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The Role of Awami League for the Digital and Smart Bangladesh

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Abstract

This article examines the pivotal role of the Awami League in Bangladesh's journey towards becoming a digital and smart nation. It traces the evolution from the "Digital Bangladesh" vision, introduced in 2008, to the more comprehensive "Smart Bangladesh" concept unveiled in 2022. The study highlights how the Awami League's policies and initiatives have been instrumental in driving technological advancement, economic growth, and social progress in Bangladesh.The research employs a secondary data analysis approach, drawing from government reports, academic papers, and industry publications to illustrate the current status and challenges in achieving a Smart Bangladesh. It explores key focus areas such as smart governance, digital economy, smart infrastructure, and human capital development.The findings reveal significant progress in digital literacy, e-governance, and ICT integration across various sectors. The transition from Digital Bangladesh to Smart Bangladesh represents a more holistic approach to development, emphasizing the creation of smart citizens, smart government, smart economy, and smart society. The article discusses the implementation of emerging technologies like artificial intelligence, blockchain, and the Internet of Things in addressing developmental challenges.Despite notable achievements, the study identifies several obstacles, including the digital divide, infrastructure challenges, cybersecurity concerns, and the need for skilled human resources. It emphasizes the importance of collaboration between the government, private sector, and citizens in overcoming these challenges.The article concludes that the Awami League's forward-thinking policies have positioned Bangladesh as an emerging leader in embracing the Fourth Industrial Revolution. However, it underscores the need for continued efforts in addressing existing challenges to fully realize the vision of a Smart Bangladesh by 2041.

Introduction

Bangladesh, a nation born from struggle and aspiration, has experienced a remarkable journey of transformation in recent decades. At the forefront of this evolution stands the Awami League, a political party deeply rooted in the country's history and instrumental in shaping its future. Bangladesh, with its rich cultural heritage and rapidly growing economy, has witnessed significant changes, with the Awami League playing a central role in driving these developments.

Founded in 1949, the Awami League has been a pivotal force in Bangladesh's political landscape. Initially established to advocate for Bengali rights within Pakistan, the party played a crucial role in the 1971 Liberation War, guiding Bangladesh to independence under the leadership of Sheikh Mujibur Rahman. Over time, the party's vision has evolved from focusing on fundamental nation-building to embracing technological advancement as a means of national development. A key aspect of their recent agenda has been the vision for a "Digital Bangladesh" and, more recently, a "Smart Bangladesh" (Chowdhury, A., 2022).

Under the Awami League's leadership, Bangladesh has emerged as an ascending nation in South Asia (Husain & Tinker, 2020), showcasing remarkable growth and progress (Ahmed & Akter, 2022), even in the face of global uncertainties (World Bank, 2022). The party's emphasis on information and communication technology (ICT) and proactive governance has facilitated significant advancements across various sectors (Ahmed, 2023a). The

Awami League's policies have been instrumental in achieving the Millennium Development Goals, encompassing poverty reduction, food security enhancement, and healthcare improvement (Ashraf et al., 2019).

The party's vision of Digital Bangladesh 2021 has materialized, accompanied by other notable achievements such as Bangladesh's transition to a lower-middle income country (CRI, 2023), the successful launch of its first satellite (M. Z. Islam, 2018), and substantial infrastructure developments (Mirza, 2022). Under Awami League governance, Bangladesh has witnessed considerable improvements in GDP, education, and food security (Moyen Uddin, 2015; Shayery et al., 2022; CRI, 2023).

The Awami League's forward-thinking approach is evident in its commitment to achieving the Sustainable Development Goals (Nasrullah, 2021), implementing the 8th Five-Year Plan (Bangladesh Planning Commission, 2020), and pursuing long-term visions such as the Perspective Plan 2041 and Delta Plan 2100 (Alam, 2019). Responding to the challenges of the fourth industrial revolution, Prime Minister Sheikh Hasina, the Awami League leader, introduced the concept of 'Smart Bangladesh' on December 12, 2022. This vision, founded on the pillars of Smart Citizens, Smart Government, Smart Society, and Smart Economy, exemplifies the Awami League's dedication to guiding Bangladesh towards a technologically advanced future (Kabir, 2023).

