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Financing Options and Execution of Solar Power Projects in Southwest, Nigeria

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ABSTRACT

The success of solar power projects relies solely on the availability of finance for the execution. The interplay becomes critical for developing countries due to limited financial options, which ultimately impact on their ability to achieve their renewable energy goals. Therefore, this paper examined the main financing options available for execution of solar power projects (ESPP) in Southwest, Nigeria. The main financing options used for the study are equity, debt, government incentives and corporate institution supports. The study adopted a research survey design and a census population of 158 firms. The study retrieved and used 109 valid questionnaire collected from the top managers, representing about 69 percent. The data were collected using a digital questionnaire created with CSPro (Census and Survey Processing System). The method of analysis was the structural equation modelling (SEM). The SEM analyses conducted for the combined effect revealed that equity finance ($\beta = 0.332$; $P < 0.05$) was the only significant option among others; debt finance ($\beta = 0.138$; $P > 0.05$), government incentive ($\beta = 0.138$; $P > 0.05$), corporate institution support ($\beta = 0.167$; $P > 0.05$) were insignificant at 95 percent level. The result showed that equity financing is critical and that companies that use equity financing are more likely to successfully execute their projects. The study recommended that financial sector policy prioritise robust equity financing and offer incentives for project developers that integrate sustainability considerations. Solar power developers should also explore collaboration with private investors to share financial burdens. Overall, the study provided insights into the financing options and execution of solar power projects in Southwest, Nigeria. The findings have implications for policymakers, solar power developers, and investors seeking to promote the growth of the solar power industry in the region.

1.0 BACKGROUND TO THE STUDY

Solar power is a source of renewable energy (RE) electricity that has gained a considerable attention globally. The reason being that the energy level generated by a country determines the growth of the industrial sector (Olabode & Akintelu, 2022). Agbakwuru (2025) explored the critical role of renewable energy (RE) in advancing the United Nations' SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action). With the 2030 SDG deadline approaching, expanding renewable energy is essential for fostering a sustainable and equitable future (Agbakwuru, 2025). Globally, the success of RE relies solely on the availability of finance for the execution.

However, for developing countries, execution of solar power projects remained constrained due mainly to limited financing options. Thus, the lack of access to pool of funds has ultimately impacted on their ability to achieve their renewable energy goals (Taghizadeh-Hesary et al., 2021). For instance, Sasu (2022) reported that only 62% of Nigerians were connected to the national grid. The situation is even worse in the southwest, Nigeria, where majority of the country's manufacturing industries are located.

Historically, the development of renewable energy resources has faced a number of hurdles, primarily related to cost, regulation, and financing (Lee & Zhong, 2015). Ighrauwe and Mashoa (2019) observed that a renewable energy technology (RET) project involves heavy capital investment; hence, enough funds must be made available to prevent either delay or project abandonment. Nigeria apparently lacks behind going by the level of delopment (Akuru et al., 2017), despites that it commenced action on renewable energy development long ago (Agbakwuru, 2023).

These recent trends were caused by the political agenda of the financing government, the process of the encumbrance of participating stakeholders, the public acceptance and inclusion of the beneficiaries as stakeholders, maintenance and management of implemented projects, and inadequate planning prior to the implementation of projects (Ikejemba et al., 2020; Antonanzas-Torres, et al., 2021).

In the Southwestern region, the efforts of the states and private sector to comprehensively plan and deliver alternative power system are not effective (Ogundari & Otuyemi, 2020). Although, past studies have examined the effect of financial resources (Ng & Tao, 2016; Agbakwuru, 2025), there is little or no attention given to the disaggregation of financing options into equity, debt, government incentives and corporate institution supports and their effects on execution of solar power projects. Consequently, this study assessed the disaggregated effects of financing options on execution of solar power projects (ESPP) in the Southwest, Nigeria. The motivation for this study was to determine the best financing options for effective execution of solar power projects (ESPP) in Southwest, Nigeria, with a view to guaranteeing sustainable power supply in the region.

The study would provide valuable insights for energy stakeholders supporting the development of enabling environment for solar power execution. The study would also assist government agencies in establishing certain renewable energy projects.

