking a balance between technology and human insight is key to upholding ethical standards and ensuring the integrity of investigative results.

AI and the CA Profession

The Chartered Accountant, a prestigious profession, is on the brink of a transformation, thanks to groundbreaking AI innovations. With AI-driven continuous auditing, financial transactions can be monitored in real-time, making it easier to spot fraud and irregularities as they happen. When paired with blockchain technology, AI creates secure and transparent audit trails, boosting trust and accountability. Plus, we're seeing the rise of AI-powered expert systems that act as virtual CA assistants, offering smart support for complex decision-making. All these advancements are set to elevate

the role of CAs, making audits not just smarter and faster, but also more reliable than ever before.

Conclusion

AI is transforming the fields of accounting, auditing, forensic accounting, and forensic auditing, making it essential for Chartered Accountants to adopt these advancements if they want to remain relevant. By leveraging AI tools, CAs can improve accuracy, speed up fraud detection, and enhance their auditing and investigative skills. This dynamic blend of financial know-how and AI expertise allows CAs to move beyond just crunching numbers and become strategic advisors who facilitate informed decision-making in our digital age. The future looks promising for those who embrace AI to uncover new insights and create added value.

Chartered Accountants should proactively get familiar with AI tools relevant to accounting and forensic investigations to stay ahead. Starting with pilot projects that incorporate AI-augmented audits can provide practical experience and demonstrate the technology's benefits firsthand. Staying updated on the latest AI trends through platforms like IFAC, IASB, ISACA, FRC, ICAB and global forums ensures continuous learning and adaptation. By integrating AI into their daily operations, CAs can position themselves as leaders in the rapidly evolving financial landscape, driving innovation and excellence.

Elevating Internal Audit in Bangladesh
A Call for Strategic Integration and Enhanced Awareness

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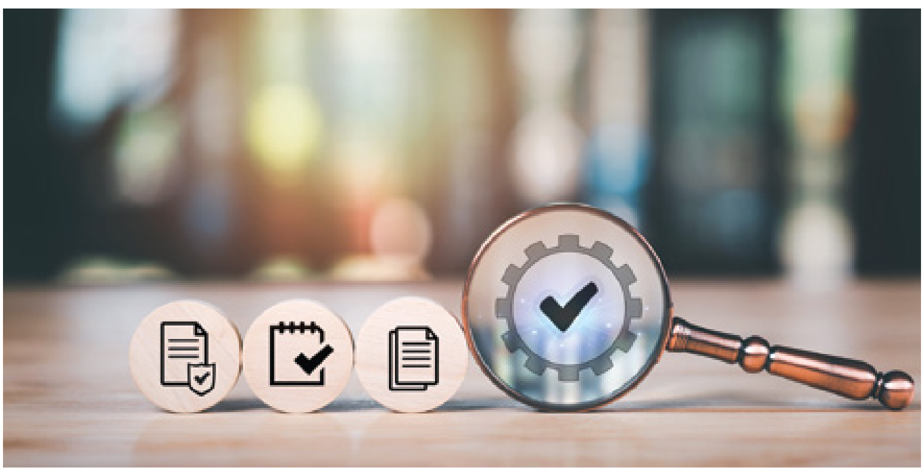
Abstract

This paper revisits the evolving landscape of internal audit in Bangladesh, acknowledging the increasing recognition of its crucial role in bolstering transparency, accountability, and effective governance. Drawing upon updated guidance from the Global Institute of Internal Auditors (IIA) and established professional standards, this analysis highlights the persistent gap in fully understanding and leveraging internal audit's strategic potential across various sectors in Bangladesh. The paper critically examines the enduring challenges that hinder the advancement of the internal audit profession, including resource limitations, perception biases, and insufficient integration with strategic decision-making. Furthermore, it proposes contemporary strategies aligned with global best practices, emphasising enhanced education and advocacy, the imperative to adhere to robust professional standards, fostering a culture of transparency and accountability, and achieving deeper integration within overarching governance frameworks. The exemplary case of BRAC, a leading NGO in Bangladesh, is presented as a practical model for effectively promoting and embedding internal audit within an organisation. Ultimately, this paper issues a renewed call for a collaborative and proactive approach involving businesses, NGOs, regulatory bodies, and professional associations to transform internal audit from a predominantly compliance-focused function into a strategic and indispensable partner in the pursuit of organisational excellence and sound governance in Bangladesh.



The article was reviewed by ***Bhola Nath Kundu*** *FCA*

Elevating Internal Audit in Bangladesh

A Call for Strategic Integration and Enhanced Awareness

Keywords

Internal Audit, Governance, Risk Management, Compliance, Internal Control, Bangladesh, Awareness, Challenges, Strategies, organisational Culture, Strategic Integration, Global IIA Standards.

Introduction

In today's dynamic and increasingly complex organisational landscape, the imperative for robust internal controls and effective governance mechanisms has never been more critical. Internal auditing is an independent, objective assurance and advisory service designed to add value and improve an organisation's operations. It helps an organisation accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of governance, risk management, and control processes①. While the significance of internal audit continues to gain traction in Bangladesh, as evidenced by the ongoing efforts of the Institute of Internal Auditors Bangladesh, a notable disparity persists between the common perception of its role and its potential to drive strategic organisational values. This paper builds upon previous analysis by incorporating updated guidance from the Global IIA and other relevant standards to re-examine the state of internal audit awareness in Bangladesh, critically assess the enduring challenges impeding its progress, and propose contemporary strategies to elevate its role and impact on organisational success.

Internal Audit Awareness in Bangladesh: A Persistent Need for Advancement

The level of understanding and appreciation for the strategic value of internal audit in Bangladesh remains uneven across different sectors and organisational structures. While some forward-thinking corporate entities increasingly recognise internal audit as an essential partner in strengthening their governance, risk management, and compliance (GRC) architectures, a significant portion of organisations, particularly smaller enterprises, still primarily view it as a function focused on regulatory adherence. This narrow perspective often overlooks the proactive and strategic contributions that a mature and well-resourced internal audit function can provide in identifying emerging risks, optimising operational efficiencies, and offering insightful recommendations for continuous improvement②. Closing this persistent awareness gap necessitates a sustained and targeted effort to effectively communicate and demonstrate the tangible and strategic value that internal audit brings to an organisation's overall performance, resilience, and long-term sustainability.

Contemporary Factors Influencing Internal Audit Awareness

The landscape of factors shaping internal audit awareness in Bangladesh continues to evolve, influenced by both internal organisational dynamics and external environmental forces:

Internal Factors

- **Executive Leadership Engagement:** The active involvement and advocacy of executive leadership championing the internal audit function remains paramount. Organisations where leaders actively engage with internal audit, consider its findings, and integrate its recommendations into strategic decision-making foster a greater understanding and appreciation for its value across the organisation.

- **Strategic Resource Allocation:** The commitment of adequate financial, human, and technological resources to the internal audit function is a tangible indicator of its perceived importance. organisations that strategically invest in qualified professionals, comprehensive training programs aligned with the IIA's Professional Certification Board (PCB)

requirements, and contemporary audit technologies empower the internal audit department to deliver greater value and enhance its visibility.

- **Embedding a Risk-Aware Culture:** Cultivating an organisational culture that embraces risk awareness, ethical conduct, and continuous improvement provides a conducive environment for internal audit to operate effectively. When internal audit is perceived as a collaborative partner in achieving organisational objectives and managing risks, its contributions are more readily acknowledged and valued.

External Factors

- **Evolving Regulatory and Governance Frameworks:** The dynamic regulatory landscape in Bangladesh, coupled with an increasing emphasis on robust corporate governance practices aligned with international standards, continues to drive greater attention towards internal controls and the critical role of internal audit in ensuring compliance and ethical conduct.

- **Adoption of Global Standards and Best Practices:** The increasing interconnectedness of the global economy and the aspirations of Bangladeshi organisations to align with international norms are driving the adoption of global internal audit standards and best practices, as promulgated by the Global IIA. This exposure fosters a greater understanding of the profession's potential and expectations.

- **The Role of Professional Bodies and Knowledge Sharing:** The active engagement and advocacy of professional organisations like the Institute of Internal Auditors Bangladesh (IIAB)[6], in collaboration with the Global IIA, are crucial in raising awareness, promoting adherence to the International Standards for the Professional Practice of Internal Auditing (the Standards), and facilitating knowledge sharing and professional development within the internal audit community[3].

Enduring Challenges Impeding Internal Audit Effectiveness in Bangladesh

Despite progress, several persistent challenges continue to hinder the optimal

effectiveness and broader recognition of the internal audit profession in Bangladesh:

- **Persistent Misconceptions Regarding Role and Value:** A significant challenge remains the limited understanding among stakeholders regarding the full scope and strategic value of internal audit. The tendency to view it primarily as a compliance function, focused on detecting errors and fraud, often overshadows its potential to provide strategic insights, enhance risk management capabilities, and drive operational efficiencies. Targeted educational initiatives, aligned with the IIA's guidance on communicating value, are essential to address this misconception.

- **Ongoing Resource Constraints:** Many organisations in Bangladesh, particularly SMEs and certain public sector entities, continue to grapple with limitations in recruiting and retaining qualified internal audit professionals, providing adequate and ongoing professional development opportunities aligned with the IIA's Continuing Professional Education (CPE) requirements, and investing in contemporary audit technologies and data analytics capabilities. These resource constraints directly impact the scope, depth, and effectiveness of internal audit engagements.

- **Deep-Rooted Perception Issues and organisational Culture:** The perception of internal auditors as solely fault-finders or "internal police" can foster resistance and impede open communication and collaboration. Cultivating an organisational culture that embraces internal audit as a trusted advisor and a valuable partner in achieving organisational objectives, as emphasized in the IIA's guidance on organisational relationships, is crucial for building trust and maximising its impact.

- **Suboptimal Integration with Strategic Decision-Making Processes:** Internal audit functions in Bangladesh often struggle to achieve meaningful integration into strategic planning and decision-making processes. This lack of early involvement limits their ability to provide timely and relevant risk assessments and insights on strategic initiatives. Proactive engagement through regular interactions with the board and senior management, as advocated in the IIA's guidance on the role of internal audit in strategic management, is vital to overcome this challenge④.

Contemporary Strategies for Strengthening Internal Audit in Bangladesh

To effectively address the persistent challenges and

elevate the internal audit profession in Bangladesh in alignment with global standards and best practices, a comprehensive and forward-looking approach is required:

- **Strategic Awareness Enhancement Through Education and Advocacy:** Collaborative and sustained initiatives involving organisations, the IIAB, and other relevant stakeholders are crucial for strategically enhancing awareness regarding the strategic value proposition of internal audit. This includes developing targeted educational programs, conducting workshops and seminars that highlight the strategic contributions of internal audit (as outlined in IIA practice guides), and disseminating compelling case studies and success stories that demonstrate tangible business impact.

- **Upholding and Strengthening Professional Standards and Qualifications:** Emphasising the paramount importance of adhering to the International Standards for the Professional Practice of Internal Auditing (the Standards) and promoting globally recognised professional certifications, such as the Certified Internal Auditor (CIA), are fundamental to enhancing the credibility and competence of internal auditors in Bangladesh. Organisations should actively support their internal audit staff in pursuing relevant certifications and provide ample opportunities for ongoing professional development aligned with the IIA's CPE requirements to ensure they remain abreast of evolving risks and audit methodologies.

- **Cultivating a Robust Culture of Transparency and Accountability:** organisations must actively foster a culture that prioritises transparency, ethical conduct, and accountability at all levels, aligning with the ethical principles outlined in the IIA's Ethics and Professionalism (Domain II). This involves establishing clear ethical frameworks, promoting open and honest communication channels, and ensuring that internal audit findings are treated with due seriousness and acted upon promptly and effectively.

- **Achieving Strategic Integration within Governance Frameworks:** To ensure that internal audit contributes strategically, it is imperative to seamlessly integrate the function within the organisation's overall governance framework, as recommended by the IIA's guidance on governance. This includes establishing clear reporting lines to the board of directors or audit committee, ensuring regular and meaningful communication of audit findings and recommendations, and proactively seeking internal audit's insights during strategic planning and key decision-making processes.

- **Fostering Collaboration and Knowledge Sharing:** Encouraging robust collaboration and the active sharing of knowledge and best practices among internal audit professionals across various organisations and sectors in Bangladesh is essential for collectively elevating the profession's effectiveness. The IIAB, in collaboration with the Global IIA, can play a pivotal role in facilitating networking events, establishing online platforms for knowledge exchange, and promoting the adoption of innovative audit techniques and technologies.

BRAC: A Continuing Model for Internal Audit Promotion[5]

BRAC, a prominent global development organisation with its origins in Bangladesh, is an impressive model for effectively promoting and embedding an Internal Audit Function. BRAC's approach demonstrates that a robust Internal Audit function is not merely a compliance requirement but a fundamental element for sustainable growth and accountability.

Key Aspects of BRAC's Successful Internal Audit Model Include:

- **Early Institutionalisation:** BRAC proactively established its Internal Audit function early in its development, recognising it as foundational for effective resource management and long-term sustainability, rather than implementing it as a reaction or external mandate. This early focus fostered a culture of proactive risk management and accountability.

- **Strong Governance Oversight:** Dedicated Board Audit Committees provide strong oversight, championing the Internal Audit function, ensuring its independence, approving its mandate and resources, and monitoring its performance and the implementation of

recommendations. The BRAC Internal Audit Department is structured to ensure independence through clear reporting lines, facilitating direct access to the Audit Committee. This high-level engagement is crucial for the function's authority and effectiveness.

- **Formal Framework and Standards Adherence:** The BRAC Internal Audit Department operates under a formal, board-approved Internal Audit Charter aligned with international standards from the IIA and ISACA. This charter clearly defines the purpose, authority (including unrestricted access), and responsibility of internal audit, positioning it to create, protect, and sustain value through independent, risk-based, and objective assurance, advice, insight, and foresight. BRAC Internal Audit Department's commitment to adhering to the IIA's International Professional Practices Framework (IPPF) and ISACA standards, along with a formal Quality Assurance and Improvement Team (QAIT), ensures professionalism and continuous improvement.

- **Risk-Based Approach:** BRAC adopts a Risk-Based Internal Auditing (RBIA) methodology, focusing audit efforts on areas of highest risk to the organisation's strategic objectives. This approach ensures that Internal Audit resources are utilised effectively and that the function directly contributes to managing critical vulnerabilities.

- **Comprehensive Scope and Value Addition:** BRAC's internal audit function adopts a comprehensive scope, encompassing financial, operational, compliance, technology, and programmatic areas. Beyond traditional assurance, the function provides strategic insights, foresight, and advisory, including initiatives to

According to the ***IIA's Vision 2035 report****, the proportion of internal audit activities dedicated to advisory services is projected to increase from 24% to 41%.*

enhance processes and controls and foster a shared responsibility for good governance. In alignment with the IIA's Vision 2035, which highlights the growing expectation for internal audit to assume a more strategic advisory role ⑦, the Internal Audit Department is prioritising value-added advisory services that support informed decision-making and enhance organisational resilience.

- **Integrated Approach to Professional Expertise and Technology:** BRAC strengthens its Internal Audit (IA) function by combining strategic investment in human capital and technological innovation. The organisation ensures leadership roles are held by professionals with nationally and internationally recognised certifications, while prioritising continuous staff development and recruiting auditors from diverse professions—including IT professionals, doctors, engineers, architects, and agriculturists—to foster a dynamic, multidisciplinary workforce. This blend of expertise enhances audit credibility, adaptability, and impact. Simultaneously, BRAC leverages its custom-built eAudit software to streamline processes, driving operational efficiency and effectiveness. To strengthen staff capabilities in responding to evolving risks and compliance requirements, the organisation emphasises capacity development in key areas such as integrating data analytics into audit planning, ensuring ESG compliance, and safeguarding security in the use of technological tools. Together, these investments in people and technology create a robust framework for addressing complex, evolving challenges and delivering high-quality audit outcomes.

- **Sustained Internal Communication and Engagement:** BRAC maintains consistent internal communication campaigns across various channels to reinforce the critical role and value of internal audit to its diverse workforce. Regularly sharing success stories and highlighting the positive impact of internal audit activities helps to maintain a strong understanding and appreciation for the function.