This article aims to explore how the Awami League's policies and initiatives have been crucial in steering Bangladesh towards becoming a technologically sophisticated, economically dynamic, and socially progressive nation in the 21st century.

Vision of Digital Bangladesh

The vision of Digital Bangladesh was articulated by the Awami League in their 2008 election manifesto. This vision aimed to leverage technology to improve governance, education, healthcare, and economic development by 2021, coinciding with the 50th anniversary of Bangladesh's independence.

Sheikh Hasina, the AL chief, mentioned that her son SajeebWazed taught her how to use smartphones and operate computers, highlighting his significant contributions to digital advancements. As the Prime Minister's ICT Adviser, SajeebWazed has been instrumental in integrating GenNext InfoTech into various aspects of life, from online education to digital financial transactions. During the global coronavirus pandemic, Bangladesh benefited greatly from this digital transformation, maintaining economic stability through digital activities such as telemedicine, virtual courts, and mobile money transfers. This extensive digitalization contributed to Bangladesh's stronger growth trajectory compared to its larger neighbors during Covid-19 (Talukdar& Lamagna, 2024)

SajeebWazed, who holds a Computer Engineering degree from the University of Texas and a postgraduate degree in Public Administration from Harvard, is recognized for the country's significant technological progress.

The plan for Digital vision focused on four key pillars:

1. **Human Resource Development:** Investing in education and training to build a skilled workforce capable of thriving in a digital economy.

2. **Connecting Citizens:** Ensuring internet connectivity across the country to bridge the digital divide.

3. **Digital Government:** Implementing e-governance to make government services more accessible and efficient.

4. **ICT Industry Promotion:** Encouraging the growth of the information and communication technology (ICT) sector to create jobs and drive economic growth.

Transition to Smart Bangladesh

Building on the success of Digital Bangladesh, the Awami League has set its sights on transforming the country into a "Smart Bangladesh" by 2041. This vision encompasses a broader and more integrated approach to harnessing technology for sustainable development. The key components of Smart Bangladesh include:

1. **Smart Governance:** Leveraging data analytics, artificial intelligence (AI), and the Internet of Things (IoT) to create a more responsive and efficient government. This includes smart cities with integrated services for transportation, utilities, and public safety.
2. **Smart Economy:** Fostering an innovation-driven economy through advanced manufacturing, robotics, and digital trade. The focus will be on high-value industries and developing a digital marketplace.
3. **Smart Society:** Promoting digital inclusion and enhancing the quality of life through smart healthcare, education, and social services. This involves creating an inclusive digital ecosystem where all citizens can benefit from technological advancements.
4. **Sustainable Development:** Utilizing technology to address environmental challenges and promote sustainable practices. This includes smart agriculture, renewable energy, and disaster management systems.

Methods

This study employs a comprehensive secondary data analysis to examine the progress and challenges in Bangladesh's journey towards becoming a smart nation. The research aims to provide an in-depth understanding of the current landscape, key obstacles, and potential solutions in the implementation of Smart Bangladesh initiatives.To achieve this objective, we conducted a thorough review of diverse secondary sources, encompassing government publications, scholarly articles, industry reports, policy documents, and research papers. This wide-ranging approach ensures a holistic view of the subject matter.The collected information underwent a systematic thematic categorization process. Key themes identified include technological paradigm shifts, developmental strategies, priority sectors, technology integration, governance models, citizen participation, policy frameworks, and sustainability measures. This thematic organization enabled a structured and coherent analysis of the data.

Our qualitative analysis methodology involved identifying recurring patterns, persistent challenges, and emerging trends within the collected data. This approach allowed for a nuanced understanding of the complexities involved in the Smart Bangladesh initiative.

The research focused on extracting crucial insights related to the present state and hurdles faced in the implementation of Smart Bangladesh. Findings, including identified challenges and proposed recommendations, are presented clearly and concisely. To maintain the study's integrity and transparency, all sources are properly cited and referenced throughout the document.

