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### Analyzing the Introduction of Sustainable Energy Policy in Nigeria on Small and Medium-Sized Business Competitiveness: A Case Study of Max.ng and Jet Motor Company using the ABCD Model

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#### Abstract

Nigeria's recent shift towards sustainable energy policies presents both challenges and opportunities for small and medium-sized business (SMBs). This study analyzes the impact of the introduction of sustainable energy policy on small and medium-sized business competitiveness using the ABCD model (Agility, Benchmarking, Convergence, and Dedication) approach. This research employs secondary data collected through online research, and a qualitative case study approach, using Max.ng, a start-up mobility tech company focused on electric automobiles, mobile delivery, and logistics, with Jet Motor Company, a Nigerian

automobile electric vehicle manufacturer. This research explores how these businesses are adapting to the new policy landscape. The findings reveal that agility and dedication are crucial for navigating the complexities of sustainable energy adoption by both companies. Benchmarking against international best practices and fostering convergence between traditional and sustainable business models are also critical for enhancing competitiveness. This research paper concludes by offering policymakers and industry stakeholders recommendations to support SMBs in this transition.

**Keywords:** Sustainable Energy Policy, Nigeria, Small and Medium-Sized Business, Competitiveness, and ABCD Model

#### 1. Introduction

Nigeria, Africa's most populous nation, is undergoing a significant transformation in its energy sector. The increasing awareness of environmental degradation caused by reliance on fossil fuels and the need for energy security has prompted the government to introduce sustainable energy policy<sup>[1]</sup>. These policies aim to diversify the energy mix, reduce reliance on fossil fuels, and promote renewable energy sources like solar and wind power.

While these policies are crucial for long-term environmental and economic sustainability, they also present challenges for small and medium-sized businesses (SMBs). SMBs are the backbone of the Nigerian economy, contributing significantly to job creation and economic growth<sup>[2]</sup>. However, their ability to adapt to new regulations and invest in sustainable technologies can be limited by factors such as resource constraints, lack of awareness, and limited access to finance [Adebayo *et al.*, 2019].

As one of Africa's fastest-growing economies, Nigeria faces a surging demand for energy due to its vibrant economic activity. To meet this demand and ensure long-term development, the country needs access to cost-effective and environmentally sound energy sources. Without a strong focus on sustainable energy practices, achieving Nigeria's full economic potential will be hindered (Umar G. S 2023).

Reliable and sufficient energy is the backbone of any thriving society. Businesses, in particular, require high-quality and consistent energy supplies for success. Energy serves as a fundamental component of all economic activity, fueling wealth creation and propelling growth across various sectors (Ayodele, 2004). Currently, Nigeria depends heavily on hydropower and non-renewable resources to power its economic engine. This is despite the nation's abundant reserves of both sustainable and non-sustainable energy sources.

The limited access to dependable energy poses a significant barrier to the long-term growth of all economic sectors in Nigeria. The government has implemented measures to create a supportive environment for small and medium-sized businesses (SMBs) to flourish, including ensuring consistent and reliable electricity access. However, despite these efforts, the country still lags behind in terms of energy accessibility and utilization. Factors contributing to this include inefficient use of existing

resources, inadequate infrastructure and policy implementation, and a lack of financing for sustainable energy projects.

Research by Onakoya *et al.* (2013) highlights that efficient access to reliable energy is crucial for the long-term growth and development of any nation's economic sectors. To secure effective and sustainable economic progress, the Nigerian government must take decisive steps to optimize existing resources, strengthen energy infrastructure, and provide necessary funding for sustainable energy initiatives. This will ensure all economic sectors have access to the dependable and environmentally responsible energy required to thrive.

This paper investigates the introduction of sustainable energy policy on SMBs competitiveness in Nigeria. It employs the ABCD model, a framework developed by Hwy-Chang Moon<sup>[3]</sup> to analyze business model innovation in emerging economies. The ABCD model focuses on four key capabilities which are stated as follows:

**Agility:** The ability to adapt and respond quickly to changing market conditions (Hwy-Chang Moon, 2015).

**Benchmarking:** Continuously learning from and emulating best practices (Hwy-Chang Moon, 2015).

**Convergence:** Combining traditional and new business models to create synergies (Hwy-Chang Moon, 2015).

**Dedication:** A strong commitment to achieving sustainability goals (Hwy-Chang Moon, 2015).

The paper utilizes a qualitative case study approach, focusing on two SMBs: Max.ng, a leading start-up mobility tech company focused on electric automobiles, mobile delivery, and logistics, and Jet Motor Company, a Nigerian automobile electric vehicle manufacturer. Through in-depth research and analysis, we explore how these businesses are adapting to the new policy landscape and how the ABCD model can be applied to enhance their competitiveness in a sustainable energy environment.