- **Proactive Engagement and Collaborative Partnerships:** BRAC continues to foster proactive engagement and collaborative partnerships between the internal audit department and other operational units. By actively involving internal auditors in process improvement initiatives and clearly demonstrating the value they bring to these collaborations, BRAC reinforces the perception of internal audit as a trusted and strategic partner in achieving organisational goals.

BRAC's operational model demonstrates that a resilient and strategically embedded Internal Audit function hinges on several foundational elements: unwavering executive support, rigorous adherence to independence and globally recognised professional standards, a proactive risk-oriented methodology, initiatives that transcend compliance to generate organisational value, and sustained investments in talent development and technological innovation. These principles fortify governance frameworks and provide a replicable approach to institutionalise audit practices that enhance transparency, adaptability, and sustainable impact.

Conclusion

The internal audit profession in Bangladesh holds transformative potential to strengthen organisational integrity, accountability, effective governance, and strategic resilience. Despite persistent challenges, such as limited awareness, resource constraints, and insufficient integration with decision-making, these barriers can be overcome through targeted strategies aligned with global standards. Elevating the function demands enhanced advocacy, adherence to IIA frameworks, investment in skilled talent and technology, and fostering a culture of transparency. BRAC's exemplary model demonstrates that proactive institutionalisation, risk-based methodologies, and strategic integration can position internal audit as a driver of sustainable value. Stakeholders across sectors must now collaborate to champion internal audit as an indispensable partner in achieving organisational excellence and strengthening governance frameworks. This collective effort will ensure the profession evolves from a compliance tool to a cornerstone of strategic foresight and ethical stewardship.

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The Future of FinTech in Bangladesh in the Era of Industrial Revolution 4.0
Prospects and Challenges

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Abstract

The rapid integration of IR 4.0 technologies, including artificial intelligence, blockchain, Internet of Things (IoT), and big data, is reshaping financial ecosystems worldwide, with significant implications for the FinTech sector. This study explores the future prospects and challenges of FinTech in Bangladesh in the context of the Fourth Industrial Revolution (4IR). The research aims to identify opportunities for innovation, assess barriers to growth, and evaluate the readiness of Bangladesh to adapt to emerging FinTech ecosystem. Using a qualitative approach, data were collected through in-depth interviews with FinTech leaders, policymakers, and technology experts, supplemented by document analysis. A thematic analysis was conducted to extract insights, revealing four key themes: (1) significant prospects for financial inclusion and digital transformation, (2) challenges related to regulatory frameworks and technological infrastructure, (3) the crucial role of stakeholder collaboration, and (4) Bangladesh's readiness for embracing 4IR technologies. The findings have important implications for policymakers, financial institutions, and technology providers, offering strategies to foster FinTech growth while addressing systemic challenges. Future research directions are also suggested.

Keywords

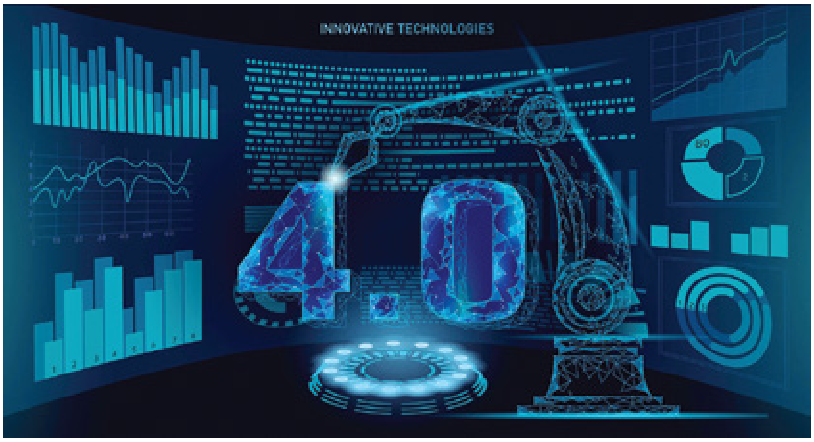
FinTech, IR 4.0, Bangladesh, Financial Inclusion, Technological Innovation, Regulatory Challenges

Introduction

The Fourth Industrial Revolution (4IR) has ushered in transformative changes across industries, driven by technological advancements in artificial intelligence (AI), blockchain, the Internet of Things (IoT), and big data.

Financial Technology (FinTech), a pivotal subset of these developments, has emerged as a disruptive force in the financial sector, revolutionizing the delivery of financial services (Hassan et al., 2022; Islam et al., 2023). In Bangladesh, FinTech has demonstrated significant growth over the last decade, catalyzed by the increasing penetration of mobile banking, digital wallets, and online payment platforms (Mhlanga, 2022; Polas et al., 2025). Yet, the convergence of FinTech with IR 4.0 technologies has created both opportunities and challenges, positioning the sector at a critical juncture. This study explores the prospects and challenges of FinTech in Bangladesh in the era of IR 4.0, emphasizing its potential to reshape financial ecosystems and promote sustainable development (Taher & Tsuji, 2022; Jahanshahi et al., 2023).

Bangladesh has made notable progress in digital financial inclusion, fueled by a rapid rise in mobile phone and internet penetration. Platforms like bKash, Nagad, and Rocket have revolutionized payment systems, enabling millions of unbanked and underbanked individuals to access financial services (Afrin et al., 2020; Khan, 2023). Despite these successes, the adoption of advanced 4IR technologies such as blockchain for secure transactions, AI for personalized financial services, and IoT for data-driven decision-making remains nascent. While global



markets increasingly embrace these innovations, Bangladesh faces unique challenges, including limited technological infrastructure, regulatory hurdles, and skill gaps. IR 4.0, characterized by the seamless integration of cyber-physical systems, presents unparalleled opportunities to elevate FinTech in Bangladesh (Rashid, 2020; Sikder et al., 2021). For instance, AI can enhance fraud detection, blockchain can ensure transparency in financial transactions, and big data can facilitate better customer insights. However, these opportunities also bring challenges, including data security, resistance to change in traditional financial institutions, and the need for comprehensive regulatory frameworks to support innovation. Understanding this duality is crucial for ensuring FinTech's sustainable growth in Bangladesh.

The future of FinTech in Bangladesh is inextricably tied to its ability to adapt to 4IR technologies. As the global financial landscape becomes increasingly digitized, the inability to adopt these innovations could hinder Bangladesh's economic growth and its aspirations to become a middle-income country by 2030. Moreover, FinTech has the potential to address critical socio-economic challenges, such as financial exclusion, inefficient banking processes, and a lack of transparency in financial transactions (Hossain, 2024). For instance, blockchain can reduce corruption, and AI-driven financial services can provide personalized solutions to underserved communities.

Given that FinTech operates at the intersection of technology and finance, its evolution in the 4IR era has significant implications for economic growth, poverty reduction, and financial inclusion in Bangladesh. Understanding the prospects and challenges of this sector can provide valuable insights for policymakers, financial institutions, and technology providers, enabling them to design strategies for sustainable development (Polas et al., 2019; Rahman & Shakil, 2021).

While there is extensive literature on the impact of IR 4.0 technologies on FinTech globally, studies focusing on Bangladesh remain limited. Existing research tends to emphasize the technical aspects of FinTech or its role in financial inclusion without adequately addressing the interplay between 4IR technologies and the unique socio-economic context of Bangladesh. Furthermore, the challenges posed by regulatory constraints, infrastructure limitations, and consumer readiness have not been thoroughly examined in the Bangladeshi context. This research is motivated by the need to fill these gaps and provide a comprehensive understanding of the future of FinTech in Bangladesh within the 4IR framework. By identifying the key drivers, barriers, and readiness factors, the study aims to contribute to the growing body of knowledge on FinTech while offering actionable insights for stakeholders.

The primary objective of this study is to examine the prospects and challenges of FinTech in Bangladesh in the era of IR 4.0. Specifically, the study aims to:

- Identify the opportunities presented by 4IR technologies for the FinTech sector in Bangladesh.
- Analyze the challenges that hinder the adoption and growth of FinTech in the country.
- Evaluate the readiness of stakeholders, including financial institutions, policymakers, and consumers, to adapt to the 4IR-driven FinTech landscape.
- Provide recommendations for fostering sustainable FinTech development in Bangladesh.

To achieve these objectives, the study addresses the following research questions:

- What are the key drivers of FinTech innovation in Bangladesh within the IR 4.0 framework?
- What challenges hinder the growth and adoption of FinTech in the country?
- How prepared are Bangladeshi stakeholders, including financial institutions, policymakers, and consumers, to embrace IR 4.0 technologies in the FinTech sector?
- What strategies can be implemented to overcome the challenges and maximize the opportunities for FinTech in Bangladesh?

The rapid advancement of IR 4.0 technologies offers immense potential to transform the FinTech sector in Bangladesh. However, the sector's future depends on its ability to navigate challenges and leverage opportunities effectively (Mahmud, 2024). By addressing critical research gaps, this study aims to provide a holistic understanding of FinTech's prospects and challenges in the Bangladesh context, offering valuable insights for academics, practitioners, and policymakers.

2.0 Literature Review

Overview of IR 4.0 Technologies and Their Relevance to FinTech

IR 4.0 represents the integration of digital, physical, and biological systems, driven by advancements in technologies such as artificial intelligence (AI), blockchain, the Internet of Things (IoT), big data analytics, and cloud computing. These technologies are reshaping industries globally, including financial services, by enabling more efficient, secure, and user-centric solutions (Ferraro et al., 2024). AI has emerged as a transformative tool in the financial sector, offering capabilities such as fraud detection, personalized financial planning, and predictive analytics. AI-driven chatbots and virtual assistants are streamlining customer service processes, while machine learning algorithms are being deployed to assess creditworthiness and manage risk (Soni et al., 2022). Blockchain, with its decentralized and tamper-proof ledger system, is revolutionizing transaction security, reducing

fraud, and enhancing transparency in areas like cross-border payments, digital identities, and smart contracts. Similarly, IoT is enabling real-time data collection and analysis, which is essential for risk assessment and customer behavior insights in financial services (Muhammad et al., 2022)

These technologies collectively form the backbone of the FinTech revolution, enabling financial institutions and technology providers to innovate and cater to the needs of a digitally savvy consumer base. In the Bangladeshi context, the relevance of these technologies is underscored by the growing demand for efficient, secure, and inclusive financial services, particularly in underserved rural areas. However, their adoption remains limited due to infrastructural, regulatory, and socio-economic barriers.

Evolution and Current State of FinTech in Bangladesh

The FinTech sector in Bangladesh has witnessed significant growth over the past decade, driven by the rapid expansion of mobile phone and internet penetration. According to the Bangladesh Telecommunication Regulatory Commission (BTRC), the country had over 128 million internet users by 2023, creating a fertile ground for digital financial services (Islam & Mia, 2024). The introduction of mobile financial services (MFS) such as bKash, Nagad, and Rocket has revolutionized the way people conduct financial transactions, making it possible for millions of unbanked and underbanked individuals to access banking services. Despite these successes, the Bangladeshi FinTech ecosystem is still in its nascent stages compared to global counterparts. The sector is primarily dominated by payment solutions, with limited penetration of advanced FinTech services such as robo-advisors, peer-to-peer lending platforms, and blockchain-based solutions. Furthermore, regulatory frameworks are still evolving, and there is a significant gap in the adoption of 4IR technologies like AI, blockchain, and IoT in the financial sector (Huda et al., 2024). The government has taken steps to promote digital financial inclusion through initiatives like the Digital Bangladesh Vision 2021, but more comprehensive strategies are required to integrate 4IR technologies into the FinTech ecosystem.

Prospects and Challenges for FinTech in the Global and Bangladeshi Contexts

Global Prospects and Challenges

Globally, the FinTech industry is poised for exponential growth, driven by technological advancements and changing consumer behavior. According to market research, the global FinTech market is expected to reach USD 305 billion by 2025, fueled by innovations in digital banking, payments, and

blockchain solutions (Venaik et al., 2024). FinTech is playing a critical role in fostering financial inclusion, especially in developing countries, by providing affordable and accessible financial services. Additionally, 4IR technologies are enabling real-time payments, enhancing cybersecurity, and creating personalized customer experiences (Gurrea-Martínez & Remolina, 2020).

However, the global FinTech sector faces several challenges. Regulatory uncertainty, cybersecurity risks, and a lack of standardization are significant barriers to growth. The rapid pace of technological innovation often outstrips the ability of regulators to keep up, creating compliance issues for FinTech companies. Additionally, the increasing reliance on digital platforms has heightened concerns about data privacy and security, particularly in the wake of high-profile cyberattacks and data breaches (Ediagbonya & Tioluwani, 2023).

Bangladeshi Prospects and Challenges

In Bangladesh, the FinTech sector holds immense potential to drive economic growth, improve financial inclusion, and bridge the urban-rural divide. The widespread adoption of MFS platforms has already demonstrated the country's readiness for digital financial services (Imtiaz et al., 2024). The integration of 4IR technologies can further enhance the efficiency, transparency, and security of financial services, opening up new avenues for innovation. For instance, blockchain can streamline supply chain financing, while AI can improve credit risk assessment for small and medium-sized enterprises (SMEs) (Bhuiyan et al., 2023)

Despite these prospects, the sector faces several challenges. Infrastructural limitations, such as unreliable internet connectivity and inadequate digital infrastructure, hinder the adoption of advanced FinTech solutions. Regulatory barriers, including outdated financial policies and a lack of clear guidelines for emerging technologies, pose additional obstacles (Ahmed & Hasan, 2021). Moreover, the socio-economic context of Bangladesh, characterized by low financial literacy and resistance to change, presents significant challenges for FinTech adoption. Addressing these issues requires a collaborative approach involving the government, financial institutions, and technology providers (Mahmud et al., 2022).

Theoretical Framework for Analyzing the Findings

To analyze the prospects and challenges of FinTech in Bangladesh within the 4IR context, this study adopts the Technology-Organization-Environment (TOE) Framework. The TOE framework provides a holistic lens to understand the adoption of technological innovations by considering three critical dimensions:

Technological Context: This dimension examines the characteristics of 4IR technologies, such as AI, blockchain, and IoT, and their suitability for the FinTech sector in Bangladesh. It includes factors like compatibility, complexity, and relative advantage.

Organizational Context: This dimension focuses on the readiness of financial institutions and technology providers to adopt 4IR technologies. It considers factors like organizational culture, resource availability, and top management support.

Environmental Context: This dimension analyzes the external factors influencing FinTech adoption, including regulatory frameworks, market competition, and socio-economic conditions.

The TOE framework is particularly relevant for this study as it allows for a comprehensive analysis of the multi-faceted factors influencing FinTech adoption in Bangladesh. By examining the interplay between technological, organizational, and environmental factors, the framework provides valuable insights into the opportunities and challenges facing the sector. The literature highlights the transformative potential of 4IR technologies for the global and Bangladeshi FinTech sectors, offering significant opportunities for innovation and financial inclusion. However, the adoption of these technologies in Bangladesh is constrained by infrastructural, regulatory, and socio-economic challenges. By adopting the TOE framework, this study aims to provide a nuanced understanding of the factors influencing FinTech adoption in Bangladesh, offering actionable insights for policymakers, financial institutions, and technology providers.

Research Methodology

Research Design

This study adopts a qualitative research approach to explore the future prospects and challenges of FinTech in Bangladesh in the context of the Fourth Industrial Revolution (4IR). Qualitative methods are particularly suited for gaining an in-depth understanding of complex phenomena, such as the intersection of FinTech and 4IR technologies, by emphasizing participants' perspectives and contextual factors. Since the study focuses on subjective insights from industry leaders, policymakers, academics, and consumers, a qualitative approach provides the flexibility and depth necessary to capture nuanced dynamics, including socio-economic and regulatory influences. Furthermore, qualitative research allows for the exploration of emerging themes and patterns that may not be evident in quantitative studies.

Data Collection Methods

The primary data for this study was collected through in-depth, semi-structured interviews with stakeholders from different domains within the FinTech ecosystem. These included: CEOs, managers, and technology officers from leading FinTech companies in Bangladesh, who provided insights into industry trends, opportunities, and challenges; Representatives from regulatory bodies and government agencies, who discussed the policy landscape, regulatory hurdles, and strategic initiatives; Scholars and researchers with expertise in FinTech and IR 4.0 technologies, who contributed theoretical perspectives and

contextual analysis; End-users of FinTech services, who shared their experiences, expectations, and concerns regarding digital financial solutions (Polas, 2024). A total of 20 interviews were conducted, with participants selected through purposive and snowball sampling to ensure diversity in perspectives. Interviews were recorded, transcribed, and analyzed to identify recurring themes and insights.