2.0 THEORETICAL REVIEW

2.1 Project Execution Theory

The Theory of Project Execution (PET) can be traced back to Emerson (1917). The theory is similar to the concept of job dispatching in manufacturing where it provides the interface between plan and work. Fondahl (1980) recommends the following procedure for execution based on the implementation of a critical path network. This consists of two elements: decision (for selecting task for a project from those predefined tasks that are ready for execution), and communicating the assignment (or authorization) to the project team.

The theory outlines the critical steps required to successfully execute a project, including solar power projects (Kerzner, 2017). The theory emphasises the importance of careful planning, effective execution, and ongoing monitoring and control to ensure project success. In the context of financing options and execution of solar power projects, project execution theory is highly relevant. Solar power projects require significant upfront capital investments, and securing financing is often a major challenge (IRENA, 2020). Effective project execution is critical to ensuring that solar power projects are completed on time, within budget, and to the required quality standards. This, in turn, affects the project's ability to generate revenue and repay loans or provide returns on investment. It follows that for successful execution of any project, there are ten core processes: scope planning, scope definition, activity definition, resource planning, activity sequencing, activity duration estimating, cost estimating, schedule development, cost budgeting, and project plan development (Koskela & Howell (2002). The output from these processes, make up an input to the executing processes. Thus, a successful solar energy execution involves the integration of project management processes, quality management, human resource management, communication management, procurement management and environmental management. By applying project execution theory, solar power project companies and other staholders can ensure that projects are executed successfully and provide a strong return on investment.

2.2 Pecking Order Theory

The Pecking Order Theory, proposed by Myers & Majluf (1984), states that managers follow a hierarchy when considering sources of financing. This means that firms priotise the source of financing from internal (retained earnings) to external (first debt, and second, equity financing), according to relative availability and cost (Olutunla & Obamuyi, 2008). According to the theory, Managers display the following preference of sources to fund investment opportunities: first, through the company's retained earnings, followed by debt, and lastly, equity financing. The pecking order theory takes the following financing phases:

a. Firms prefer internal finance.

b. Corporation adapt their target dividend payout ratios to their investment opportunities while trying to avoid sudden changes in dividends.

c. Sticky dividend policies, plus unpredictable fluctuations in profitability and investment opportunities, mean that internally generated cash flow is sometimes more than capital expenditures and other times less. If it is more, the firm pays off debt or invests in marketable securities. If it is less, the firm first draws down its cash balance or sells its marketable securities.

d. If external finance is required, firms issue the safest security first. That is, they start with debt, then possibly hybrid securities such as convertible bonds, then perhaps equity as a last resort.

3.0 EMPIRICAL REVIEW

3.1 Equity and Debt Financing and the Execution of Solar Power Projects

According to Waughray and Kerr (2012) equity and debt are the prominent types of financing options for renewable energy (RE) projects. According to them, debt may be raised in the form of bank loans or loans from private persons (natural & artificial) and issuance of bonds via the capital market. They opined that debt financing is common for up-front and on-going project costs, depending largely on the relative cost and tenures of the instrument.

Equity is raised from shareholders in different settings which include private equity funds, venture capital, and capital market offers. The type of equity to be engaged in RE projects depend on the stage of the technology development, rate of returns and the extent of risk associated with the project (UNEP, 2012).

Project finance is a powerful tool for mobilising capital for renewable energy projects (Barroco & Herrera, 2019). Project finance involves the creation of a legally independent project company financed with nonrecourse debt for the purpose of investing in a capital asset, usually with a single purpose and a limited life (Ashutosh, 2012).

As stated by Lee (2019), financing is a crucial part of the development of a functioning renewable energy system. The author defines its consequence as one of the main barriers to a wider adoption of renewable energy sources. A relatively recent development is the increasing use of project finance for renewable energy projects such as solar and onshore wind, many of which are smaller in scale and less complex than conventional power plants that traditionally used project finance (Steffen, 2017).

The development of renewable energy resources usually faces hurdles, mostly associated with cost, regulation, and financing. With the recent sustained increment in the cost and the associated price volatility of fossil fuels, the economics of renewable energy development have become more attractive to investors. Traditionally, market-based incentives and policies have been proposed as solutions to increase renewable energy investments. These methods aim to drive down the levelized generation costs to cover the gap between renewable energy and grid electricity prices and to provide sufficient returns for external contributors to supply projects (Lee & Zhong, 2015).