## 2. Literature Review

The Nigerian government's introduction of sustainable energy policies presents both challenges and opportunities for small and medium-sized businesses (SMBs). This literature review examines the impact of the introduction of these policies on Small and medium-sized businesses SMBs competitiveness, utilizing the ABCD model (Agility, Benchmarking, Convergence, and Dedication) as a framework for analysis. We explore existing research on sustainable energy policy in Nigeria, the ABCD model in business strategy, and the unique challenges and opportunities faced by Nigerian small and medium-sized businesses (SMBs). A case study of Max.ng and Jet Motor Company, will be used to illustrate the application of the ABCD model in navigating the new policy landscape.

### Existing research on sustainable energy policy in Nigeria

Nigeria, Africa's most populous nation, faces a significant energy challenge. Despite vast oil and gas reserves, a large portion of the population lacks access to reliable electricity. The Nigerian government has implemented various policies to promote sustainable energy sources like solar and wind power<sup>[4]</sup>. These policies include feed-in tariffs, tax breaks for renewable energy companies, and initiatives to encourage investment in the sector<sup>[5]</sup>.

While these policies aim to improve energy security and reduce dependence on fossil fuels, they also introduce new regulations and requirements for businesses. Understanding

the specific policies and their potential impact on SMBs is crucial. The effectiveness of a policy measure or incentive is assessed by the amount of private funds leveraged through the implementation of the policy. Effective renewable energy financing measures require that limited public funds are used carefully to leverage more private finance for development of renewable energy Bem Ayangeaor, 2022.

### ABCD model in business strategy

The ABCD model, developed by<sup>[3]</sup>, provides a framework for business strategy in a dynamic environment.

The four components are:

**Agility (Speed and Precision):** The ability of a company to adapt its operations and strategies quickly and efficiently to changing market conditions.

**Benchmarking (Learning and Best Practice):** Continuously comparing a company's performance against industry leaders or sustainable business practices to identify areas for improvement.

**Convergence (Mixing and Synergy-Creation):** Combining different resources and approaches to create innovative solutions that address both business needs and sustainability goals.

**Dedication (Diligence and Goal-Orientation):** A company's unwavering commitment to implementing sustainable practices and achieving its related goals.

This model can be particularly helpful for small and medium-sized businesses SMBs navigating the evolving landscape of sustainable energy policy.

### Challenges and Opportunities faced by Nigerian small and medium-sized businesses (SMBs)

Existing research highlights both the challenges and opportunities associated with sustainable energy policy for Nigerian SMBs. Studies by Adeniran *et al.* (2021) and Afolabi (2020) identify access to financing, lack of awareness about sustainable technologies, and limited technical expertise as key hurdles.

Small and Medium Business SMBs are the backbone of the Nigerian economy, employing a significant portion of the workforce and contributing substantially to GDP [Chidiebere Chibuike, 2023], [This Day Live, 2024]. However, these businesses often lack the resources and knowledge to readily adapt to new regulations or invest in sustainable technologies [Elizabeth Olufunmilayo, 2020].

The relationship between sustainable energy policies and SME competitiveness has been a subject of growing research interest. Studies by<sup>[6]</sup> highlight the potential benefits of sustainable energy adoption for SMEs, including cost savings, improved brand image, and access to new markets. For instance, [Senjuty Bhowmik, 2020] found that SMEs that adopted solar energy in India experienced significant reductions in their electricity bills, leading to increased profitability. Similarly, [Patricia Agyare, 2023] showed that SMEs in Kenya that implemented energy-efficient practices were able to attract new customers who valued their commitment to sustainability. Also, research by Oni *et al.* (2018) suggests that embracing sustainable practices can lead to cost savings, improved brand reputation, and access to new markets for Nigerian SMBs.