Secondary data was gathered through document analysis of relevant reports, policies, and academic literature. Key sources included government publications, regulatory guidelines from the Bangladesh Bank, reports by international organizations (e.g., World Bank, IMF), and scholarly articles on FinTech and 4IR technologies. Document analysis provided a broader context for understanding the macro-level factors influencing the FinTech sector in Bangladesh and complemented the insights from interviews.

Data Analysis

Thematic analysis was used to analyze the qualitative data collected in this study. This method involves identifying, analyzing, and reporting patterns (themes) within the data. Thematic analysis was chosen for its flexibility and capacity to generate rich, detailed insights. The analysis followed the six-step process outlined by Braun and Clarke (2006): Transcriptions and documents were reviewed multiple times to gain an initial understanding. Key phrases and ideas were coded systematically across the dataset. Codes were grouped into broader themes based on similarities and relationships. Themes were refined to ensure they accurately represented the data. Each theme was clearly defined and labeled to reflect its essence. Themes were synthesized to align with the study's research objectives and questions.

The scope of this study is focused on the FinTech sector in Bangladesh, with an emphasis on its interaction with 4IR technologies. While the study offers valuable insights, several limitations should be acknowledged: As a qualitative study, the findings are context-specific and may not be generalizable to other countries or regions. The relatively small sample size (20 interviews) may not fully capture the diversity of perspectives within the FinTech ecosystem. Insights from interviews are subject to participant biases, which could influence the findings. The rapid evolution of FinTech and 4IR technologies may render some findings outdated as new trends emerge. Despite these limitations, the study provides a comprehensive understanding of the prospects and challenges for FinTech in Bangladesh, contributing to the broader discourse on digital financial innovation in the 4IR era.

Findings

Key Themes Identified (Aligned with Research Objectives)

Theme 1: Prospects of FinTech in IR 4.0

The Fourth Industrial Revolution (4IR) introduces transformative opportunities for FinTech in Bangladesh, driving innovation

across payments, lending, and financial inclusion. FinTech companies are leveraging 4IR technologies such as artificial intelligence (AI), blockchain, the Internet of Things (IoT), and big data to develop advanced financial solutions. For instance, AI-powered chatbots and credit-scoring algorithms enable faster, personalized banking experiences, while blockchain enhances transaction security and transparency. In Bangladesh, where 55% of the population remains unbanked (World Bank, 2023), FinTech solutions such as mobile banking and digital wallets, supported by IoT and big data, are driving financial inclusion in rural areas. Stakeholder interviews highlighted the rapid growth of mobile financial services (e.g., bKash, Nagad), which now cater to over 100 million users.

Moreover, blockchain technology is fostering trust in digital transactions, a crucial factor in overcoming the low confidence in traditional banking. Policymakers and FinTech leaders emphasized that integrating big data analytics can optimize customer insights and risk management, offering scalable financial solutions tailored to underserved segments. These advancements position FinTech as a key driver of economic transformation in Bangladesh, creating pathways for innovation, inclusive growth, and alignment with the global FinTech ecosystem. However, capitalizing on these prospects requires robust regulatory frameworks and technological infrastructure.

Theme 2: Challenges for FinTech in IR 4.0

Despite the promising prospects, FinTech in Bangladesh faces several challenges in the context of the Fourth Industrial Revolution (4IR), which may hinder its growth and adoption. The FinTech industry operates in a nascent regulatory environment. Stakeholders, including policymakers and industry leaders, noted the lack of clear and adaptive regulations, which limits innovation. Regulatory delays in implementing policies for blockchain and digital lending, for instance, discourage investment and slow technological adoption. Bangladesh's digital ecosystem remains underdeveloped, with inconsistent internet connectivity and limited access to high-speed networks, particularly in rural areas. These infrastructure deficits make the deployment of advanced technologies like IoT and AI challenging.

FinTech services are vulnerable to cyberattacks, with limited consumer awareness about digital security exacerbating the problem. Interviews revealed that concerns about data privacy and transaction fraud undermine trust, particularly among first-time users. Traditional financial institutions often resist adopting 4IR technologies due to entrenched processes and fear of disruption. This resistance, combined with a lack of skilled workforce to manage new technologies, slows down the integration of innovative solutions into mainstream financial systems. Addressing these challenges requires coordinated efforts among

regulators, industry leaders, and stakeholders to build a secure, inclusive, and robust FinTech ecosystem in Bangladesh.

Theme 3: Role of Stakeholders

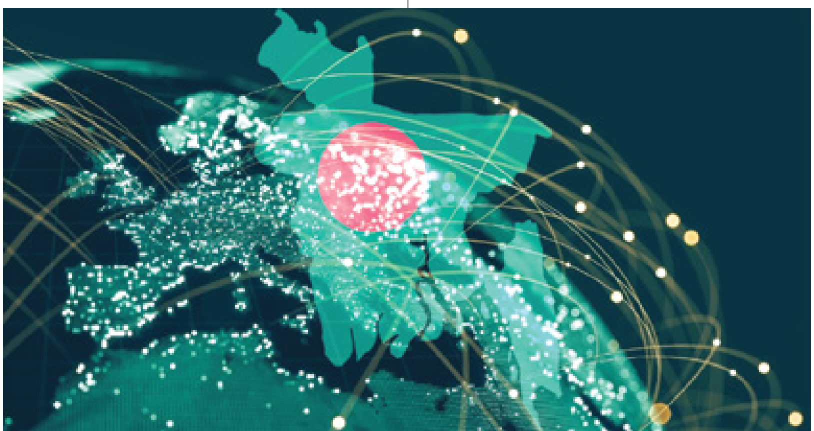
The future of FinTech in Bangladesh under the Fourth Industrial Revolution (4IR) heavily depends on the active collaboration and engagement of key stakeholders, including the government, financial institutions, technology providers, and consumers. Government agencies, financial institutions, and technology providers must work together to create a conducive ecosystem for FinTech growth. Policymakers emphasized the need for adaptive regulatory frameworks to encourage innovation while safeguarding consumers. Financial institutions, in turn, need to partner with technology providers to modernize their operations and deliver seamless digital financial solutions. For instance, partnerships between mobile financial services (e.g., bKash) and traditional banks have already proven effective in expanding financial inclusion.

Despite the availability of innovative FinTech solutions, consumer adoption remains a challenge due to limited awareness and digital literacy. Many users, particularly in rural areas, are hesitant to adopt digital platforms due to a lack of trust and understanding. Stakeholders highlighted the need for targeted consumer education campaigns to build confidence in FinTech services and promote digital financial literacy. By fostering collaboration and addressing adoption barriers, stakeholders can drive widespread acceptance and integration of FinTech solutions, enabling the sector to thrive and contribute to economic transformation in Bangladesh.

Theme 4: Readiness of Bangladesh for IR 4.0

Bangladesh's readiness to embrace the Fourth Industrial Revolution (4IR) in the FinTech sector is a mix of progress and significant challenges, driven by its infrastructure, talent pool, and policy landscape. While Bangladesh has made strides in digital transformation, including the expansion of mobile financial services, critical infrastructure gaps remain. Internet penetration is improving but is still below regional averages, particularly in rural areas. The country's talent pool, while growing, lacks expertise in advanced 4IR technologies such as blockchain, AI, and IoT, which limits the development of innovative solutions. Policies supporting FinTech are emerging but remain fragmented, with insufficient coordination between regulators and industry players.

Neighboring countries like India and Indonesia provide valuable benchmarks, showcasing how robust policies and investments in education and infrastructure can accelerate FinTech growth. India's Unified Payments Interface (UPI) and Indonesia's digital banking initiatives have set examples of successful public-private collaboration. Bangladesh can leverage these insights to enhance its preparedness by focusing on scalable infrastructure, workforce upskilling, and a unified regulatory framework. To



fully capitalize on 4IR opportunities, Bangladesh must address these gaps and adopt a strategic, collaborative approach, positioning itself as a competitive player in the regional FinTech ecosystem.

Discussion

This study explores the prospects and challenges for FinTech in Bangladesh in the context of the Fourth Industrial Revolution (4IR), focusing on the potential impact of emerging technologies like AI, blockchain, IoT, and big data. The findings reveal a rapidly evolving landscape where innovation in payments, lending, and financial inclusion offers transformative potential for the Bangladeshi economy. These findings align with prior research highlighting how 4IR technologies are reshaping financial services globally (Arner et al., 2016; Chuen, 2017), providing opportunities for inclusive growth and enhanced financial services for underbanked populations. For instance, the expansion of mobile banking and digital wallets in Bangladesh has already reached millions of unbanked citizens, reinforcing the role of FinTech in enhancing financial inclusion (Hasan & Islam, 2020).

However, the challenges identified in the study—such as regulatory hurdles, technological infrastructure gaps, and cybersecurity concerns—are consistent with global trends. As noted by Gozman et al. (2018), regulatory uncertainty and cybersecurity issues continue to be significant barriers to FinTech growth in emerging markets. These findings underscore the need for stronger collaboration between regulators, financial institutions, and technology providers to address these challenges. The role of stakeholders, particularly in fostering collaboration between the government, financial institutions, and consumers, emerged as a crucial aspect for FinTech's future. This resonates with earlier studies (Ozili, 2020) that emphasize the importance of public-private partnerships and consumer education for driving FinTech adoption. Stakeholder cooperation is essential not only for enhancing infrastructure but also for building consumer trust and addressing adoption barriers, particularly in rural areas.

Implications of the Study

FinTech Stakeholders in Bangladesh

For FinTech stakeholders in Bangladesh, these findings highlight several key implications. Financial institutions and technology providers must embrace innovation while addressing regulatory and infrastructure challenges. In this regard, stakeholders should prioritize partnerships with local telecom companies and educational institutions to improve digital literacy and foster a skilled workforce. The integration of 4IR technologies in financial services should be pursued in a manner that is inclusive, ensuring that underserved communities, particularly in rural Bangladesh, can access and benefit from these solutions.

Furthermore, policymakers must adopt a proactive approach to create clear and adaptive regulations that foster

innovation while ensuring consumer protection. A regulatory sandbox model, as seen in other countries like Singapore, can be a valuable tool in Bangladesh's context, enabling the testing of new financial technologies in a controlled environment before scaling them. Moreover, ensuring robust cybersecurity measures and data protection laws will be critical in building consumer trust and ensuring the long-term sustainability of the FinTech ecosystem.

Policy and Practical Recommendations

To leverage the opportunities and address the challenges identified in this study, several policy and practical recommendations are proposed: Bangladesh should establish clear and flexible regulations to govern FinTech innovation, particularly in areas such as digital lending, blockchain, and AI-driven services. A regulatory sandbox model would enable safe experimentation with new technologies, encouraging innovation while minimizing risks. The government and private sector should invest in improving internet connectivity and the digital infrastructure necessary to support the growth of FinTech. This includes expanding broadband access in rural areas and ensuring access to affordable smartphones.

To address consumer trust issues, FinTech companies must invest in robust cybersecurity systems and comply with international data protection standards. Regulatory bodies should also introduce mandatory cybersecurity protocols for FinTech firms. Public awareness campaigns are needed to educate consumers on the benefits and security of FinTech solutions. This will facilitate greater adoption, particularly in rural and underserved areas.

Strengthening partnerships between the government, financial institutions, and technology providers will be essential in developing the ecosystem. Collaborative efforts should focus on addressing infrastructure gaps, improving digital literacy, and creating policies that support inclusive innovation. By implementing these recommendations, Bangladesh can fully capitalize on the transformative potential of 4IR technologies in the FinTech sector, positioning itself as a leader in the regional FinTech ecosystem.

Limitations and Direction for Future Research

This study has several limitations that should be acknowledged. Firstly, the research adopts a qualitative approach, relying on interviews and document analysis, which limits the generalizability of the findings. The sample of stakeholders, while diverse, may not fully capture the perspectives of all relevant players in the FinTech ecosystem, particularly those in remote areas or smaller financial institutions. Additionally, the rapidly evolving nature of FinTech means that the findings may not reflect the latest developments, as new technologies and regulations continue to emerge.

From a practical perspective, future research could explore quantitative studies to validate the themes and insights identified in this study. A larger and more diverse sample, including consumers from different socioeconomic backgrounds, would provide a more comprehensive understanding of FinTech adoption and challenges. Moreover, comparative studies across different emerging markets could offer valuable insights into how different regulatory and technological environments impact FinTech growth. Future research could also focus on the implementation and impact of specific policies, such as regulatory sandboxes, and their effectiveness in promoting innovation while safeguarding consumers. Finally, examining the long-term effects of FinTech on financial inclusion and economic development in Bangladesh could provide deeper insights into its potential for societal transformation.

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Appendices

Appendix A: Interview Guide/Questions

The following questions were used to guide the in-depth interviews conducted with FinTech leaders, policymakers, academics, and consumers:

Section 1: General Background

1. Can you briefly describe your role in the FinTech sector in Bangladesh?

2. How do you perceive the current state of the FinTech ecosystem in Bangladesh?

Section 2: Prospects of FinTech in IR 4.0 3. What do you think are the key opportunities for innovation in the FinTech sector in Bangladesh? 4. How do you see the role of emerging technologies such as AI, blockchain, IoT, and big data in shaping the future of FinTech in Bangladesh? 5. What are the major challenges FinTech companies face in leveraging these technologies?

Section 3: Challenges for FinTech in IR 4.0 6. What regulatory hurdles do you think hinder the growth of FinTech in

Bangladesh? 7. How well do you think the current infrastructure supports FinTech development? 8. What are the cybersecurity and trust-related issues faced by the FinTech sector in Bangladesh?

Section 4: Stakeholders and Collaboration 9. How do you see the role of government, financial institutions, and technology providers in driving the growth of FinTech? 10. What challenges do you face in collaborating with other stakeholders, and how can these challenges be overcome?

Section 5: Consumer Adoption 11. What factors influence consumer adoption of FinTech services in Bangladesh? 12. How can FinTech stakeholders increase consumer awareness and trust in digital financial services?

Appendix B: Coding Framework for Thematic Analysis

The following coding framework was used to analyze the interview data and identify key themes:

1. **Opportunities for Innovation**

- Payment systems
- Digital lending
- Financial inclusion
- Emerging technologies (AI, blockchain, IoT)

2. **Challenges**

- Regulatory barriers
- Infrastructure gaps
- Cybersecurity risks
- Trust and adoption issues

3. **Role of Stakeholders**

- Government involvement
- Collaboration with financial institutions
- Collaboration with technology providers
- Consumer education

4. **Consumer Adoption**

- Awareness levels
- Trust issues
- Digital literacy
- Accessibility

5. **Infrastructure and Policy Support**

- Digital infrastructure
- Policy adaptation
- Government regulations

6. **Global Comparative Insights**

- Best practices from regional economies
- Regional policy differences
- Technological developments in neighboring countries

Appendix C: Other Supporting Materials

1. **Policy Documents and Reports:**

- Bangladesh Bank's regulatory guidelines for mobile financial services.
- FinTech Policy Brief from the Ministry of Finance (Bangladesh).
- Reports from Bangladesh Telecommunication Regulatory Commission (BTRC) on internet penetration and digital infrastructure.

2. **Statistical Data:**

- Reports on the state of digital financial services in Bangladesh.
- Consumer adoption statistics of mobile financial services in Bangladesh (e.g., bKash usage data).

The Evolving Role of the Modern CFO
Leading through Uncertainty

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In today's fast-paced business world, the role of the Chief Financial Officer (CFO) is more complex than ever. No longer limited to managing cash flow and handling financial risks, CFOs are now key players in shaping their organizations' strategies and long-term success. This change has come about due to the increasing unpredictability of global markets, regulatory shifts, and the growing importance of sustainability and governance.

The modern CFO is expected to do much more than crunch numbers—they need to help their companies navigate uncertainty, make strategic decisions, and identify growth opportunities. This article explores the changing role of the CFO, the challenges they face, and strategies they can use to succeed in today's ever-changing environment.