Financing renewable energy projects has two main perspectives: first, firms generally need long-term loans, whose availability in turn is positively linked to the development of the banking system (Demiriguc-Kunt & Maksimovic, 1999). Second, firms have limited access to financing because projects compete against fossil fuel projects, which have a longer track record, relatively lower up-front costs, shorter lead times, and often favourable political treatment (Omojolaibi, 2016). Financial costs (e.g., interest rates) are generally based on risks. Financiers often ask higher charges when there are higher risks. Financial conditions for renewable energy increase over time, driven by macroeconomic conditions (general interest rate) and experience effects of major financiers (Zhang, 2018).

3.2 Government and Corporate Institution Supports and the Execution of Solar Power Projects

Grants and subsidies are usually provided by governments and public agencies for projects that are commercially marginal (Kalamova et al., 2011). The development of renewable energy systems is a capital-intensive process that most developing countries cannot undertake without financial support from development partners (Rambo, 2013). Governments of low-income countries face significant budget constraints for the capital-intensive infrastructure required to reach the hundreds of millions of households and businesses without grid electricity (Falchetta et al., 2022).

Edward et al (2021) assessed the renewable energy (RE) and energy-efficient (E.E.) investment potential as well as policy barriers in Sub-Saharan Africa (SSA). Analysing five investment indicators, using secondary sources of information, and conducting interviews with key stakeholders, RE and E.E. investment potential, investment gap, and policy barriers in 14 countries from West, Central, Southern, and East Africa were quantified. The result of the study indicates a promising yet very susceptible future for the implementation of RE and E.E. in SSA. They concluded that there was a need to address the institutional knowledge gaps and policy gaps that will be key to helping in unlocking the financing potential of RE and E.E. in the continent of Africa.

In a study comparing Kenya and Ghana, Pueyo (2018) identified the constraints to renewable energy investment in Sub-Saharan Africa. The study presented a methodology to support policymakers to better target policies for the promotion of commercial-scale renewable energy investment. Using ‘‘Green Investment Diagnostics’’ methodology, the author draws upon the Growth Diagnostics framework extensively used in the field of Development Economics to identify the binding constraints to economic growth.

Oyedepo et al (2018) examined the potential of renewable energy (RE) resources in Nigeria that can be harnessed for continuous energy supply and the government’s efforts to ensure RE‘s sustainability. According to their qualitative study, there is an imbalance in energy supply and demand in the country. Over the period from 2000 to 2014, there was an average of about 2.35 billion kWh of energy gap between energy production and energy consumption. This makes Nigeria one of the countries with the lowest electricity consumption on a per capita basis in the world.

Using the case studies of Germany and China, Zhang (2018) examined how governments spur renewable energy deployment by examining the availability, costs, and modes of financing. It compares the major financiers, their interactions, and government policy instruments, around renewable financing in both countries. It concludes that a well-designed fiscal subsidy policy together with a national development bank aiming to level the playing field is the key to open the door for the participation of decentralised actors in Germany.

Avik et al (2023), appraising difficulties confronting USA in attaining the objectives of Sustainable Development Goal of Affordable and Clean Energy, observed a policy lacuna prevailing in terms of financializing the renewable energy generation projects. While the policy documents are suggesting solutions to address this issue, the hidden moderations arising out of the socio-economic and political settings are largely ignored.

Ogechi (2019) in her research work on Renewable Energy as an Alternative to Fossil Fuel Use, postulated that small-scale renewable electricity is no longer merely an option for Nigeria, but a necessity in order to achieve the desired energy transition. She opined that the Nigerian electricity sector can be reformed through three mechanisms namely: decentralisation, deregulation and a low carbon footprint. Legal and institutional reforms were proposed to cure the intermittent availability problems inherent in renewable energy sources. Drawing comparative lesson from the Ontarian and South Australian electricity models, Ogechi (2019) adopts a historical, analytical and interdisciplinary approach to conclude that there is need for a mandatory restructured platform which substitutes the national approach to electricity matters for a state-based approach solely based on injecting the prominent renewable energy sources in Nigeria (solar, wind and hydro) into the grid.