This methodological approach provides a robust foundation for analyzing the multifaceted aspects of Bangladesh's smart nation journey, offering valuable insights for policymakers, researchers, and stakeholders involved in this transformative process.

Result& Discussion

Evolving Bangladesh: From Digital Foundations to a Smart Nation

The Digital Bangladesh initiative, launched by the Bangladeshi government in 2008, set out to revolutionize the country into a technologically advanced and knowledge-driven economy by 2021. This vision centred on harnessing the potential of information and communication technologies (ICT) to revolutionize multiple aspects of society, including governance, education, healthcare, and economic prospects, ultimately aiming to enhance the overall living standards of the population (Mahbub, 2022).

In December 2022, the government unveiled the broader Smart Bangladesh vision, set to be realized by 2041(Ahmed, T. & Akter, R., 2023). The Smart Bangladesh concept envisions a technologically sophisticated, forward-thinking, and environmentally conscious society. It seeks to leverage cutting-edge innovations such as AI, robotic systems, distributed ledger technologies, and interconnected devices to tackle the complexities brought about by the ongoing industrial transformation. This approach aims to position Bangladesh at the forefront of technological adoption and sustainable development (Palak, 2023).The Smart Bangladesh concept encompasses building smart citizens, a smart economy, a society, anda government (Mahbub, 2022). This involves implementing innovative approaches across sectors like transportation, energy, agriculture, and urban

development while fostering innovation and entrepreneurship to drive progress and improve citizens' quality of life (Mahbub, 2022).

Table :1 Building a Smart Bangladesh

Building a Smart Bangladesh: A Roadmap for the Future 	**1.** Intelligent communities, effective governance, thriving economy, and advanced society
	2. Beyond 5G connectivity and ubiquitous smartphone access
	3. AI, Automation, Distributed ledgers, Connected devices
	4. Prosperous economy, eliminating extreme poverty, and stable macroeconomic conditions.
	5. Advanced human well-being and eco-friendly city growth.

Strategic Approaches: Building a Smart Bangladesh on Digital Foundations

The Awami League has been instrumental in guiding Bangladesh's evolution into a technologically advanced country. The Digital Bangladesh program signaled a shift towards a more technology-focused development strategy, highlighting the use of ICT to improve service delivery, build capacity for a knowledge-based economy, and diversify exports to include knowledge-intensive products. Key components of this vision included expanding digital infrastructure, improving digital literacy, and promoting technology adoption across different sectors.

In contrast, the Smart Bangladesh initiative takes a more comprehensive approach to development, striving to bridge the digital divide through sustainable solutions to developmental challenges. This vision focuses on building smart citizens, a smart government, a smart economy, and a smart society, all of which aim to improve the quality of life for everyone.

Table 2: Focus on Actions and Outcomes

Area	Initiatives	Goals
Human Capital	ICT sector growth, R&D, training programs	Skilled workforce, innovation
E-Government	E-voting, open data, online services	Transparency, efficiency
Digital Inclusion	Literacy training, affordable internet, privacy	Universal access, trust
IT Industry	Workforce development, exports, R&D	Economic growth, global competitiveness

Evolving from a Digital Bangladesh to a Smart Bangladesh necessitates a holistic approach that involves cooperation among government bodies, private enterprises, and citizens. The following are key pillars essential for realizing the vision of Smart Bangladesh:

1. **Smart Governance**: Implementing data-driven and AI-powered solutions to improve public service delivery and transparency.

2. **Smart Economy**: Promoting innovation and technological advancements in industries to drive economic growth and global competitiveness.

3. **Smart Society**: Ensuring digital inclusion and reducing the digital divide to empower all citizens with digital tools and literacy.

4. **Smart Infrastructure**: Developing sustainable and resilient infrastructure to support advanced technological systems and services.

The efforts of the Awami League in these areas are crucial for Bangladesh's progression towards becoming a smart, inclusive, and prosperous nation.