Small and medium-sized enterprises (SMEs) are the lifeblood of the Nigerian economy, driving job creation, innovation, and overall economic growth. However, for these businesses to thrive and ensure long-term success, they

must adapt to a sustainable future. A key aspect of this adaptation is the adoption of sustainable energy solutions, presenting a multitude of opportunities.

Financially, renewable energy offers a compelling escape from volatile fossil fuel prices. Solar and wind power provide a hedge against these fluctuations, leading to significant cost savings on energy bills over time. Studies show payback periods for solar panels can be within a few years [The National Renewable Energy Laboratory, 2004]. Reduced energy dependence translates to improved cash flow and profitability, allowing SMEs to reinvest and fuel further growth.

Beyond finances, adopting sustainable practices enhances brand image. Consumers are increasingly drawn to environmentally conscious businesses. A [Nielsen survey report, 2015] revealed a global trend of consumers willing to pay more for sustainable products and services. This presents a chance for Nigerian SMEs to differentiate themselves and attract a wider customer base.

Operationally, renewable energy offers reliable and independent power. Dependence on the often-unreliable national grid is minimized, leading to improved efficiency. Businesses can maintain consistent production flow with reduced disruptions from power outages. Reliable power fosters higher productivity and output.

The Nigerian government further incentivizes the transition with tax breaks, low-interest loans, and grants specifically targeted towards renewable energy projects undertaken by SMEs. Utilizing these incentives can significantly reduce upfront costs.

Reduced reliance on fossil fuels offers additional benefits. Renewable energy fosters operational stability by mitigating risks associated with fluctuating prices and supply chain disruptions of imported fuels. This allows businesses to focus on core competencies and strategic planning.

A commitment to sustainability can even improve employee morale. Working for an environmentally responsible company often leads to increased job satisfaction and loyalty, fostering a positive work environment that translates to higher engagement and productivity.

While challenges exist, like initial investment costs and access to financing, the renewable energy sector is rapidly evolving. Costs are decreasing, and a skilled workforce is emerging to address technical expertise needs. Financial institutions are also developing loan products specifically tailored to SMEs.

Furthermore, adopting sustainable energy solutions is a win-win for Nigerian SMEs. It offers financial benefits, brand image enhancement, improved operational efficiency, and a chance to contribute to a cleaner environment. Supportive government initiatives and a growing focus on sustainability create a favorable environment for this transition. As Nigerian SMEs recognize these opportunities, they can position themselves for long-term success in a resource-conscious future.

However, other studies by the *World Economic Forum Report, 2020* point out the challenges faced by SMEs, such as the high upfront costs of renewable energy technologies and the lack of government support mechanisms. A study conducted in South Africa<sup>[7]</sup> found that many SMEs were hesitant to invest in renewable energy due to the perceived financial risks." Similarly<sup>[8]</sup>, argue that government policies in many developing countries do not provide adequate financial incentives or technical assistance to support SMEs

in their transition to sustainable energy adoption.

### 3. Research Methodology

This study employs the ABCD Model<sup>[3]</sup> and a qualitative case study approach, utilizing **secondary data collected through online research**, to explore the impact of the introduction of sustainable energy policies on SMEs competitiveness in Nigeria. The case study allows for an in-depth examination of the experiences of two specific businesses, Max.ng and Jet Motor Company.

This approach is particularly suited for this research as it enables a rich understanding of the complex factors shaping how SMEs adapt to sustainable energy policies in Nigeria. The selection of Max.ng and Jet Motor Company as a case study provides a contrasting view of SME experiences. Max.ng, as a start-up mobility tech company focused on electric automobiles, mobile delivery, and logistics, with Jet Motor Company, a Nigerian automobile electric vehicle manufacturer were impacted by regulations on vehicle emissions and the need to adopt energy-efficient practices in their production.

Using all aspects of the ABCD Model while considering both the main factors and sub factors, below are the cross-sectional analysis between Max.ng and Jet Motors Company:

#### **Agility (Speed and Precision):**

**Max.ng:** has the speed due to their existing delivery network which allows for faster adoption of electric motorbikes. Partnering with manufacturers and strategically placing charging stations can further enhance their precision.

**Jet Motors:** Their speed is slow due to the shift to electric Sport Utility Vehicles (SUVs) requiring significant changes, leading to slower adaptation compared to Max.ng. Their focus on ruggedness gives them confidence in the precision of their electric sport utility vehicles (SUVs), a critical advantage for the challenging Nigerian terrain.