4.0 METHODOLOGY

The study employed survey research design. The aim was to accurately describe the current state of affairs as it exists and thereafter explore the relationships among the variables. The research was conducted in Southwest, Nigeria, comprising Ekiti, Lagos, Ogun, Ondo, Osun and Oyo States. The choice of this location was driven by the fact that it houses majority of the country's manufacturing industries and most residential and industrial users have few hours of electricity (Sasu, 2023).

The study population comprised registered solar power companies actively operating in the southwest, Nigeria. The study identified 158 registered solar power companies in southwest, Nigeria. It is important to note that Renewable Energy Industry is dominated by a limited number of companies due to a high-cost of investment. Census Sampling Procedure was adopted. Due to the number, all the 158 companies were involved in the survey for the administration of questionnaire.

The main data for this study were obtained through primary source. A structured questionnaire was developed to gather quantitative data from top management level of the solar power companies. The questionnaire was developed from past studies and checked through a thorough review. Digital version of the questionnaire was created using the CSPro (Census and Survey Processing System). Fieldwork was conducted through electronic messages to the emails of the identified solar power companies to facilitate real-time data collection, ensuring accuracy and efficiency. The instrument was piloted in Delta State, with the distribution of the survey instrument to twelve (12) companies which was randomly selected from the solar power companies in State. The purpose of the pilot study was to adjust the questionnaire so that respondents have no problems in answering the questions.

The project supervisors and experienced senior scholars in the field of study made inputs to validate the contents of the research instruments. Questionnaire validity ensured that the instrument was adequate for the collection of data to achieve the objectives. It also helped to confirm whether the format used in designing the instrument was appropriate or not. The reliability of the instrument was tested with the use of Cronbach's Alpha coefficient value. Taber (2018) reported that Cronbach's alpha between 0.45–0.98 is acceptable. Table 1 showed Cronbach's Alpha (CA) coefficient for all the study variables were above 0.70, which suggested that the instrument used for evaluation was highly reliable.

Table 1: Construct Reliability

Construct	Number of Items	Cronbach's Alpha	Composite Reliability
Corporate Support	5	0.920	0.931
Debt Finance	5	0.900	0.925
Equity Finance	5	0.916	0.936
Execution of Solar	6	0.932	0.946
Government Incentive	5	0.915	0.933

Source: Researcher's Field Survey, 2024

Based on the objective of the study, a model was specified as follows:

$$ESPP_i = \beta_0 + \beta_1 EF_i + \beta_2 DF_i + \beta_3 GI_i + \beta_4 CIS_i + \varepsilon_i \quad (1)$$

where:
ESPP - Execution of solar power projects
EF - Equity financing
DF - Debt financing
GI - Government incentives
CIS - Corporate Institution supports.
β_0 is the constant, β_1- β_4 are the parameters of the regression and ε denotes the error term.

The data collected were analysed using SmartPLS, a specialized software for Partial Least Squares Structural Equation Modeling (PLS-SEM). It is an alternative method to the historically more commonly used covariance-based SEM (CB-SEM) when analyzing the data using structural equation modeling (SEM) (Hair & Alomer, 2022).

5.0 EFFECT OF FINANCING OPTIONS ON EXECUTION OF SOLAR POWER PROJECTS

The study investigated the relationship between different financing options (equity financing, debt financing, government incentives and corporate institutional support) and execution of solar power projects. Furthermore, to achieve the aim of this study, the constructs financing options was measured using indicators of financing options (equity financing, debt financing, government incentives and corporate institutional support) and execution of solar power projects was captured with (ESPP1, ESPP2, ESPP3, ESPP4, ESPP5 and ESPP6). Figure 1 displayed the outcomes of the bootstrapping procedure, illustrating the obtained results and their implications for the structural model analysis for the relationship between financing options and execution of solar power projects.

The results of the structural equation modelling analysis showed a weak overall effect size because the coefficient of determination (R^2) has a value of 0.234 for the execution of solar power projects which is ground 0.26 This indicated a weak predictive power and this was in line with the classification by Hussain, et al. (2018) who documented that where an R^2 value of 0.75 is considered substantial, 0.50 is moderate, and 0.26 is weak. Also, it was explicit that every route of the estimation has positive on the execution of solar power energy systems. The study presented the Outer Model with their respective p-values for of the construct. This showed the significant of each latent construct to each variable. The output of the outer model is presented in the Table 2.