The Expanded Role of the Modern CFO

In today's business landscape, CFOs play a much broader role. While they continue to oversee the company's finances, their responsibilities now also include shaping the overall strategy, guiding the organization through uncertain times, and driving growth.

The modern CFO must collaborate with teams across the business—whether in development, sales, or marketing—to make sure the company's financial goals align with its overall objectives. They are expected to be forward-thinking, spotting new opportunities and helping the company stay on track to achieve sustainable growth.

For CFOs, this shift offers an exciting opportunity to directly influence the company's future

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and play a more active role in driving its success.

How the Modern CFO Differs from the Traditional CFO

The role of the CFO has evolved significantly over the years. Traditional CFOs were mainly responsible for overseeing financial operations, ensuring compliance, and minimizing costs. Their focus was on managing the company's financial stability, not necessarily on shaping the direction of the business.

Today, however, CFOs are expected to do much more. They must be skilled in areas like negotiation, decision-making, and team collaboration. Modern CFOs are involved in strategic discussions, working closely with other leaders to ensure the company's financial plans align with its broader goals. They need to understand not just the numbers but the business as a whole—how it operates, its challenges, and its opportunities.

While traditional CFOs were more focused on controlling risks, the modern CFO's role requires them to embrace calculated risks that align with the company's growth strategy.

Taking a Broader Perspective: Embracing Opportunities

Today's CFOs aren't just about managing risk—they're about seeking out opportunities. In an uncertain environment, they need to prioritize investments that align with the company's goals, all while maintaining strong relationships with investors and stakeholders.

For modern CFOs, the ability to look beyond the business and assess external factors like market trends, economic changes, and competitor activity is key to success. They must also be able to quickly pivot and adjust financial strategies to take advantage of opportunities or respond to challenges.

By taking a broader view of the business, CFOs help their companies remain adaptable and ready to take on new opportunities, even in uncertain times.

Challenges CFOs Face in International Business

As companies expand into global markets, CFOs are faced with additional challenges related to managing international operations. They need to ensure compliance with regulations across different countries, deal with currency exchange risks, and align global strategies with local realities.

Here are some of the key challenges CFOs face in international business:

Regulatory Compliance

Each country has its own set of laws, tax codes, and reporting requirements. CFOs must navigate these regulations carefully to avoid legal or financial penalties. Non-compliance can result in fines or damage to the company's reputation, so maintaining transparency and adhering to local regulations is essential.

Currency Exchange Risks

For companies operating in multiple countries, currency exchange volatility can impact financial performance. CFOs must develop strategies to hedge against these risks and monitor global economic trends to minimize the impact of currency fluctuations on the company's bottom line.

Managing Cross-Border Financial Reporting

Operating in different countries often means dealing with multiple accounting standards. CFOs need to harmonize financial reporting across various jurisdictions to ensure accuracy and avoid costly mistakes.

Talent Acquisition and Workforce Management

Managing a global workforce comes with its own set of challenges. From navigating local labor laws to attracting and retaining skilled professionals, CFOs must ensure the company's workforce strategy aligns with local and organizational goals.

Political and Economic Uncertainty

Political instability, trade wars, and changing policies can disrupt supply chains, raise costs, and threaten long-term investments. CFOs must develop contingency plans and find ways to protect the company's interests amid these uncertainties.

Strategies for CFOs to Succeed Amid Economic Uncertainty

Economic uncertainty, inflation, and rising interest rates make it a challenging time for CFOs. To navigate these challenges and position their companies for success, CFOs can adopt three key strategies:

Use Scenario Analysis to Build Resilience

With the global economy in a state of flux, CFOs must be able to adapt quickly to changing conditions. Scenario analysis—looking at different economic outcomes and their potential impact on the business—is a key tool for making informed decisions. By developing scenarios based on a variety of factors, CFOs can better understand risks and identify opportunities to guide the company forward.

Conduct Regular Portfolio Reviews

CFOs need to frequently review the company's business portfolio to ensure that resources are being used effectively. By assessing which products, services, and markets are performing well and which ones may need to be adjusted

or cut, CFOs can help the company remain competitive. These reviews also give CFOs an opportunity to spot new opportunities for growth.

Optimize the Balance Sheet for Flexibility

A strong balance sheet is essential for navigating uncertainty. CFOs need to focus on managing working capital, preserving cash flow, and ensuring that capital is allocated in a way that supports long-term growth. With a flexible financial structure, CFOs can react quickly to new opportunities or challenges that arise.

Leveraging Technology and Tools to Overcome Challenges

In today's fast-paced business environment, technology plays a crucial role in helping CFOs overcome challenges. Advanced tools can provide real-time insights into the company's financial position, automate key processes, and help predict future trends.

Here are a few ways CFOs can use technology to their advantage:

- **Forecasting and Scenario Modeling Tools:** These tools help CFOs predict potential outcomes based on different scenarios, enabling them to make better-informed decisions.

- **Liquidity Management Platforms:** Real-time tracking of cash flow and cash reserves helps CFOs ensure the company has enough liquidity to navigate uncertainties.

- **Integrated Financial Systems:** Cloud-based systems allow CFOs to streamline operations and collaborate with other departments more effectively.

- **Working Capital Optimization Tools:** Automated systems for invoicing, payments, and inventory management can help improve cash flow and operational efficiency.

By embracing these technologies, CFOs can gain a clearer view of the company's financial health and make decisions that position the organization for growth.

Impact of the Fourth Industrial Revolution (4IR) on CFO roles: the 4th Revaluation is a transformative era marked by the fusion of digital, physical, and biological systems. It builds on the Third Industrial Revolution (digital revolution) but takes it much further with advanced technologies that are reshaping industries, economies, and society at large. The Fourth Industrial Revolution refers to the ongoing transformation powered by technologies such as AI, robotics, IoT, blockchain, biotechnology, and quantum computing — blurring the lines between physical, digital, and biological spheres.

The "4th Revaluation" or Fourth Industrial Revolution (4IR), characterized by technologies like AI, big data, automation, IoT, and blockchain, is significantly transforming the role of Chief Financial Officers (CFOs). CFOs are transforming from "financial historians" to "digital value architects" — enabling intelligent finance, ESG leadership, and strategic innovation in a 4IR world.

4IR Driver / Technology	Traditional CFO Role	Evolved CFO Role in 4IR
Artificial Intelligence (AI)	Historical reporting, budgeting	Predictive analytics, real-time forecasting, AI-driven decision support
Automation / RPA	Manual accounting and reconciliations	Automated processes, increased focus on strategic analysis and exception handling
Big Data & Analytics	Limited data usage for periodic reports	Data-driven decision-making, KPIs integrated with non-financial (ESG) metrics
Internet of Things (IoT)	Low interaction with operational data	Integration of real-time data from operations into financial planning and risk models
Blockchain & Smart Contracts	Traditional audits, third-party reconciliations	Instant trust-based transactions, smart contract-based financial workflows
Cloud Computing	On-premises ERP and finance tools	Cloud-based, scalable financial systems with real-time global access
Cybersecurity	Basic financial system controls	CFO as co-leader in enterprise cyber risk management and data governance
Digital Platforms	Internal control, budgeting	CFO as partner in digital product valuation, digital investments, and cost modeling
Sustainability/ESG Focus	Compliance-based CSR reporting	Leading ESG finance strategy, integrated reporting, green investment decisions
Human-Machine Collaboration	Functional finance teams	Building agile, tech-enabled finance teams; upskilling for AI collaboration
Decentralized Finance (DeFi)	Centralized treasury functions	Exploration of blockchain-based finance solutions and digital assets management
Real-Time Decisioning	Periodic board-level financial reviews	CFOs deliver real-time financial insights for agile business decisions
Integrated Reporting	Standalone financial statements	Holistic value creation reports (financial + ESG + intangible capital)

ESG-related Initiatives

CFOs are playing a central role in shaping and driving ESG-related initiatives in their organizations, ensuring alignment with financial goals, stakeholder expectations, and regulatory requirements. Great focus-ESG (Environmental, Social, and Governance) and Integrated Reporting are now central to a CFO's role, not just a compliance item. The modern CFO is the architect of ESG value — embedding it into reporting, strategy, investment, and stakeholder trust.

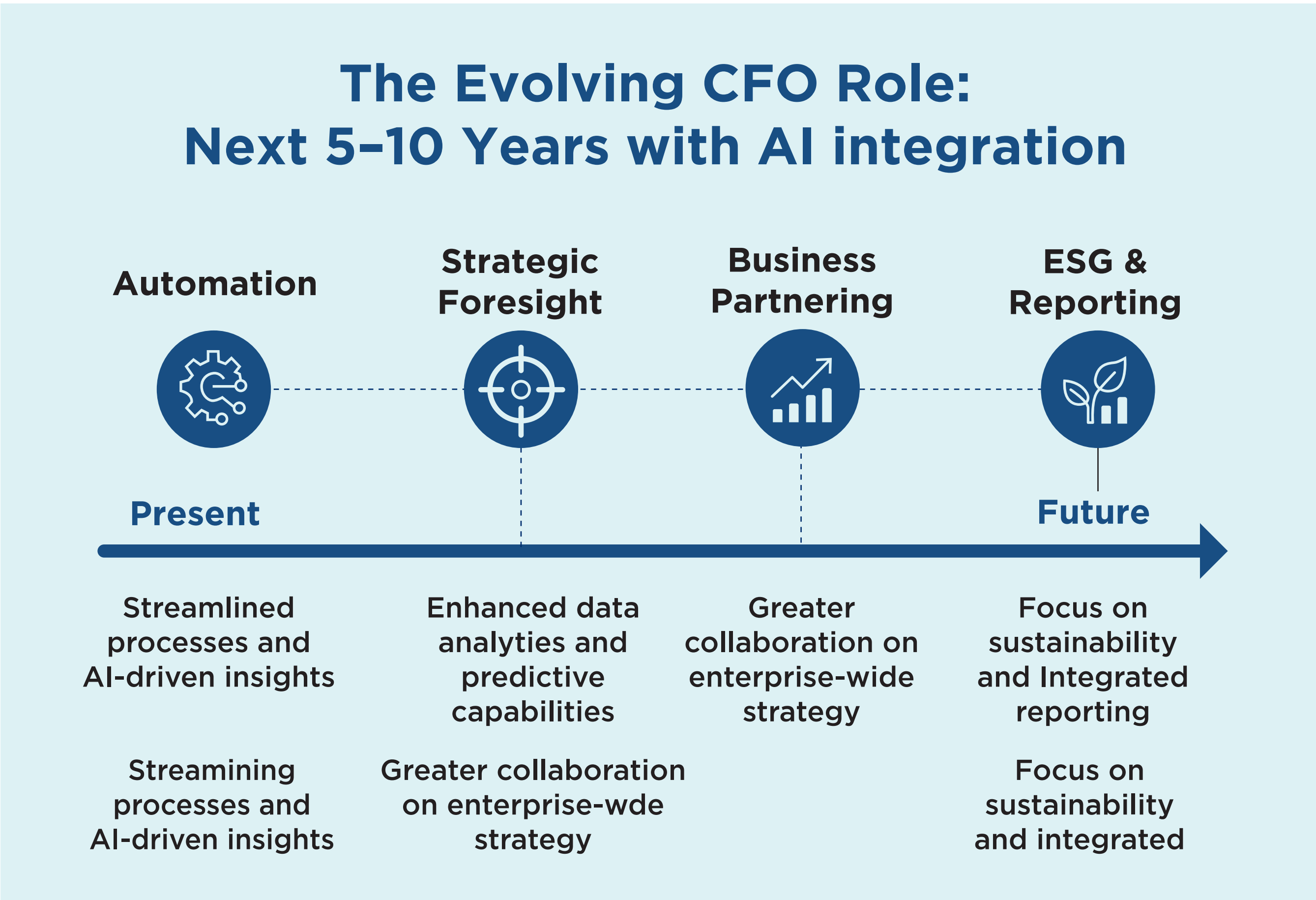
The evolving role of the CFO in ESG (Environmental, Social, and Governance) and Integrated Reporting are –

CFO Role Area	Key Responsibilities and Focus
ESG as a Strategic Business Driver	- Move beyond traditional financial reporting to embed ESG into strategy, risk, and performance frameworks.
	- Link ESG initiatives to value creation, long -term ROI, and stakeholder trust.
Ownership of ESG Data & Assurance	- Build robust ESG data governance systems to ensure data integrity, auditability, and transparency.
	- Partner with Chief Information Officer (CIOs) to automate ESG data collection.
Integrated Reporting Champion	- Align ESG metrics with financial KPIs.
	- Translate ESG outcomes into impactful narratives for investors, regulators, and stakeholders.
ESG-Linked Capital Allocation	- Align capital budgeting with ESG goals (e.g., low -carbon investments).
	- Evaluate sustainability-linked bonds/loans.
	- Integrate climate risk and social impact into cost of capital analysis.
Regulatory Readiness	- Stay ahead of regulatory frameworks such as IFRS Sustainability Disclosure Standards (ISSB), EU CSRD, SEC Climate Disclos ure Rules.
	- Ensure finance teams can report under multiple ESG frameworks (e.g., GRI, SASB, TCFD).
Stakeholder Communication	- Communicate ESG financial implications, including ESG risk exposure, carbon pricing impact, and social license to operate.
	- Tell a credible, quantified ESG story to investors and boards.
Building Sustainable Finance Teams	- Upskill finance talent in ESG frameworks, sustainability accounting, and integrated reporting tools (e.g., SAP Sustainability Control Tower).

How the CFO role will evolve with AI integration over the next 5–10 years:

The time horizon can be divided into five (5) phases and evolving roles of CFOs will be as follows -

Time Period	Key Evolution in CFO Role with AI Integration
2025-2026	**The Early Phase of AI Integration**
	- **Automation of Routine Tasks**: Automate data entry, reconciliation, and financial reporting.
	- **AI-Driven Financial Analytics**: Enhanced data analytics and forecasting for better decision-making.
	- **Predictive Analytics**: Predict cash flow, working capital, and key metrics for proactive decision-making.
2027-2028	**AI-Powered Decision Support**
	- **Augmented Financial Strategy**: AI assists with strategic planning and deeper market insights.
	- **AI-Enhanced Risk Management**: Detect and manage financial risks like fraud and market volatility.
	- **Automation of Compliance**: Automate compliance tasks to meet financial regulations more effectively.
2029-2030	**AI as a Core Business Partner**
	- **End-to-End Financial Automation**: CFOs oversee integrated AI systems automating all financial processes.
	- **AI-Driven Scenario Planning**: Run multiple financial scenarios to evaluate impact on business decisions.
	- **Continuous Real-Time Financial Monitoring**: Use AI for real-time financial insights and decision-making.
2031-2033	**The CFO as a Strategic Visionary**
	- **AI-Enabled Personalization**: Deliver tailored financial strategies using AI-powered predictive algorithms.
	- **Full Integration with AI Across the Enterprise**: CFO leads AI transformation across departments for broader business impact.
	- **Focus on Long-Term Value Creation**: Shift focus to creating long-term value, using AI for forward-looking strategies.
2034 and beyond	**The CFO as the AI Leader**
	- **CFO as Chief AI Officer**: CFO takes on the role of overseeing AI integration across the organization.
	- **AI Governance and Ethics**: Lead in AI governance, ensuring ethical and compliant use of AI.
	- **Holistic Decision Making**: Focus on social and environmental impact, using AI to evaluate sustainability.



Conclusion: The Future of the CFO Role

The role of the CFO has evolved from one focused on managing financial risk to one that plays a central role in guiding strategic decisions and driving long-term growth. CFOs today must be agile, forward-thinking, and able to manage both opportunities and risks. By embracing technology, conducting regular portfolio reviews, and building resilience through scenario analysis, CFOs can help their companies succeed in an increasingly unpredictable world.

With the right tools and strategies in place, CFOs can ensure their organizations thrive amid economic challenges and emerge stronger in the future.

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Beyond the Bed Count
Rethinking Hospital Capacity and Budget Transparency in Bangladesh

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The article was reviewed by ***Prof. Dr. Mahfuzul Hoque***

Abstract

Hospital capacity is often measured by bed count—a method that overlooks systemic budgetary and governance bottlenecks. This article explores hospital infrastructure and financial management challenges using evidence from Moulvibazar District Hospital and Barlekha Upazila Health Complex. Drawing from health systems and Public Financial Management (PFM) theories, the study identifies resource allocation gaps, data fragmentation, and procurement inefficiencies. Through qualitative fieldwork, it offers insights into operational bottlenecks and presents reform recommendations for more transparent, accountable, and outcome-oriented hospital management in Bangladesh.