#### **Benchmarking (Learning and Best Practice):**

**Max.ng's** M3 motorbike and **Jet Motors Company** electric Sports Utility Vehicle SUVs focus showcase their innovative spirit, making them ideal candidates for Benchmarking. This allows them to learn from established electric vehicle companies abroad, accelerating their Electric Vehicle integration through best practices and avoiding potential pitfalls.

#### **Convergence (Mixing and Synergy Creation):**

**Max.ng:** Doesn't demonstrate Convergence (Mixing and Synergy Creation) through their fundraising partnership, their development of bespoke electric motorcycles (M3) specifically designed for Africa showcases potential for convergence in the future.

**Jet Motors:** Exemplifies Convergence (Mixing and Synergy Creation) through their partnership with GIG Logistics, leveraging expertise and distribution networks for accessible charging stations.

#### **Dedication (Diligence and Goal Orientation):**

**Max.ng:** Is known for their diligence and goal orientation. They set a clear goal for their electric motorbike adoption while investing in infrastructure and partnerships (goal orientation). Their existing network demonstrates some diligence with their Electric Vehicle pilot program which is

an exploration of sustainable energy delivery option (dedication and sustainability). The Yamaha investment hints at a possible goal of integrating Electric delivery Vehicles through logistics partnership.

**Jet Motors:** Jet Motors Company has a strong commitment to research and development for electric SUVs (diligence). They are dedicated to long-term sustainability goals

alongside maintaining their reputation (goal orientation). Subsequently, they were able to raise funds which would be channeled to proper research and also enable the company to introduce other lines of vehicles which includes pickups, Sport Utility Vehicles (SUVs), sedans and, most importantly, its ambitious JET Electric Vehicle project.

**Fig 1:** Comparison of the Max.ng and Jet Motor Company Based on ABCD

| Components          | Sub-Factors             | Max.ng                                                                                                                                                      | Jet Motors Company                                                                                                                                                           |
|---------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Agility</b>      | <b>Speed</b>            | has the speed due to their existing delivery network which allows for faster adoption of electric motorbikes.                                               | Their speed is slow due to the shift to electric Sport Utility Vehicles (SUVs) requiring significant changes, leading to slower adaptation compared to Max.ng.               |
|                     | <b>Precision</b>        | Partnering with manufacturers and strategically placing charging stations can further enhance their precision.                                              | Their focus on ruggedness gives them confidence in the precision of their electric sport utility vehicles (SUVs), a critical advantage for the challenging Nigerian terrain. |
| <b>Benchmarking</b> | <b>Learning</b>         | Their innovative M3 motorbike highlights their eagerness to learn from established electric vehicle companies abroad.                                       | The focus on electric SUVs showcases Jet Motors' commitment to learning from EV leaders.                                                                                     |
|                     | <b>Best-Practice</b>    | This innovation allows them to leverage best practices and avoid potential roadblocks when integrating electric vehicles into their delivery network.       | By studying best practices, they can accelerate the development of rugged and reliable electric SUVs, tailored for Nigerian terrain.                                         |
| <b>Convergence</b>  | <b>Mixing</b>           | Does not demonstrate mixing through their fundraising partnership.                                                                                          | Their partnership with GIG Logistics exemplifies their Mixing.                                                                                                               |
|                     | <b>Synergy Creation</b> | Their development of custom-made electric motorcycles (M3) specifically designed for Africa showcases potential for synergy creation in the future.         | Leveraging their expertise and distribution networks for accessible charging stations showcase synergy creation.                                                             |
| <b>Dedication</b>   | <b>Diligence</b>        | Their existing network demonstrates some diligence with their Electric Vehicle pilot program which is an exploration of sustainable energy delivery option. | Their strong commitment to research and development for electric SUVs.                                                                                                       |
|                     | <b>Goal-Oriented</b>    | The Yamaha investment hints at a possible goal of integrating Electric delivery Vehicles through logistics partnership.                                     | They are dedicated to long-term sustainability goals alongside maintaining their reputation                                                                                  |

**Overall Analysis:** The impact of the introduction of sustainable energy policies on Max.ng and Jet Motors Company.

This study explores the impact of introducing sustainable energy policies on two Nigerian companies: Max.ng, a start-up mobility tech company focused on electric automobiles, mobile delivery, and logistics, with Jet Motor Company, a Nigerian automobile electric vehicle manufacturer. We utilized the ABCD Model and a qualitative case study approach to gain in-depth insights.