From Table 2, the result showed that corporate institutional support was analysed using CIS1, CIS2, CIS3, CIS4 and CIS5. Evidence from the latent construct analysis revealed that CIS1 (0.907; CR= 4.221; P-value<0.01), CIS2 (0.863; CR= 4.604; P-value < 0.01), CIS3 (0.871; CR= 4.548; P-value<0.01), CIS4 (0.75; CR= 3.607: P-value<0.001) and CIS5 (0.874; CR=4.638; P-value < 0.01). This implied that the CIS1, CIS2, CIS3, CIS4 and CIS5 significantly predicted the corporate institutional support construct and these indicators were used to capture corporate institutional support.

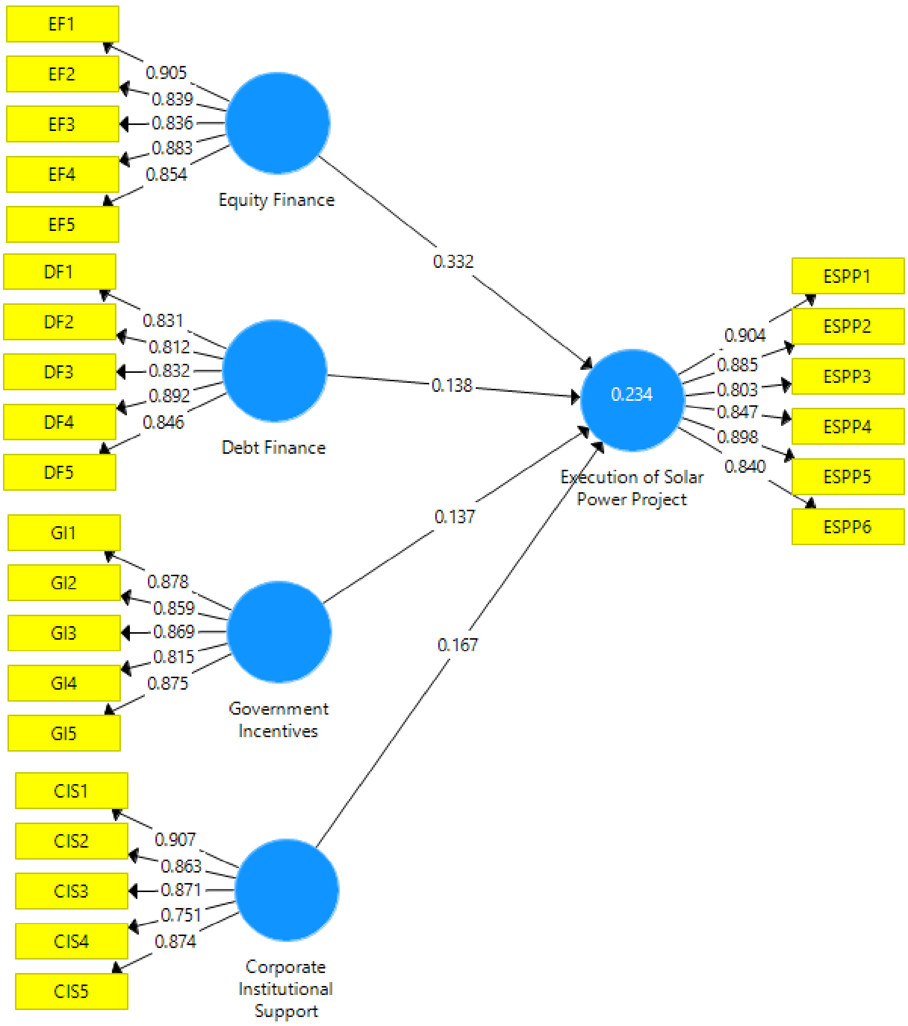

Figure 1: Bootstrapping on Joint Effect of Financing Options and Execution of Solar Power Projects