Keywords

Hospital capacity, public financial management, health systems, Bangladesh, budget transparency, service delivery

Introduction

Healthcare systems globally are often evaluated by bed-to-population ratios, a quantitative benchmark frequently used to represent hospital capacity. However, this approach fails to account for systemic issues like budget inefficiencies, procurement delays, and service delivery gaps—particularly in low- and middle-income countries. In Bangladesh, hospitals face multiple layers of complexity, including infrastructural deficits, administrative inefficiencies, and opaque financial processes.

Problem Statement: This paper investigates the disconnect between reported hospital capacity and actual service delivery, uncovering how inadequate budget transparency and financial governance limit effective hospital management.

Research Objectives

a. To analyze the operational and financial bottlenecks in hospital service delivery,

b. To evaluate the adequacy and execution of hospital budgets, and

c. To propose reforms based on empirical evidence for improving hospital capacity through transparent PFM practices.

Literature Review

The World Health Organization (2010) advocates strengthening health systems through robust governance and financing. Global studies (Rechel et al., 2010; Tandon & Cashin, 2010) indicate that bed count alone is a poor predictor of healthcare quality or access. In Bangladesh, Ahmed et al. (2013) found gaps between financial allocation and service delivery outcomes, especially at the district level.

Public Expenditure Tracking Surveys (PETS) have identified systemic delays in fund release and poor tracking mechanisms (World Bank, 2017).

Despite growing awareness, empirical literature combining PFM and health systems performance remains limited in Bangladesh. This paper fills this gap by connecting on-ground realities with theoretical and institutional frameworks.

Context of Public Financial Management (PFM) in Bangladesh

Bangladesh has made notable progress in PFM reforms, including the rollout of iBAS++, digital salary payments, and gender-responsive budgeting. However, hospital-level financial autonomy remains limited. Budget formulation is top-down, with little input from local administrators. While iBAS++ offers robust functionality, capacity constraints impede its full use. Studies have shown that even when hospitals comply with reconciliation and salary payment protocols, challenges remain in TA/DA processing, intern payments, and integrating performance data. Budget transparency remains partial, as facility-level staff are often unaware of allocation frameworks or performance benchmarks. Health system assessments have called for deeper integration of financial data into service planning and a stronger emphasis on internal audits, procurement oversight, and feedback loops.

Theoretical Framework

This study draws upon two primary frameworks:

a. Health Systems Framework (WHO, 2007): This model considers service delivery, financing, governance, workforce, and information systems as interconnected

pillars. It suggests that weaknesses in financial planning and budgeting affect all other health system building blocks.

b. Public Financial Management (PFM) Reform Literature: PFM refers to the set of laws, rules, systems, and processes used by governments to mobilize revenue, allocate public funds, and ensure accountability. Weaknesses in PFM—including budget formulation, cash management, and procurement—can compromise hospital operations and efficiency (Allen et al., 2013).

Together, these frameworks provide a lens through which hospital-level challenges can be better understood and addressed.

Methodology

This study follows a qualitative case study approach.

- **Sampling Approach:** Purposive sampling was used to select two hospitals in Moulvibazar—one district-level and one upazila-level.
- **Data Sources:** Data were collected from health officials, hospital staff, Health Ministry representatives, and local stakeholders.
- **Data Collection Methods:**
  i. Primary: Semi-structured interviews, field observation, and informal discussions.
  ii. Secondary: Policy documents, budget reports, procurement logs, and service delivery records.
- **Sample Size:** 17 interviews were conducted, involving hospital superintendents, doctors, accounts officers, and patients.
- **Analysis Techniques:** Thematic and narrative analysis were used to identify bottlenecks and cross-sectoral challenges. Key themes include budget rigidity, underutilization, and poor coordination.

Data Analysis and Results

Findings from Moulvibazar District Hospital and Barlekha Upazila Health Complex reflect the mismatch between reported capacity and lived experience.

- **Bed Count vs Service Load:** Moulvibazar District Hospital has 250 beds but regularly accommodates over 400 patients, resulting in beds being shared or patients lying on the floor.
- **Budget Execution Delays:** Hospital authorities reported delays in the release of operational funds, particularly for non-salary components such as maintenance and supplies.
- **iBAS++ System Constraints:** Hospital staff mentioned limited familiarity and restricted user access to the

government's budget and accounting software (iBAS++), affecting real-time bill processing.

- **Procurement Bottlenecks:** Procurement cycles are often delayed due to complex approval hierarchies and lack of autonomy at the local level.
- **Patient Feedback:** Many patients reported difficulties in receiving medicines and diagnostic support, pointing to supply-chain and logistical inefficiencies.

Discussion and Findings

The findings confirm the gap between planning and implementation, revealing how inefficiencies in budgeting and financial management cascade into service delivery failures. The hospitals under review lack the flexibility and resources to manage their capacities effectively, largely due to centralized control over budgeting and delayed fund flows. Capacity constraints are not merely infrastructural but deeply rooted in institutional and procedural rigidities.

- **Health Systems Implication:** The six WHO building blocks are all affected, particularly governance and financing.
- **PFM Implication:** Cash-flow unpredictability, lack of expenditure tracking, and low accountability mechanisms impede effective resource use.

Recommendations and Conclusion

Based on the findings, the following actions are recommended:

1. **Decentralize Budget Execution:** Provide hospital authorities with more autonomy over non-salary expenditures.
2. **Enhance Capacity in iBAS++:** Train hospital staff and grant appropriate access levels to allow for timely processing of bills and reports.
3. **Improve Procurement Timelines:** Simplify approval processes and adopt framework agreements for frequently purchased items.
4. **Establish Service Delivery Audits:** Conduct periodic audits that focus on patient experience, procurement efficiency, and output utilization.
5. **Strengthen Inter-Ministerial Coordination:** Health and Finance Ministries should jointly monitor hospital performance using both financial and service indicators.

In conclusion, redefining hospital capacity in Bangladesh demands a dual lens of infrastructure and financial governance. By linking health outcomes with budget transparency, this study presents a practical roadmap for reform.

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Women's Empowerment
Catalyst for Economic Development

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Abstract

Women's empowerment has a huge and indisputable impact in the economic development of any nation in the world. This study attempts to visualize the reality of women's empowerment in Bangladesh, with a focus on the contribution of women to economic growth. Relevant information for this study has only been obtained from secondary sources. According to this study, women who are empowered have a great chance to contribute to Bangladesh's economic development in a number of areas, as the development of human capital, the rise of skilled entrepreneurs, poverty reduction, greater financial inclusion, increase productivity, capital formation, and increase per capita income. But in Bangladesh, women's are neglected and deprived in different stage of life. In most cases women in Bangladesh do not know or unaware of their rights. Even though there is an opportunity for economic growth, socio-cultural barriers, lack of educational opportunities, gender inequality, legal and policy barriers, limited political representation, and a lack of financial inclusion of all work against women's empowerment in Bangladesh. Lastly, few suggestions are made on the methods or tactics that should be used for guarantee to appropriate empowerment by enhancing Bangladesh's current state of women's empowerment. This study explains the general framework and purposes of current women's empowerment concerns that contribute to Bangladesh's economic growth.

Key Words

Women's Empowerment, Economic Development, Education, Bangladesh

The article was reviewed by
***Fouzia Haque** FCA*

Introduction

Empowerment is a continuous process that is focused on local communities and involves mutual respect, critical reflection, care, and group participation. It is a process that gives people who do not have an equal share of valuable resources more access to and control over those resources. It can also be a process that gives people a critical understanding of their surroundings, control over their lives, and democratic participation in community life (Perkins & Zimmerman, 1995). Empowerment empowers women to take charge of their own lives, set their own agenda, organize to support one another, and demand change from the state and society itself (Young, 1993). Friedman (1992) defines empowerment as social power that can be converted into political power. Social networking increases women's status and power, which in turn speed up and fortifies the process of psychological, social, and political empowerment. According to Taylor & Pereznieto (2014), empowerment is the process by which women gain more activity, power and, most importantly, economic advancement. They divide the rise in women's power in this setting into four categories: power with, power to, power over and power within. Hashemi et al. (1996) define empowerment by using eight indicators: mobility, economic security, the capacity to make small and large purchases, involvement in major decisions, relative to freedom from family dominance, political and legal awareness, involvement in public protests and political campaigning.

Women's empowerment is the process of securing equal rights for women, including the capacity to make choices that would improve their quality of life (Rafiqul, 2010). Empowerment is a multifaceted social process that assists individuals in taking charge of their own lives. It empowers them to exercise their power in their own lives, communities, and societies by taking action on issues that they consider significant (Page & Czuba, 1999). According to Kabeer (2009), women's empowerment is defined in terms of the processes of change through which women expand their ability to make strategic choices about their lives and to participate on equal terms with men in bringing about desired changes in the society in which they live. Empowerment is widely acknowledged to be a

multifaceted process that involves changes in the political, social, and economic spheres of life (Islam, 2014). These various aspects of empowerment are closely linked to one another, meaning that major changes in one area are likely to result in changes in other areas. Therefore, women's empowerment is essentially giving them the ability to make decisions that impact their lives on a variety of national concerns. The process of societal and personal development that encompasses interconnected and mutually reinforcing psychological, political, social and economic dimensions is known as women's empowerment (O'Neil et al., 2014). It gives women the ability to gain agency, meaningful choices and control over their life on an individual and societal level.

The five primary pillars of women's empowerment are political, social, economic, psychological, and educational empowerment. Advancement in life is mostly dependent on education. Education empowers women with information, knowledge, skills, and confidence they need to participate holistically in society (Siddiqa, 2023; Eswari, 2019). Education boosts self-esteem, self-confidence, and self-sufficiency (Mandal, 2013). Social empowerment is the enabling factor that improves women's social relationships and their standing within social institutions (Mandal, 2013). Economic empowerment is the capacity of women to obtain, possess and manage resources (Brody et al, 2015). Economic empowerment is the way by which all the impoverished, landless, deprived, and oppressed people of society are liberated from various forms of oppression and deprivation; they are able to directly benefit from markets and households and they are able to meet basic needs like housing, clothing, medicine, and clean water (Paul et al., 2016; Mandal, 2013). Political empowerment is the ability to participate in decision-making regarding community access to resources, rights, and entitlements (Brody et al., 2015). Political empowerment is women having equal access to the same basic opportunities as men, including a voice in how society is run (Dahlum et al., 2022). Psychological empowerment is the ability to make choices and follow through on them. It could be measured using outcome indicators such as feelings of self-worth, self-confidence, or self-esteem, as well as a sense of autonomy, self-efficacy, or agency (Brody et al, 2015). Psychological empowerment is a multifaceted construct that

reflects the various dimensions of being psychologically enabled. It is thought of as a positive integration of perceptions of personal control, a proactive approach to life, and a critical understanding of the socio-political environment. It is firmly rooted in a social action framework that includes collectivity, community change, and capacity building (Oladipo, 2009). Psychologically empowered women are more resilient, hard-working, and have stronger minds. They learn how to adapt to changing circumstances and live creatively, among other life lessons (Mandal, 2013).

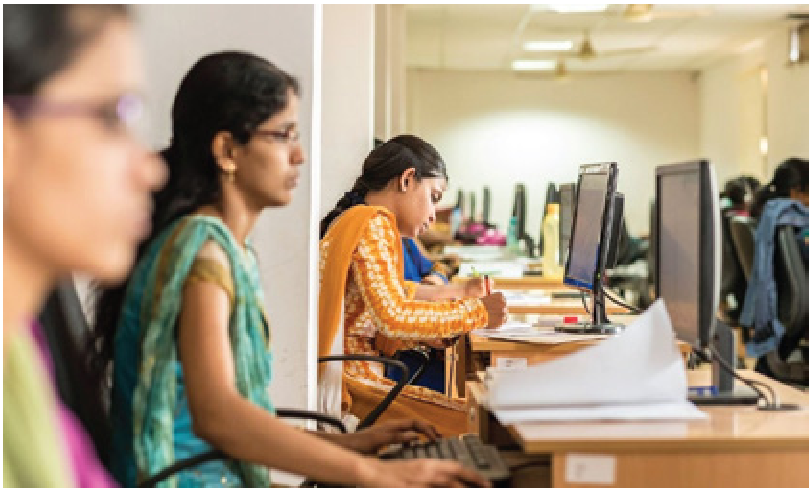
Economic development is the enhancement of economic well-being through increased real incomes and other welfare indicators like better healthcare, better infrastructure, less poverty, and enhanced literacy. Political stability, investment, and a combination of public and private initiatives are necessary for economic development in order to maximize economic potential (Pettinger, 2022). Women's empowerment has become a top priority for economic development worldwide. In recent years women's empowerment has emerged as a key component of development policy (Doepke & Tertilt, 2014; Khan and Ara, 2006). There is a bidirectional relationship between economic growth and women's empowerment, which is described as increasing women's access to development components, especially health, education, employment opportunities, rights and political participation. In one sense, economic progress can significantly reduce gender inequality (Duflo, 2012). In other words, ensuring women's empowerment has the potential to accelerate economic progress. It is common for policymakers to focus on one of these two connections. According to those who focus on the first, gender equality improves when poverty is reduced. Therefore, policymakers should focus on increasing economic growth and prosperity by implementing specific measures. Of course, they should also strive to maintain equal opportunities for both sexes. On the other hand, many people highlight the second relationship, that is, development through empowerment emphasizes this relationship (Duflo, 2012). That is why in recent decades, the concept of women's empowerment in developing countries like Bangladesh has received a lot of attention among researchers and policy makers.

Women's empowerment is a challenging issue in developing countries where gender inequality persists and women are confined to the home, given all the responsibilities of the family, and kept out of the economy (Parveen, 2007). Women's empowerment is a crucial precondition for achieving economic development and expanding the national economy (Paul et al., 2016). In order to eradicate global poverty and promote human rights, women's empowerment is essential. When women are empowered, they have the same economic rights as men and are not

discriminated against only because of their gender (Abigail & Moiza, 2017). Empowering women economically is one of the primary objectives of poverty reduction. According to Kabeer (2009), women must be seen as economic players and essential, visible change agents. Women are relatively less privileged than men in terms of taking part in the economy (Hassan & Cooray, 2015; Oztunc et al. 2015). There are numerous long-term benefits to women's economic rights. Furthermore, building the foundation for individual societal growth requires self-empowerment. Improving the status of women is the main objective of the term empowerment. It should, however, be applied to any group that is socially excluded (Rafiqul, 2010). The efficient use of a country's human resources is the most crucial element in determining its overall level of development. It is recognized that no progress can be made as a nation unless there are suitable conditions for women's growth. This reality also applies to Bangladesh (Rafiqul, 2010). However, most women are unable to contribute to the development of the country due to gender discrimination and pervasive social prejudices against women. Countries must emphasize women in order to empower women and girls, promote lifelong learning, and provide comprehensive and equitable quality education. A substantial percentage of the workforce is female, and their economic contributions to the framework of development are closely intertwined (Roy et al., GoB, 2011). Bangladesh cannot achieve its long-term development goals and maintain a thriving and prosperous economy without the meaningful and active participation of women, who comprise half of the population (Debnath et al., 2020; Paul et al., 2016).

Literature Review

Economic progress and women's empowerment are intimately linked. Women's empowerment will result from development itself, but decision-making will alter as a result of women's empowerment, and development will be directly impacted (Ramanathan & Vijayalakshmi, 2014). Women's empowerment is essential for improving social and economic conditions and ensuring rapid economic growth (Gocio & Kulkarni, 2016). The economic advancement of women will lead to a reduction in the gender gap in the country. During this time of expansion, Indian women exclusively held economically viable jobs that



allowed them to support themselves and their families (Parvin & Sarkar, 2021).

Women's empowerment and economic development are closely related; while development by itself can greatly lessen gender disparity, women's empowerment can also support/ boost development (Eswari, 2019; Bhoganadam et al., 2014). Kabeer and Natali (2013) examined the relationship between economic growth and gender equality in their study. They found that social justice and human dignity depend on gender equality and that it is a practical means of achieving development goals.