Key Focus Areas for Advancing from Digital Bangladesh to Smart Bangladesh

The Awami League's 2008 Charter for Change prominently featured the goal of establishing a Digital Bangladesh, emphasizing the use of ICT in communication and education to enhance human capital and create a just society. This vision was echoed in the 2009 National ICT Policy, which prioritized social equity, universal access, and ICT support. A crucial aspect was creating an affordable, multi-channel access system to connect people and foster digital inclusion for development. Digital Bangladesh's success has relied on government efforts to build digital infrastructure and promote digital literacy, alongside the private sector's role in providing digital services. The shift towards Smart Bangladesh requires focusing on several key areas and involves collaboration between the government, private sector, and citizens. Below is a table outlining the priority areas essential for this transition:

Priority Area	Description
Smart Governance	Efficient, transparent governance through digital platforms and data-driven decision-making.
Smart Cities	Urban development with integrated smart technologies for better resource and service management.
Digital Economy	Promoting ICT-driven economic activities, fostering innovation, and supporting digital entrepreneurship.
Smart Agriculture	Utilizing technology to improve agricultural productivity and sustainability.
Digital Education	Enhancing educational outcomes through digital tools and platforms.
Digital Infrastructure	Building robust digital networks to support smart initiatives.
Enhanced Citizen Services	Improving public service delivery through digital means.
Infrastructure Efficiency	Optimizing the use and management of infrastructure with smart solutions.
Fostering Innovation	Encouraging a culture of innovation and continuous improvement.
Sustainable Development	Promoting environmentally sustainable practices through smart technology.
Digital Skills Development	Ensuring citizens have the necessary digital skills to participate in a smart society.
Intelligent Transportation Systems	Implementing smart transportation solutions to manage traffic and improve mobility.
Data Analytics	Utilizing data analytics for informed decision-making.

The comprehensive advancement of these sectors is crucial for Bangladesh's transformation into a Smart Bangladesh. Realizing this vision necessitates a joint effort among government bodies, private enterprises, and

citizens, focusing on intelligent solutions to address specific developmental hurdles such as traffic congestion, waste disposal, and energy efficiency. By transforming these critical areas into smart sectors, Bangladesh can establish a robust framework for a technologically progressive and sustainable future (Roy, 2023).

Smart Solutions for a Smarter Bangladesh: A Technological Paradigm Shift

Bangladesh is undergoing a revolutionary transformation in its journey towards becoming a Smart Nation. The country's commitment to embracing cutting-edge technologies is evident in its rapid adoption of smart solutions across various sectors. This technological paradigm shift is paving the way for a more efficient, connected, and innovative Bangladesh (a2i.,2022).

At the forefront of this transformation are four key technologies that are reshaping the nation's digital landscape:

1. **Digital Interconnection:** Bangladesh is harnessing the power of interconnected devices to enhance urban living. The Dhaka North City Corporation's ambitious 'Smart City' initiative exemplifies this approach, utilizing IoT to revolutionize waste management and traffic control systems. By creating a network of smart sensors and devices, the city aims to improve its residents' efficiency and quality of life (Vongsingthong&Smanchat, 2014).

2. **Smart Solutions:** The rise of AI in Bangladesh is marked by innovative startups leveraging machine learning and intelligent algorithms. Companies like Chaldal, a pioneering grocery delivery service, are utilizing AI to optimize their operations, demonstrating the practical applications of this technology in everyday services. This trend signifies a growing AI ecosystem that promises to drive innovation across various industries (Deowan,2020).

3. **Blockchain Technology:** Recognizing the potential of decentralized ledger technology, Bangladesh is exploring blockchain applications in critical sectors. The government's interest in implementing blockchain solutions for financial services and supply chain management showcases a forward-thinking approach to enhancing transparency and security in these vital areas.

4. **Big Data Analytics:** The power of data is being harnessed to transform public services in Bangladesh. By leveraging big data analytics, the government is working towards more informed decision-making in healthcare, education, and other essential sectors. This data-driven approach is expected to lead to more targeted and effective public policies and services.

These technological advancements are not just isolated initiatives but part of a broader vision for a Smart Bangladesh. As the country continues to invest in and develop these smart solutions, it is positioning itself as a rising tech hub in South Asia. The integration of these technologies is expected to drive economic growth, improve governance, and enhance the overall quality of life for Bangladeshi citizens.