Table 2: Latent construct Analysis

Latent Construct	Beta	Standard Error	CR	P Values
CIS1 <- Corporate Institutional Support	0.907	0.215	4.221	0.000
CIS2 <- Corporate Institutional Support	0.863	0.187	4.604	0.000
CIS3 <- Corporate Institutional Support	0.871	0.192	4.548	0.000
CIS4 <- Corporate Institutional Support	0.75	0.208	3.607	0.000
CIS5 <- Corporate Institutional Support	0.874	0.188	4.638	0.000
DF1 <- Debt Finance	0.83	0.209	3.973	0.000
DF2 <- Debt Finance	0.812	0.196	4.137	0.000
DF3 <- Debt Finance	0.832	0.207	4.03	0.000
DF4 <- Debt Finance	0.893	0.215	4.162	0.000
DF5 <- Debt Finance	0.847	0.192	4.409	0.000
EF1 <- Equity Finance	0.905	0.037	24.57	0.000
EF2 <- Equity Finance	0.839	0.044	18.861	0.000
EF3 <- Equity Finance	0.835	0.066	12.744	0.000
EF4 <- Equity Finance	0.883	0.043	20.53	0.000
EF5 <- Equity Finance	0.854	0.059	14.53	0.000
ESPP1 <- Execution of Solar Power Project	0.905	0.032	28.085	0.000
ESPP2 <- Execution of Solar Power Project	0.885	0.045	19.651	0.000
ESPP3 <- Execution of Solar Power Project	0.803	0.064	12.584	0.000
ESPP4 <- Execution of Solar Power Project	0.845	0.064	13.14	0.000
ESPP5 <- Execution of Solar Power Project	0.9	0.043	21.146	0.000
ESPP6 <- Execution of Solar Power Project	0.838	0.049	17.053	0.000
GI1 <- Government Incentives	0.878	0.106	8.248	0.000
GI2 <- Government Incentives	0.858	0.101	8.528	0.000
GI3 <- Government Incentives	0.869	0.139	6.251	0.000
GI4 <- Government Incentives	0.815	0.176	4.623	0.000
GI5 <- Government Incentives	0.875	0.16	5.455	0.000

Source: Author's Compilation, (2025)

The result showed that debt financing option was analysed using DF1, DF2, DF3, DF4 and DF5. Evidence from the latent construct analysis revealed that DF1 (0.83; CR= 3.973; P-value < 0.01), DF2 (0.812; CR=4.137; P-value < 0.01), DF3 (0.832; CR= 4.03; P-value<0.01), DF4 (0.893; CR= 4.162; P-value <0.01) and DF5 (0.847; CR= 4.409; P-value < 0.01). This implied that the DF1, DF2, DF3, DF4 and DF5 significantly predicted the debt financing construct and these indicators were used to measure debt financing in the study.

Furthermore, result from Table 2 showed that equity financing was analysed using EF1, EF2, EF3, EF4 and EF5. Evidence from the latent construct analysis revealed that EF1 (0.905; CR= 24.57; P-value < 0.01), EF2 (0.839; CR= 18.861; P-value < 0.01), EF3 (0.835; CR= 12.744; P-value < 0.01), EF4 (0.883; CR= 20.53; P-value < 0.01) and EF5 (0.854; CR= 14.53; P-value < 0.01). This implied that the EF1, EF2, EF3, EF4 and EF5 significantly predicted the equity finance construct and these indicators were used to proxy equity finance.

Consequently, the variable of execution of solar power projects was analysed using ESPP1, ESPP2, ESPP3, ESPP4, ESPP5 and ESPP6. Evidence from the latent construct analysis revealed that ESPP1 (0.905; CR= 28.085; P-value<0.01), ESPP2 (0.885; CR= 19.651; P-value < 0.01), ESPP3 (0.803; CR= 12.584; P-value<0.01), ESPP4 (0.845; CR= 13.14; P-value<0.01), ESPP5 (0.9; CR= 21.146; P-value < 0.01) and ESPP6 (0.838; CR= 17.053; P-value < 0.01). This implied that the ESPP1, ESPP2, ESPP3, ESPP4, ESPP5 and ESPP6 significantly predicted the execution of solar power projects construct. In addition, it was explicit that projects execution within the planned timeline required proper integration of projects management processes.