Men and women need to work together to create prosperity for society. Women must speak up for their rights and be confident. Duflo (2012) analyzes the research on both sides of the empowerment-development debate and argues that policymakers should be committed to advancing equality for the sake of equality, even though the links between the two may not be strong enough to support this. Klasen and Lamanna (2008) use a 40-year panel dataset to find that closing the gender gap in employment and education has a positive impact on economic growth.

In a developing economy like Bangladesh, greater female labor force participation can reduce the likelihood of future labor shortages, which promotes economic growth (Oizumi, 2013). In recent decades, there has been a greater recognition of the importance of women's empowerment and the realization of their rights for achieving sustainable development (Khan & Mazhar, 2017).

Economic growth is positively correlated with women's political empowerment (Dahlum et al., 2022). People are psychological beings, and as long as they experience psychological distress, they are almost always likely to oppose government efforts to promote progress. Bitar et al. (2024) have demonstrated that encouraging women to participate in politics not only promotes gender equality but also strengthens the economy by preparing for and developing effective response plans for health crises (Bitar et al., 2024). A country can only flourish if women are empowered and their social and economic status is enhanced; this can only be accomplished by implementing specific social and economic policies that consider women's overall development (Chompa, 2022). The expansion of the labour market and the development of skills are key components of economic growth, which is positively impacted by reduced gender gaps in education and employment (Naveed et al., 2023). The findings of this study demonstrate that global economic growth is greatly enhanced by women's economic empowerment. The results of this study also show that the rate of relative economic improvement varies according to different levels of women's economic empowerment (Naveed, et al., 2023).

Objectives

The following are the primary goals of this research:

To investigate the contribution of women's empowerment on economic development of Bangladesh

To ascertain the obstacles concerning women's empowerment in Bangladesh

Methods of Research

A qualitative research approach was used for this study. Content analysis is used to reach reliable conclusions about an important issue (Krippendorf, 2012). Many researchers have conducted research on women's empowerment using the content analysis method (Khan & Mazhar, 2017; Ramanathan & Vijayalakshmi, 2014; Duflo, 2012; Rafiqul, 2010). Therefore, content analysis was considered as an appropriate research method for this study. Most of the data used in conducting this study was secondary. The study included a thorough review of Bangladesh's National Women's Development Policy, United Nations reports on women's empowerment, World Bank working paper series, books, articles, websites, etc. Two main categories can be used to classify the materials examined for this investigation. The first is a thorough analysis of the key research topics related to women's empowerment and its contribution to economic development, as well as public papers and documents published on the topic.

Contribution to Economic Development

The economic progress of Bangladesh is greatly impacted by women's empowerment. Women's empowerment brings about a number of benefits that contribute to a nation's overall economic growth. Based on secondary data analysis the following conversation about women's empowerment and Bangladesh's economic advancement is presented:

Expanded Workforce

Women empowerment is likely to increase the number of working women in different parts of the country (Hossain et al. 2012). This will result in more women being involved in income-generating activities, which will sustain economic growth. Women's participation in various industries including manufacturing, services and agriculture has increased the workforce and increased the country's GDP.

Rise of Skill Entrepreneurs

Women's empowerment rekindles their latent

entrepreneurial spirit. Giving women the resources and support they need to start and grow their own businesses leads to economic growth, creativity, and the creation of jobs at the local and national levels (Siddiqa, 2023). Women constitute more than half of Bangladesh's human resources, so their participation in the financial industry can significantly impact the country's economic development (Debnath et al., 2020).

Human Capital Development

When women are properly empowered, their efforts to acquire education and skills for self-employment increase their human capital. Moreover, women's economic empowerment improves their own talents and human capital (Kabeer, 2009). Women who are competent and educated are more likely to work in a wider range of fields, which expands the pool of talented workers and boosts the economy.

Poverty Reduction

Women's empowerment has been identified as a critical component of poverty reduction in developing nations worldwide (Rafiqul, 2010; Parveen & Leonhauser, 2005). Empowered women can contribute to the social development and stabilization of society by engaging in healthcare, education, and social activities (Siddiqa, 2023). Economic success is a result of empowered women creating a more stable and skilled workforce. Women have made a substantial contribution to improving living conditions and decreasing poverty by giving their families and communities a substantial portion of their income. To combat poverty, women's economic empowerment is crucial (Kabeer, 2009).

Increased Productivity

Agricultural production can increase due to the frequent involvement of women in agriculture and food production (Mobarok et al. 2021). Since agriculture is the primary economic activity in a nation like Bangladesh, women's empowerment in this sector is essential. Moreover, empowered women tend to have higher levels of education and skill, which increases their productivity in a variety of sectors. This leads to increased economic output and efficiency.

Economic Diversification

The development of new economic sectors can be accelerated by empowering women, especially in industries like technology, healthcare, education, and services. Women's entry into these fields opens up new markets and diversification prospects for the economy. Women can play a significant role as consumers in determining consumer purchasing, especially at homes. The demand for a wide range of goods and services is driven by empowered women, who also control a sizable amount of global consumer expenditure.

Financial Inclusion

Women's empowerment often improves women's access to financial resources. Access to credit, loans and financial services enables women to invest in health, education and

businesses, which boosts the economy (Siddiqa, 2023). Financial inclusion also improves women's autonomy and decision-making power. Through appropriate financial inclusion, communities can fully realize the potential of their people by addressing gender inequality and ensuring equal opportunities, which can increase overall welfare and financial success.

Improved Governance

Improved governance is another benefit of women's empowerment. Women contribute distinct viewpoints and ideals when they are included in decision-making processes, whether in politics or business, and they frequently priorities community needs, social well-being, and long-term sustainability. Stronger democratic processes, better organizational performance, and better policy results have been associated with gender-diverse leadership.

Capital Formation

Women have a tendency to savings. If employment opportunities can be provided through women's empowerment, a large portion of that income will contribute to the country's capital formation. It will be possible to accelerate the country's economic development by investing the capital in business and large industries (Adhikary, 2011). Capital formation leads to increased production through investment in capital equipment which creates employment opportunities. Capital formation also leads to technological advancements which help in implementing economies of scale which leads to market expansion and accelerates the pace of economic development (Shuaib, 2015).

Per Capita Income

Half of the population of Bangladesh is women, if adequate employment is provided for these women, the total income of the country will increase. This income will contribute to the country's GDP and ultimately the country's per capita income will increase. Increasing per capita income is very necessary for the country's economic development. In our Per Capita Income, domestic female workers contribution in the society has been ignored. If it is considered, our Per Capita Income will increase significantly.

Barriers to Women's Empowerment in Bangladesh

There are several obstacles and challenges to women's empowerment in Bangladesh. In Bangladesh, the primary barriers to women's empowerment are as follows:

Socio-Cultural Barriers

In Bangladeshi culture, the overall growth of women is stunted from an early age. Most of the families have been prioritized to sons. Having a daughter is considered a burden and misfortune for the family (Parvin & Sarkar, 2021; Roy et al., 2017). Due to this, the education and health of the girl child are not given much importance (Parveen, 2013) . Consequently, girls drop out rate from school is very high. (Ahmad & Ahmed, 2002).

Economic Opportunity Deficit

Bangladeshi women sometimes have limited employment

opportunities, especially for positions involving decision-making and leadership. They are more likely to work in the low-wage, unorganized sector, which offers no job security or benefits.

Limited Educational Opportunities

According to Ahmad and Ahmed (2002), many Bangladeshi women and girls still face obstacles in their pursuit of a quality education. They could find it more challenging to acquire the knowledge and skills necessary to benefit from more work opportunities as a result.

Gender Inequality

Gender inequality persists because of both embedded gender inequality and conventional norms (Khan and Ara, 2006). These standards often limit women's access to economic possibilities, political roles, and educational options. Gender-based violence, including sexual harassment, acid attacks, and domestic abuse, is a major problem in Bangladesh. In addition to creating physical and mental pain, this type of abuse inhibits women from participating fully in society.

Policy and Law Barriers

The Bangladeshi government has taken steps to empower women and promote gender equality through the creation of laws and the National Women Development Policy-2011, but because of issues and gaps in the application of current laws and policies, these efforts are not having any effect on society.

Insufficient Financial Inclusion

The majority of Bangladeshi women encounter financial obstacles when attempting to launch or expand their own businesses. Rural communities, and particularly rural women, are not able to access financial intermediation because the majority of financial institutions in Bangladesh are situated in urban areas (Siddik, 2017). Because financial institutions are dubious of women's potential, skill, confidence, and business success, our male-dominated culture also does not want to lend to women readily.

Conclusion

Women in Bangladesh have a huge opportunity to contribute to economic development because they make up half of the population. For women to contribute to economic development in a meaningful way, they must be adequately trained. However, the majority of Bangladeshi women are ignored. Every aspect of life presents challenges for women. Since no one would speak for women in a patriarchal culture, women should battle for their rights and remove the barriers now in place. Again, women will not be granted their rights if they remain silent. The country's socioeconomic progress depends on the utilization of women's skills and capacities. Women's skills and abilities must be used for the nation's

socioeconomic growth. Women's empowerment needs to be guaranteed for all of these. According to this study, women who are empowered have a great chance to contribute to Bangladesh's economic development in a number of areas, including increased labor force participation, the development of human capital, the rise of skilled entrepreneurs, poverty reduction, increased productivity, capital formation, and increase per capita income. Notwithstanding the prospects for economic growth, a number of barriers, including socio-cultural ones, lack of economic opportunity, limited educational opportunities, gender inequality, violence, limited political representation, and lack of financial inclusion, impede women's empowerment in Bangladesh. The aforementioned issues or challenges should be addressed using suitable strategies. Education is a major component of women's empowerment. Women's right to education is inalienable. Higher education and career prospects should be open to women. Women who feel empowered are more confident and capable of making their own choices. Discrimination based on gender is unacceptable in the workplace. Changing people's perceptions is a crucial first step in empowering women. For women to be economically empowered, all available resources and financial inclusion must be guaranteed. Lastly, we can state that if the aforementioned policies or tactics are implemented, Bangladeshi women will be able to advance in their empowerment and contribute effectively to the nation's economic development.

Suggestions, Limitations, and Future research directions

Economic development and women’s empowerment are closely related. Ensuring women’s economic empowerment requires equal access to resources, skills and economic institutions. In addition, women need to be helped to develop skills that will help them earn money by supporting institutions that provide vocational and skill-building training. Women needs to be encouraged to obtain formal jobs and leadership positions. Economic decisions should ultimately be taken and implemented by women. In fact, women’s empowerment and women’s entrepreneurship are closely related. Therefore, by encouraging business development by women, women can be empowered. Owning their own enterprises gives women more financial and personal power and empowerment helps them to be more aware of their rights and position in society. Therefore, a comprehensive plan is needed for women’s empowerment. These strategies are interconnected and should be implemented in different ways. Government, civil society and the business community need to work together to implement sustainable change. Ongoing monitoring and evaluation are also essential to determine the effectiveness of these strategies and make necessary adjustments. The study was conducted based on secondary data only, which is a limitation of this study. Therefore, future research should be conducted using both primary and secondary data. Additionally, more research should be conducted to explore the role of women's empowerment in sustainable development in Bangladesh.

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Perceptions of Retailers Towards the Use of Retail Management Tools to Elevate Customer Service

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Abstract

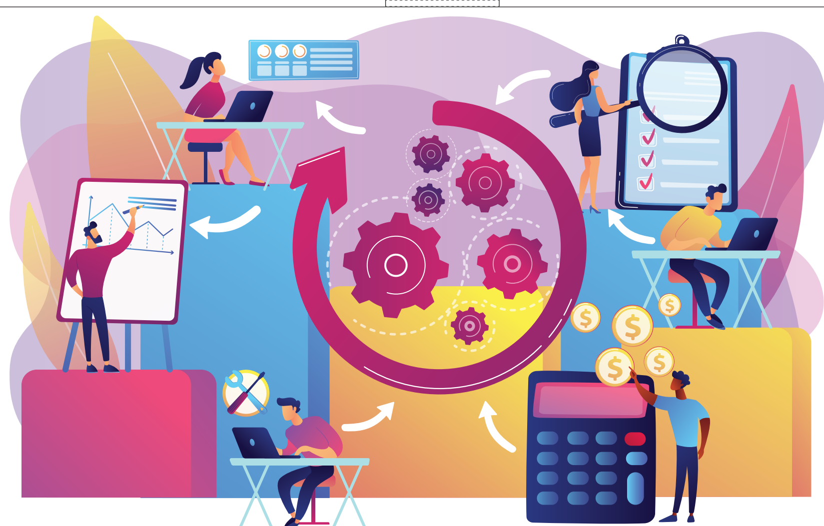
This study investigates the willingness of retailers to adopt retail management tools (e.g. retail management software, POS terminals, smartphone applications, etc.) and examines the impact of such tools on customer service delivery. The study employs both qualitative and quantitative methodologies. In the qualitative phase, thematic analysis of the data obtained from focus group discussions is performed using MAXQDA 2020, later supplemented by sentiment analysis to ensure the consistency of the findings. In the quantitative phase, primary data are collected from 202 medical store owners, managers, and salesperson using a structured questionnaire, and multiple linear regression analysis is conducted to assess the impact of retail management tools on customer service delivery. This study finds that retail management tools are vital in enhancing the customer experience and developing a competitive edge. Although the use of retail management technology has increased globally, the use of such retail management tools in Bangladesh is still limited. The study also reveals that retailers consider technology as a valuable instrument in their management operations that specifically impacts customer experience.

Keywords

Retail Management Tools, Customer Experience, Competitive Advantage, Thematic Analysis

Introduction

In the modern retail environment, technology adoption has emerged as a vital



tool for business success. Various types of retail management tools such as point of sale systems, inventory management software, customer relationship management systems, and mobile applications are considered major enablers in increasing operational efficiency, which will enable better customer service. Globally, retailers are integrating digital tools to manage their business operations, enabling them to better meet customer expectations and increase their ability to survive in a rapidly changing competitive market.

The customer service dimension of business operations is particularly important in retail business management, where service quality directly impacts customer satisfaction, trust, and loyalty. The effective use of various technological tools in retail management can play a crucial role in ensuring improved transactions, enhanced inventory control, personalized marketing, and efficient service delivery. However, in the Bangladeshi context, there is little empirical evidence on how retailers view such tools and whether they can actually improve customer service, especially in specialized retail stores, such as medical stores.

Against this background, the objective of this study is to explore retailers' perceptions and willingness to adopt retail management tools and how they affect different dimensions of customer service delivery. Through a combination of qualitative and quantitative methods, this study investigates the main barriers to technology adoption in retail and provides actionable insights for policymakers and investors to drive digital transformation in the retail sector in emerging economies like Bangladesh.

Literature Review

Retailers are emphasizing the use of new, innovative, and exciting technological tools in their retail management strategies (Pantano & Vannucci, 2019). The touch of digitization is not only found in online business or e-commerce, but traditional brick-and-mortar businesses are also having a huge impact on digitization (Roy et al., 2020). A successful integration of retail management tools in a retail business will improve customer satisfaction and give retailers a competitive advantage. Moreover, digital technology and various retail management tools play an important role in improving the customer shopping experience and meeting customer expectations (Kaur et al., 2020). However, many retailers are still unaware of the new technology's advantages for their business management, leading to reluctance and unawareness of the potential benefits of technology use (Pantano & Vannucci, 2019).

In modern times, the use of technology is considered as a prime requirement (Melville et al., 2004). Technological advancements have led to a significant increase in the use of technology in managing retail businesses worldwide. According to the report, the global retail automation market size was 12.2 billion US dollars in 2021, which is expected to exceed 33 billion by 2030 (Statista, 2023). Mobile technology, Augmented Reality, Virtual Reality, the Internet of Things, Artificial Intelligence, Machine Learning, Voice Commerce, Social Media Integration, etc. are gaining popularity in retail business management globally. However, many parts of the retail sector are yet to ensure the widespread use of retail management tools, resulting in optimal levels of output not being generated from the retail business. Cost can be identified as one of the main reasons behind the lag in the use of technology in the retail business. Technological adaptation is basically costly, especially for a small-scale business (James et al., 2012). Moreover, the skills required to use the technology and concerns about security are also barriers to the adoption of technology in retail (Hanzo, 2024; Scalerandi, 2021), which puts businesses at a poor customer experience and competitive disadvantage.