The journey towardsa Digital Bangladesh to a Smart Bangladesh is an ongoing process, with continuous innovation and adaptation being key to success. As these technologies evolve and new ones emerge, Bangladesh's commitment to embracing smart solutions will be crucial in shaping its future as a technologically advanced nation.

Recommendation

Navigating the Path to Smart Bangladesh: Obstacles and Opportunities

Bangladesh's journey towards becoming a smart nation is fraught with both challenges and possibilities. As the country strives to implement its vision of Smart Bangladesh, it faces a complex landscape of technological, social, and economic hurdles that require strategic solutions.

A critical obstacle is the persistent digital gap, evident in various ways, including gender imbalances, limited access to technology, and regional disparities (Lester, 2019; Kormos & Wisdom, 2023). This gap poses a risk of excluding a substantial segment of the population from the benefits of the digital revolution.

Infrastructure challenges also loom large. Despite progress in power supply management, recent setbacks have led to interruptions that impact productivity and internet availability. Additionally, the lack of affordable and reliable broadband internet, particularly in rural and remote areas, poses a significant barrier to achieving the smart nation's vision (Dijk, 2019; Soomro et al., 2020).The human factor plays a crucial role, with digital literacy being a key concern. Current data reveals that merely 35% of Bangladesh's population possesses digital literacy (Lester, 2019), underscoring the critical necessity for skill enhancement programs.

Economic factors also come into play. The global pandemic and environmental challenges have impacted Bangladesh's economic progress (Akter, 2022), potentially affecting the resources available for smart initiatives. Moreover, the high cost of internet services and limited access to digital devices continue to be obstacles (Afrin, 2022).

Cybersecurity emerges as another critical challenge. With increasing internet penetration, the country faces growing cyber threats, exacerbated by insufficient security policies and guidelines (Babu, 2023).Other challenges include the need for streamlined digital services to avoid disadvantaging certain societal groups (Joseph, 2001), and the importance of raising public awareness, particularly among rural and illiterate populations (Kos-Labedowicz, 2017).

Despite these challenges, Bangladesh has shown resilience and determination in its digital transformation efforts. Realizing the Smart Bangladesh vision demands a high degree of collaboration among involved parties and substantial funding for research and development (Panel, 2023).By addressing these challenges head-on, Bangladesh can pave the way for a more inclusive, efficient, and technologically advanced future.

As the country navigates this complex landscape, it must balance the need for rapid technological advancement with the imperative of inclusive growth. The path to Smart Bangladesh is not without obstacles, but with strategic planning and concerted efforts, the nation can turn these challenges into opportunities for innovation and progress.

Conclusion

The journey of Bangladesh from "Digital Bangladesh" and "Smart Bangladesh" marks a significant evolution in the nation's development trajectory. Under the leadership of the Awami League, the country has seen remarkable advancements in technology and infrastructure, fostering a digitally inclusive society. The "Digital Bangladesh" initiative laid the foundation by enhancing digital literacy, improving digital infrastructure, and integrating ICT into various sectors of governance and economy.

The transition to "Smart Bangladesh" builds upon these digital foundations, aiming for a holistic and sustainable development approach. The focus on smart governance, smart economy, smart society, and smart infrastructure underscores the commitment to leveraging advanced technologies like AI, IoT, and blockchain to drive innovation and improve quality of life.Collaboration between the government, private sector, and citizens is crucial for realizing this vision. By addressing key areas such as digital inclusion, sustainable development, and technological innovation, Bangladesh is well-positioned to emerge as a technologically advanced and economically vibrant nation by 2041.

This ongoing transformation reflects the Awami League's forward-thinking policies and their dedication to creating a prosperous and inclusive future for all Bangladeshis. The realization of "Smart Bangladesh" will not only enhance national capabilities but also establish Bangladesh as a leader in embracing the challenges and opportunities of the Fourth Industrial Revolution.

Conflicts of Interest

The authors declare no conflicts of interest.

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