### Key Findings

Max.ng stands to benefit significantly from the agility it possesses. Their existing delivery network facilitates faster adoption of electric motorbikes. Strategic partnerships with manufacturers and well-placed charging stations can further enhance their precision.

**Jet Motors**, due to the substantial shift required to produce electric SUVs, faces a slower adaptation compared to Max.ng. However, their focus on ruggedness ensures their electric SUVs are well-suited for the challenging Nigerian terrain, offering a crucial advantage.

Both companies showcase innovative spirit with **Max.ng's** M3 electric motorbike and Jet Motors' focus on electric SUVs. This positions them as ideal candidates for Benchmarking. By learning from established electric vehicle companies abroad, they can accelerate their EV integration, adopt best practices, and avoid potential pitfalls.

While **Max.ng's** current fundraising partnership doesn't demonstrate Convergence, their development of the M3 electric motorbike specifically designed for Africa holds promise for future convergence opportunities.

**Jet Motors**, on the other hand, exemplifies Convergence

through their partnership with GIG Logistics. This collaboration leverages expertise and distribution networks to create accessible charging stations, a crucial element for electric vehicle adoption.

**Max.ng** demonstrates dedication through their clear goal for electric motorbike adoption, investments in infrastructure and partnerships, and their potential logistics partnership with Yamaha, hinting at a future integration of electric delivery vehicles.

**Jet Motors** also displays dedication through their strong commitment to research and development for electric SUVs, their long-term sustainability goals, and their successful fundraising efforts that allow them to explore diverse vehicle lines including electric options.

### 4. Conclusion

The introduction of sustainable energy policies has a differential impact on Max.ng and Jet Motors. While Max.ng's existing infrastructure allows for faster adaptation of electric vehicles, Jet Motors requires more time due to the complexities of transitioning to electric sports utility vehicles SUVs.

However, their focus on ruggedness ensures their vehicles are well-suited for the local terrain. Benchmarking presents a valuable opportunity for both companies to learn from established players and accelerate their electric vehicle integration efforts within the evolving market landscape.

This research poses a sustainable future on the horizon for the introduction of sustainable energy policies with undoubtedly accelerated adoption of electric vehicles in



Nigeria. The contrasting approaches of Max.ng and Jet Motors highlight the unique opportunities and challenges faced by different segments of the automotive industry. However, both companies stand to benefit from embracing electric vehicle technology and can play a pivotal role in shaping the future of sustainable transportation in Nigeria.

By capitalizing on their existing strengths and adapting to the evolving market landscape, Max.ng and Jet Motors can secure a competitive edge. Max.ng's agility and focus on urban mobility position them to become a leader in the electric ride-hailing sector, while Jet Motors' commitment to ruggedness can pave the way for the development of long-range electric sports utility vehicles SUVs well-suited for Nigeria's diverse terrain.

The journey towards a sustainable transportation future in Nigeria will necessitate a collaborative effort. The government has a critical role to play in creating an enabling environment for electric vehicle adoption through the implementation of well-designed policies, fostering research and development, and investing in charging infrastructure. Partnerships with established global players in the EV industry will provide valuable knowledge transfer and accelerate the development of domestic expertise.

Ultimately, the success of Nigeria's electric vehicle revolution hinges on a holistic approach. By nurturing a robust Electric Vehicle ecosystem encompassing battery manufacturing, charging infrastructure development, skilled workforce training, and consumer awareness campaigns, Nigeria can unlock the immense potential of electric vehicles. This transition will not only contribute to a cleaner environment and reduced dependence on fossil fuels, but also create new job opportunities, stimulate economic growth, and position Nigeria as a leader in sustainable transportation within Africa.

The road ahead for electric vehicles in Nigeria is promising. With continued investment, collaboration, and innovation, Max.ng, Jet Motors, and other industry players can propel the nation towards a cleaner and more sustainable transportation future. The journey will undoubtedly be marked by challenges, but the potential rewards – a healthier environment, a more secure energy future, and a thriving electric vehicle sector – make it a journey worth taking.

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