Another interesting aspect of using customer relationship management tools in retail businesses is that these enable them to run personalized marketing campaigns and communication programs. As a result of which it is possible to give targeted marketing offers to retail customers (Al-Suraihi et al., 2020). CRM software also helps generate customer analytics and insights and identify and optimize potential improvement opportunities (Pai & Tu, 2011). A variety of technological tools can also be used in the inventory management of retail businesses, through which optimum levels of inventory can be ensured (Tripathi & Kochhar, 2016), automatic reordering processes can be carried out (Shajema, 2018), the possibility of stock-outs can be reduced and the hassle of holding excess inventory can also be reduced (Sadeghi et al., 2016). It can also be assumed that using software or tools to get real-time information about inventory in running a retail business can greatly benefit the retailer (Atnafu & Balda, 2018).

Using technology-oriented retail management tools to manage a retail business can greatly improve the performance of a retail organization (Sarac & Dauzère-Pérès, 2010; Liang et al., 2010). Using automation instead of manual processes improves the overall operational efficiency of businesses, through which it is possible to ensure accurate calculation and invoicing (Hallaniemi, 2016). Vendors can make data-driven decisions to ensure better outcomes (Kumar et al., 2023). Products can be sold at a relatively low price at the consumer level due to lower costs related to inventory management, labor, wastage,

etc. (Richards, 2017). Finally, it is worth noting that such retail management tools are instrumental in enhancing the customer experience (Kaushal & Yadav, 2021; Rodríguez et al., 2016).

However, using such retail management tools requires an up-front investment in software, hardware, and training (Pohludka & Štverková, 2019). That is why many small retailers do not find the courage and interest to invest their significant capital in retail management technology. Moreover, many retail business owners are reluctant to adopt such technology due to the potential complexity and how availability of suitable employees (Moorhouse et al., 2018).

Following the 'Digital policy of Bangladesh' for more than a decade, the Retail sector of Bangladesh is on the cusp of a technological revolution. However, both traditional and digital methods co-exist. E-commerce integration, Omni-channel experience, social media platforms, etc. have been widely used for emerging trends in the retail sector in Bangladesh, but such technologies have not been uniformly adopted and implemented. Despite the advancement of retail management technology worldwide and its wide benefits, retail retailers have yet to embrace digital transformation and their technological adoption is limited to just a few basic tools, such as POS systems, mobile financial services, etc. There is a significant lack of research on retailers' awareness of technology, willingness to adopt it, and how retail management tools can impact customer service and business operations. This gap in the literature is underscoring the need to understand the trends and challenges facing retail retailers in Bangladesh, through which national policies can be formulated that will ensure a digitally enabled economy. Clarifying crucial tools is required to get answers to the following set of research questions (RQs) to effectively address this recent demand.

a. To what extent are retailers willing to adopt retail management tools in their business operations?

b. How do the retail management tools impact customer service delivery?

Objective of the Study

The objectives of this study are to,

a. Understand the perceptions of retailers about different types of technology or retail management tools in managing retail business.

b. Find out if the use of these tools has any relationship with customer experience.

Scope of the Study

In the context of Bangladesh, the use of different types of technology in retail business has not yet become very popular. Apart from a few big superstores and some brand stores, it's not common to see different types of technology being used. However, due to doing business with numerous products with numerous brand names, there is a high potential to use different retail management tools in the medical store business. In this study, researchers have considered the use of different retail management tools (pharmacy management software, POS terminal, smartphone apps) in medical stores only.

Methodology

This study follows both qualitative and quantitative approaches. In the qualitative phase, focus group discussions are conducted to uncover qualitative insights from retail shop owners, managers, and salespersons. 25 participants who are pre-screened contributed to the focus discussion. A thematic approach is adopted to analyze the statements of the focus group discussion using MAXQDA 2020 software. Following the focus group discussion, sentiment analysis of some key statements from the focus group discussion is carried out using the popular sentiment analysis tool were Valence Aware Dictionary and sEntiment Reasoner (VADER) to ensure the reliability of the focus group discussion output. In the quantitative phase, primary data were collected from 202 medical store owners, managers, and Salesperson using a structured questionnaire (appendix-A). A non-probability convenience sampling technique is applied in the sampling process. Multiple linear regression is shown using SPSS 21 to observe the impact of technology on customer service delivery.

Focus Group Discussion

Among several techniques of qualitative studies, focus group discussion is a direct approach of collecting unstructured primary data. The free-flowing unstructured discussion of focus groups often enables researchers to gain unexpected findings (Malhotra & Das, 2013). In this study, focus group discussion sessions are arranged to retail medical store owners' perceptions towards the use of technologies in their business operation and service delivery.

Participants

To ensure diversity in opinions, retail medical store owners, managers, and salespersons from different backgrounds are selected from diverse locations in the Sylhet region, Bangladesh. For selecting respondents snowball sampling method, a purposive non-probability sampling technique is adopted which is usually used in qualitative research approaches (Deliens et al., 2014). In this sampling technique, an initial group of retail medical store owners, managers, and salespersons are selected randomly. The subsequent retailers are selected based on the referrals provided by the initial group. No participant is selected whose business operation tenure is less than one year.

Procedure

The focus group discussions of this study are held in such areas where it is possible to gather retail shop owners, managers, and salespersons conveniently. At the beginning of the focus group discussion, all the participants are asked to complete a short questionnaire about the demographic information and business profile (table 1). After that, a general explanation about the purpose of the study is presented to the participants and a written consent document is signed by each participant where their state of confidentiality and anonymity is assured. The duration of each focus group discussion session was 60 minutes to 90 minutes. The entire sessions were held in an informal and relaxed atmosphere where drinks and light snacks were offered to the participants. However, there was no provision of incentives for the participants. All the sessions were recorded using an Android voice recording app with the consent of the participants. Each focus group discussion sessions were moderated by the researchers themselves using a dual-moderator group approach.

Table 1 Characteristics of Focus Group Participants (Mean 3 SD, %, n = 25)

Gender (% of female)	00.0
Years in business	11.48 3 3.62
Shop size (sq-ft)	99.2 3 26.79
Employment status	
Owner (%)	64
Manager (%)	28
Salesperson (%)	8
Others (%)	0
Service provided	
Only medicine (%)	72
Medicine and counselling (%)	8
Surgical items (%)	16
Medicine and others (%)	4
Technologies used (yes/ no)	
Pharmacy Management Software (% of yes)	52
PDQ/POS terminals (% of yes)	28
Bar code scanner (% of yes)	0
Receipt printer (% of yes)	52
Smartphone app (% of yes)	16
Others (% of yes)	4

Source: Compiled by authors

Question Guide

The researcher must develop a list of questions that the researchers would like to be answered. A detailed moderator's outline is also necessary for conducting focus group discussions (Malhotra & Das, 2013). As prescribed by Krueger (1998) for focus group methodology, an open-ended question guide (see Table 2) was developed by the researchers to identify the use of retail management tools in retail medicine store business, retailers' perception regarding these technologies, and their impact on customer service. In designing the questions, an extensive literature search was performed by the researchers. The completed question guide was also reviewed by experts and followed by a pilot test in a group of 5 medicine store retailers. As there were no changes in the question guide after the pilot discussion, the output of the pilot discussion was retained with later analysis (Morgan & Scannell, 1998). The question guide included some introductory questions to let respondents familiar with each other and the physical setting of the discussion. Basic management tools-related questions were included to know the degree of familiarity with the retail management tools of the retailers. Further, key questions were added to know retailers' perceptions toward these technologies and the use of such technologies in customer service. Finally, retailers were asked to share their ideas about the future of new technologies in the retail business.

Data analysis and Results

At the beginning of the focus group discussion participants were asked to respond to a basic questionnaire. The collected data were analyzed using SPSS 21 for descriptive statistics of the focus group sample. Afterward, the recorded audio tape was transcribed into written form. As the focus group discussion was conducted in the standard Bengali language, the entire discussions were manually translated into English. For qualitative analysis all quotes of participants were encoded using the qualitative analysis software MAXQDA-2020. Similar statements, opinions, and phrases in the entire data set were grouped accordingly by the coding system, and a thematic approach was adopted to uncover underlying catchphrases in the discussion. In developing codes, thematically arranging the outputs, and interpreting data, researchers worked separately. Later, their findings were aggregated to ensure better

Table 2 Question guide for Focus group discussion

Question type	Question
Introduction	**1.** What is your name? What is your business name?
	2. Where are you from?
Basic	**3.** Do you know technologies can be applied in retail business?
	4. Can you mention the name of some technological apparatus that can be applied in retail business?
	5. Have you ever thought of adopting POS, pharmacy management software, computer, etc. in your business?
Key	**6.** Do you think technology has made it easier or more difficult for retail staff to provide personalized customer service?
	7. In what ways do you think technology has improved or hindered customer service in retail stores?
	8. How has technology in retail stores impacted your overall customer service delivery experience?
	9. Have you ever had a negative experience with technology in a retail store? Can you share what happened?
	10. In your opinion, what are some additional ways that technology could be used to improve customer service in retail stores?
	11. Which technology-driven features or services do you find most helpful in a retail store?
Ending	**12.** Do you have any other comment, remark or recommendation?

reliability. In this study, two focus group discussion sessions were conducted and each group consisted of 10 participants. The pilot group discussion was compiled with the main study having the sample size, n=25. In this sample, all the participants are male as no female retailer agreed to participate in the discussion. Other characteristics of the sample are presented in Table 1.

This study attempted to identify the readiness phase of retailers for technology use in business and its impact on their customer service delivery. Based on the thematic analysis of the transcribed discussion few themes were articulated.

Acquaintance with Technology

In today's era, everyone is familiar with technology. However, although salespeople have the knowledge of common technologies such as smartphones, internet, computers, etc., they do not have adequate knowledge of how to use modern retail management tools in the retail business. In the focus group discussion, when the participants were initially asked about the use of technology in the pharmacy business, several of them were shocked, which was evident from their expressions. But after informing them about some of the technology products used in retail business, they could understand it better. "I never thought about using technology in my business" -A small-scale retailer's comments indicate how interested he is in using technology in his business. However, several vendors and managers also said that they are interested in or are using pharmacy management software. Many times, sellers are influenced by the customers which makes them interested in using POS machines and other technologies in their stores. From this, it can be understood that buyers have a very important role in making sellers technology oriented.

Using Technologies: Easy or Difficult

Medical shops in Bangladesh usually have one pharmacist licensed by the Bangladesh Pharmacy Council and in that case, many selling staff are employed to manage large pharmacies. Most of these sales representatives do not have much educational qualification as it is not possible to hire highly educated sales representatives at the salaries paid in this type of job. Educational qualification is an essential quality to implement the use of technology. "In my 12 years of business experience, I have seen many people come to work in my shop who are well educated but do not have the slightest knowledge of computers". So, in this case, it can be said that the application of retail management tools in retail business in the context of Bangladesh is not a matter of ease. However, those who can use different types of software, barcode scanners, computers, etc. in their business are enjoying many benefits through it. "The biggest advantage pharmacy management software gives me is accounting transparency and ensuring optimal utilization of inventory"-A businessman who

has recently started using pharmacy management software, POS machines, computers, etc. in his business had this to say about the benefits of such technology. In recent times, people's inclination towards technology has increased and subjects related to the use of information technology have been included in the curriculum because of which people are becoming interested in working with information technology.

Technology in Customer Service

Various technologies used in retail outlets help to provide quick service to customers. Different technological features of retail outlets help in the accurate pricing of products, correct calculations, and proper billing. Customers' query handling, quick delivery of products, and secured transactions can be ensured by using these technologies. "Due to the use of computer software in my pharmacy, the efficiency of the employees has increased greatly, they can provide services very quickly and with relatively less staff, I am able to continue my business"- a key statement from the focus group discussion signifies the importance of retail management tools in customer service for retail medical stores. Many participants in the focus group discussion felt that the use of technology in business helps gain customer trust. Moreover, Technology reduces the waiting time of the customers which leads to satisfaction.

Optimum Inventory Level

Adequate inventory holding is an important decision in running a business. A seller has pressure from both sides to maintain, a high inventory level to ensure customer satisfaction and maintain a low inventory to minimize cost, pilferage, and deterioration. When a customer comes to a medical store with a prescription containing several drugs, if only one of the drugs is not available in the store, the customer may become frustrated and leave the store. Currently, the technology used in various retail warehouses notifies the seller before a product runs out of stock so that the seller can ensure that the product is re-stocked. Participants in focus group discussions repeatedly appreciated this positive aspect of technology: "The software used in my pharmacy business helps me to keep the right amount of stock". Some of the participating vendors also said that product obsolescence, pilferage, and deterioration are significantly reduced due to the use of technologies: "...In my store, theft of drugs, expired drugs, wasted drugs, etc. are greatly reduced due to the use of pharmacy management software."

Reluctance to Use Retail Management Tools

Through literature review and focus group discussion, we find that technology can be successfully applied in the retail medical store business and thereby ensure fast and accurate customer service and customer satisfaction. According to the participants'

opinions, many of them believe that by retail management tools, they can manage their medical stores with a relatively small number of staff, thereby reducing costs. They have also highlighted several positive aspects including quick and accurate calculation, proper inventory management, proper customer service, etc. But still, many business people showed reluctance to use technology among the participants. Especially those who are running a small-scale business find it complicated, time-consuming, and costly to rely on technology in their business: "...there are certainly some advantages to using retail management tools, but implementing one for a small business like ours is almost impossible", "big stores with a lot of capital can easily demonstrate the use of computer software in their business, but it seems to me that it is almost impossible for small pharmacies to use such technology" -statements like these denotes the small-scale retailer's unwillingness and inability to adopt technologies. Again, many of the large-scale businessmen do not show much interest in using new technologies for their business management because it needs a large one-time investment; instead, they prefer to invest in other fixed assets.

Finally, focus group discussions reveal that participants express a fairly mixed expression. Many participants think that the required manpower to use retail management tools and bring benefits out of it is not available in the job market of Bangladesh. Many others say that using technology in business requires investment and it is not possible for small businessmen to use such technology. However, many others opined that although the one-time investment in using technology is a bit high, it can run a store at a relatively low cost, maintain proper inventory levels, and ensure accurate accounting. Nevertheless, participants in focus group discussions who are already implementing various types of retail management tools in their business freely admit that they can ensure better customer service due to the use of technology. They also comment on some negative aspects of using such technology such as power outages, slow internet facilities and software update complications, etc.

Sentiment Analysis

In addition to the thematic analysis of the focus group discussion, sentiment analysis of key statements in the discussion was attempted to reveal the emotional state of participants regarding the use of technology in retail medical stores. Sentiment analysis is a popular natural language processing method where positive or negative sentiments in textual data are detected. In this study, the Valence Aware Dictionary and sEntiment Reasoner (VADER) (a popular rule-based and lexicon-based sentiment analysis model used for textual data) model is used for sentiment analysis of 7 significant statements from the focus group discussion mentioned here:

i. *"There are certainly some advantages to using technology, but implementing one for a small business like ours is very complex"*

Using VADER sentiment analysis tool, the given statement would likely have a compound score of -0.128, which indicates a slightly negative sentiment. The positive sentiment in the statement is conveyed through the phrase "certainly some advantages to using technology," while the negative sentiment is conveyed through the phrase "implementing one for a small business like ours is very complex."

Overall, the negative sentiment in the statement is slightly stronger than the positive sentiment, resulting in a slightly negative compound score.

ii. *"I use pharmacy management software in my store, but it is more expensive and I find it a hassle to update the software often."*

Using VADER sentiment analysis tool, the given statement would likely have a compound score of -0.3182, which indicates a slightly negative sentiment. The statement includes the phrase "use pharmacy management software," which conveys a neutral sentiment. However, the negative sentiment in the statement is conveyed through the phrase "more expensive" and the phrase "find it a hassle to update the software often." Overall, the sentiment in this statement is slightly negative, with a compound score of -0.3182.

iii. *"We have many pharmacists here who may know drugs but they don't know much about computers and how to use the various software on those computers so they can't show their application to the pharmacy business."*

The compound score for sentiment analysis of the statement is -0.5106, which indicates a negative sentiment. The negative sentiment in the statement is conveyed through the phrase "they don't know much about computers and how to use the various software on those computers," which suggests a limitation or challenge in implementing the technology. The use of the word "can't" also reinforce the negative sentiment. Overall, the sentiment in this statement is negative, with a compound score of -0.5106.

iv. *"...due to the use of computer software in my pharmacy, the efficiency of the employees has increased greatly, they can provide services very quickly, and with relatively less staff, I am able to continue my business."*

The given statement would likely have a compound score of +0.836, which indicates a highly positive sentiment. The statement includes the phrase "efficiency of the employees has increased greatly" and "services very quickly," both of which convey a highly positive sentiment. The use of the phrase "able to continue my business" suggests that technology has been a great help to the business, which also conveys a positive sentiment. Overall, the sentiment in this statement is highly positive, with a compound score of +0.836.

v. *"It's a good idea to let customers know if the medicine is in my store with just two or three clicks on the computer."*

The compound score of sentiment analysis found through the VADER sentiment analysis tool is +0.4404, which indicates a positive sentiment. The statement includes the phrase "good idea," which indicates a positive sentiment. The use of the phrase "just two or three clicks on the computer" suggests a convenient and efficient process, which also conveys a positive sentiment. Overall, the sentiment in this statement is positive, with a compound score of +0.4404.

vi. *"I think this is the best way to use technology to deliver the product to the customer quickly"*

This statement also implies that technology can boost quick customer service. The compound score of sentiment analysis of this statement is +0.6124, which indicates a highly positive sentiment. In this statement, the phrase "the best way to use technology," indicates a strong positive sentiment. The use of the word "quickly" also conveys a positive sentiment. The phrase "I think" is a qualifier and does not contribute to the sentiment score.

Overall, the sentiment in this statement is highly positive, with a compound score of +0.6124.

vii. *"...when we hand over a printed bill to the customer-generated through the computer software, the customers are assured that their bills are correct and there are no errors in the calculations".*

Using VADER sentiment analysis tool, the compound score of sentiment analysis is about +0.6369, which indicates a highly positive sentiment. The statement includes the phrase "customers are assured," which conveys a highly positive sentiment. The use of the phrase "their bills are correct and there are no errors in the calculations "suggests reliability and accuracy, which also conveys a positive sentiment. Overall, the sentiment in this statement is highly positive, with a compound score of +0.6369.

From the overall scrutiny of focus group discussion and sentiment analysis, it is clear that the results of both studies are almost on the same line. Focus group discussions show that participants feel that the use of retail management tools in business to improve their customer service, account management, and help maintain accurate inventory, but express reluctance to use technology due to large investments and lack of appropriate knowledge. Sentiment analysis also analyses a few selected sentences from the above discussion and reveals similar trends.

Regression Analysis

In the second phase of the investigation, structured primary data were collected by a personal survey from a sample of 202 retail medical store owners who use different retail management tools in their business operations. From the

Table 3 Model Summary

Model	*R*	R^2	*adj.* R^2	*Std. Error of the Estimate*
1	0.80	0.64	0.62	0.61

Table 4 ANOVA

Model		*SS*	*df*	*MS*	*F*	*p*
1	Regression	125.589	6	20.93	56.41	0.000
	Residual	71.993	194	0.37		
	Total	197.582	200			
Dependent Variable: Customer service delivery						
Predictors: (Constant), Accurate calculation, saving time, Easy customer query handling, Quicker product delivery, Inventory management, Customer relationship management						

Table 5 Regression coefficient of technological features on customer service delivery

Variables	*B*	*SE*	*t*	*p*	*95% CI*
(Constant)	-.446	.438	-1.018	.310	[-1.310, .418]
Accurate calculation	.109	.089	1.229	.221	[-.066, .284]
Saving time	.190	.077	2.462	.015	[.038, .343]
Easy customer query handling	.082	.068	1.208	.228	[-.052, .216]
Quicker product delivery	-.255	.081	-3.141	.002	[-.415, -.095]
Inventory management	.395	.082	4.832	.000	[.234, .557]
Customer relationship management	.550	.051	10.856	.000	[.450, .649]
Note: CI= Confidence Interval					

focus group discussion researchers identified a few variables; namely Accurate calculation, saving time, Easy customer query handling, Quicker product delivery, Inventory management, and Customer relationship management which can contribute to the customer service delivery process.

Table 5 shows the role of different aspects of using retail management tools in business, like, accurate calculation, saving time, easy customer query handling, quicker product delivery, inventory management, and customer relationship management on customer service delivery. The R2 value of 0.64 [see Table 3] reveal that the predictor explains 64% of the variance in the depositors' decision evaluation with F (6, 194) =56.41, p<0.001 [see Table 4] which means the model predicts a significant amount of variability in decision evaluation. So, it can be summed up from the retail medical store owners' point of view that the use of technology in a business generates several positive impacts on business operations, i.e. accurate calculation, saving time, Easy customer query handling, Quicker product delivery, Inventory management, and Customer relationship management and it is manifested from the regression analysis that these variables significantly contribute to customer service delivery.

Recommendations	Implications
Organize various campaigns and training sessions to increase awareness about retail technology use among small retailers through various local trade authorities or government support programs.	As awareness increases, the willingness to use technology will increase among retailers, leading to technology penetration in a larger area of the business.
Various types of subsidy schemes, soft loans, shared service platforms can be introduced, which will reduce the cost burden.	Financial Assistant will encourage micro and small retailers to invest more in technology, which will positively impact overall service delivery.
Vocational and short certification programs can be launched through which retailers and sales persons can be trained.	Skilled workforce will further enhance the effectiveness of technological tools, reduce operational errors, and improve customer service.
Integrated Retail Management System (IRMS) should be encouraged as an add-on option, which includes billing, CRM, and inventory modules.	Better customer service will boost customer satisfaction, increase loyalty, and give businesses a competitive edge.
CRM and inventory tools should be prioritized in the digital adoption strategy, for which training and incentives can be provided.	If adopted, it can optimize return on investment for retailers and ensure better customer service.

Recommendations and Implications

Based on the analysis of both qualitative and quantitative data following suggestions are proposed:

Conclusion

Today there is no way to survive and be successful without relying on technology. There is no better way to ensure superior customer experience and gain competitive advantage in the business arena than to leverage technology in retail businesses. Although there has been great progress in the use of retail business technology globally, the use of technology in retail business management in the context of Bangladesh is still in its infancy. However, it has been confirmed that better customer service can be delivered by ensuring accurate calculations, time savings, faster product delivery, appropriate inventory management, up-to-date customer relationship management, and better customer dealings. This study found that retailers generally believe that retail management tools are beneficial in improving their operational efficiency and thereby improving the customer experience. Although this study focuses solely on retail medical stores, it still offers valuable insights into how retail businesses can unlock greater potential by leveraging technology. If studies are conducted in the future covering diverse retail segments, it will further enrich the knowledge domain.

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Appendix-A

Questionnaire on

"Perceptions of Retailers towards the Use of Retail Management Tools to Elevate Customer Service."

Dear Sir/ Madam,

This questionnaire is part of a research study titled *"Perceptions of Retailers towards the Use of Retail Management Tools to Elevate Customer Service."* The purpose of this study is to assess how different technological tools used in retail businesses affect customer service delivery. Your responses will help us better understand the current practices, challenges, and potential of technology use in retail, particularly in the medical store sector of Bangladesh.

All information you provide will be kept confidential and used solely for academic purposes. There are no right or wrong answers—please respond honestly based on your experience.

Thank you for your valuable time and participation.

Section A: Respondent Profile

1. Your position: ☐ Owner ☐ Manager ☐ Salesperson

2. Years of business operation: __________ years

3. Do you use any retail management tools (e.g., pharmacy software, POS, apps)?

☐ Yes ☐ No

4. If yes, which tools do you use? (Tick all that apply):

☐ Pharmacy Software ☐ POS Terminal ☐ Smartphone App

☐ Receipt Printer ☐ Other: ______________

Section B: Perceptions of Retail Management Tools

Scale: 1 = Strongly Disagree → 5 = Strongly Agree

Statement	1	2	3	4	5
1. Using retail tools ensures accurate calculation in billing and records.	☐	☐	☐	☐	☐
2. Technology saves time in my daily sales and customer interactions.	☐	☐	☐	☐	☐
3. It helps me handle customer questions and queries more easily.	☐	☐	☐	☐	☐
4. Product delivery or service becomes faster with retail tools.	☐	☐	☐	☐	☐
5. Retail technology helps me maintain and manage inventory more efficiently.	☐	☐	☐	☐	☐
6. These tools help me maintain long-term relationships with customers (e.g., loyalty, trust).	☐	☐	☐	☐	☐

Section C: Perceived Customer Service Delivery (Dependent Variable)

Scale: 1 = Strongly Disagree → 5 = Strongly Agree

Statement	1	2	3	4	5
1. I believe that the overall customer service in my store has improved due to the use of technology.	☐	☐	☐	☐	☐
2. My customers are more satisfied with the speed and accuracy of service after I started using retail tools.	☐	☐	☐	☐	☐
3. Technology use has made my business more customer-focused.	☐	☐	☐	☐	☐

Do you plan to invest more in retail technology in the future?

☐ Yes ☐ No ☐ not sure

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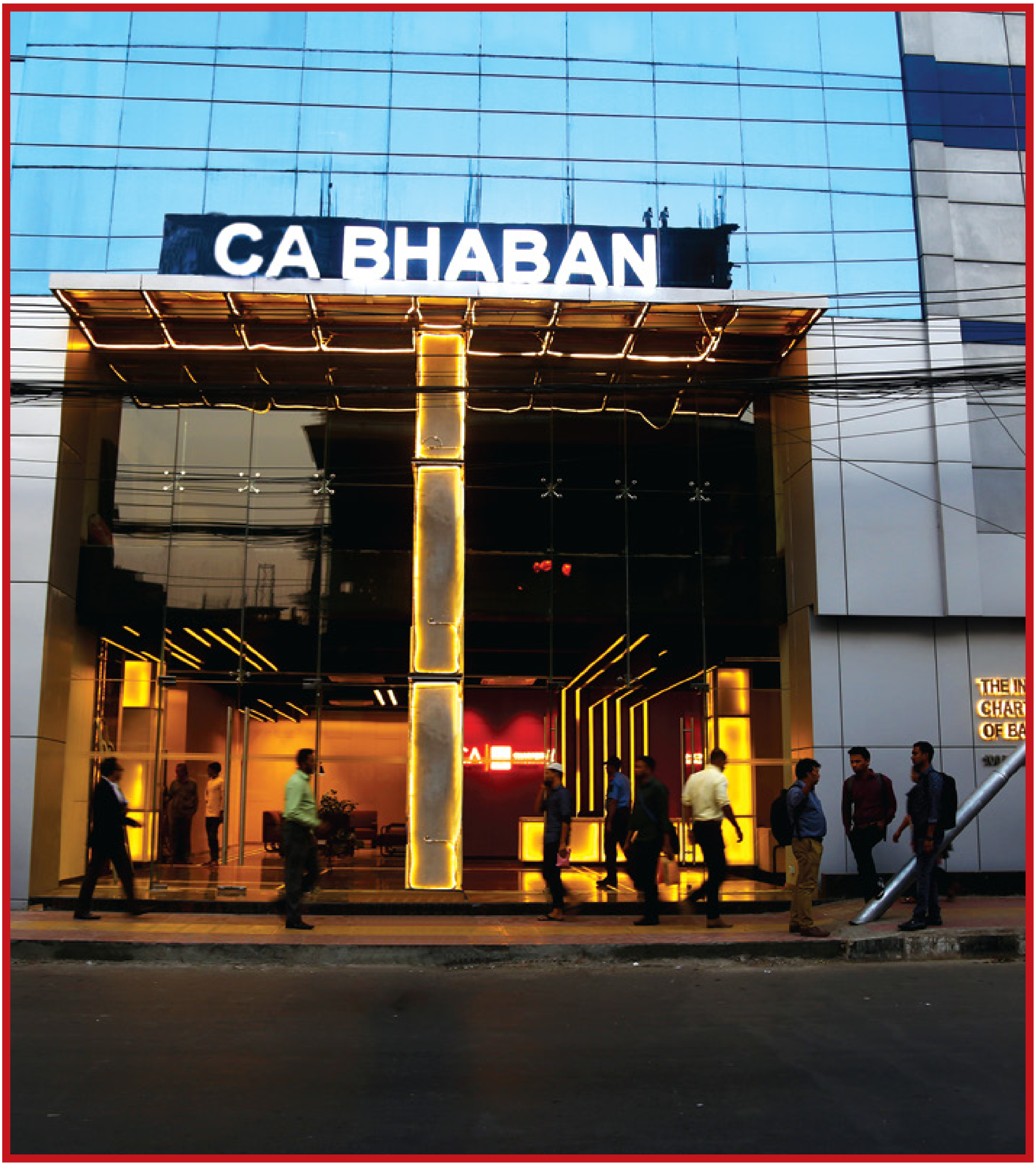

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Recognition of ICAB membership by ICAEW

Membership Scheme of The Institute of Chartered Accountants of England and Wales (ICAEW) allows the members of ICAB to apply for ICAEW membership based on their experiences.

Eligibility criteria of this membership scheme are a series of questions which assess ICAB Member's experience, achievements, skills and expertise. Each application must be supported by an eligible sponsor. Applicants need to complete an Examination of Experience.

Details of ICAEW Membership Scheme is available at http://www.icaew.com/membership/becoming-a-member/members-of-other-bodies/campaigns/pathways-to-membership.

ICAB signed it's first Memorandum of Understanding (MoU) with the Institute of Chartered Accountants in England and Wales (ICAEW) in 2009. Since them, ICAB has been working with ICAEW as the learning and professional development partner, and also recognized as an approved tuition provider of ICAEW.

As per MoU, ICAB Members can be the members of ICAEW after successful completion of 04 papers out of 15. These members have the opportunity to apply for UK Practicing Certificate (PC) subject to meeting the standard ICAEW PC requirement.

Recognition of ICAB Membership by CIPFA, UK

Members of the Institute of Chartered Accountants of Bangladesh (ICAB) are eligible to apply for membership of the Chartered Institute of Public Finance and Accountancy (CIPFA), a globally recognised membership body for the public sector.

An MoU between ICAB and CIPFA, UK was signed on 28 January 2017. Under this MoU, an ICAB member can also become a members of CIPFA subject to fulfillment of certain criteria.

An ICAB Member with good standing having five or more years post-qualification public sector experience are eligible for Full Membership of CIPFA as Chartered Public Finance Accountant (CIPFA) and the members having fewer than five years post-qualification public sector experience are eligible as Affiliate member of CIPFA (CIPFA Affiliat).

ICAB members having CIPFA Affiliate membership, or having no working experience in public sector can gain CIPFA status with the successful completion of exams of only two papers i.e. Public Sector Financial Reporting and Strategic Public Finance.

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The Institute of Chartered Accountants of Bangladesh (ICAB) signed an MoU with the Chartered Accountants Australia & New Zealand (CA ANZ). Under this, ICAB members living in Australia or New Zealand having five years post qualification experience at anywhere will be eligible to be member of CA ANZ after successful completion of CA ANZ International Pathway Program (IPP).

There will be no requirement of passing CA ANZ general route examinations by eligible ICAB members as their International Pathway Program (IPP) workshop through case studies would examine the contemporary Australasian business, accounting and finance environment relevant for members of ICAB. On the other hand, CA ANZ members can also be members of ICAB subject to having Bangladeshi citizenship and other requirements as prescribed by ICAB Bye-laws.

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Efforts are underway for ICAB to Become a member of the International Valuation Standards Council (IVSC). This would create an opportunity for the members of ICAB to involve in the valuation process of local and foreign investment in Bangladesh.

This would allow Chartered Accountants to put up their highly essential services and play positive roles in attracting foreign investment. With regard to this, ICAB has already conducted a Members Conference. More so, a virtual meeting with the CEO of IVSC was held on 8 June 2021 where the IVSC proposed ICAB to become member of IVSC on pro-rata basis.

Other Memberships

ICAB is an active member of International Federation of Accountants (IFAC), Confederation of Asian and Pacific Accountants(CAPA) and South Asian Federation of Accountants (SAFA). ICAB is also an associate member of Chartered Accountants Worldwide (CAW).