The result further revealed that government incentives option was analysed using GI1, GI2, GI3, GI4 and GI5. Evidence from the latent construct analysis revealed that GI1 (0.878; CR= 8.248; P-value<0.01), GI2 (0.858; CR= 8.528; P-value < 0.01), GI3 (0.869; CR= 6.251; P-value < 0.01), GI4 (0.815; CR= 4.623; P-value<0.01) and GI5 (0.875; CR= 5.455; P-value < 0.01). This implied that the GI1, GI2, GI3, GI4 and GI5 significantly predicted the government incentives construct and these proxies were used to measure government incentives.

Table 3 showed the results of path construct analysis of the structural equation estimates for the effect of financing options on execution of solar power projects in Southwest, Nigeria. The result indicated that only equity has a significant effect ($\beta = 0.332$, $t = 3.428$, $p = 0.001$) on execution of solar power projects. The study supported the work of Oji et al. (2016) who found that a combination of finances is needed for projects' financing. The results revealed that corporate institutional support (β = 0.167, t = 1.125, p = 0.261), debt finance (β = 0.138, t = 1.276, p = 0.203) and government incentives (β = 0.137, t = 1.335, p = 0.183) have positive but insignificant effect on execution of solar power projects in the Southwest, Nigeria. However, study revealed that funding through equity financing is critical to priotising sustainability which is essential for long-term success of solar power energy in southwest, Nigeria. Evidence from the study revealed that a unit change in corporate institutional support, debt finance, equity finance and government incentives respectively will lead to 0.165, 0.14, 0.136, and 0.332 unit changes in execution of solar power projects in the Southwest, Nigeria. In addition to this, the coefficient of determination (R^2) has a value of 0.234 and this implied that corporate institutional support, debt financing, equity financing and government incentives accounted for 23.4% variation in execution of solar power projects. More so, the study showed that the model was fit since the value of standardized root mean square residual (SRMR) fell between 0 and 0.08.

Table 3: Path Construct analysis

Path	Beta	Standard Error	T-Statistics	P-Values
Corporate Institutional Support -> Execution of Solar Power Project	0.167	0.147	1.125	0.261
Debt Finance -> Execution of Solar Power Project	0.138	0.11	1.276	0.203
Equity Finance -> Execution of Solar Power Project	0.332	0.097	3.428	0.001
Government Incentives -> Execution of Solar Power Project	0.137	0.102	1.335	0.183
R-Squared	0.234			
Adj-R-Squared	0.204			
SRMR	0.072			

Source: Author's Compilation, (2025)

It was revealed that equity financing has positive effect on execution of solar power projects in the Southwest, Nigeria. The explanation for this was that equity finance provided direct funding without interest payment, rather the holders of the equity become part owners of the business. This allows solar power projects producers to allocate more financial resources to the procurement of materials and expansion of solar power projects production. The use of equity finance as a financing option provides more capital for business expansion but also allows the holders of the equity to be involved in technical expertise, partnership with other stakeholders, strategic guidance among others in order to enhance performance of solar power projects. This will foster positive relationship between the equity finance and execution of solar power projects. This is in tandem with Couture et al. (2010) that equity funding is a popular option because equity is used more for new and innovative RE technology projects and methods.
However, the results showed that debt finance, government incentives and corporate institution support have positive but insignificant effects on execution of solar power projects in the Southwest, Nigeria.

6.0 CONCLUDING AND RECOMMENDATIONS

The study identified four main sources of financing available for execution of solar power projects as equity, debt, government incentives, and corporate institution supports. It established the pivotal role of equity financing in facilitating the implementation of Solar Power Projects in Southwest Nigeria, underscoring its significance as a preferred financing option. The study revealed that the major challenges faced while developing solar power projects was financial challenges which ranges from lack of access to financing and high cost of borrowing.
The study recommended that solar power companies should aim at optimal capital structure (proper mix of equity and debt) to allow efficient utilisation of financial resources. The monetary authorities should create concessional rate for financial institutions funding renewable energy projects. The government of Nigeria should support and promote the production of solar power projects in Nigeria through favourable regulatory frameworks for renewable energy. Governments and regulatory bodies should offer incentives for project developers that prioritise sustainability, helping to align financing options with sustainability goals. This will enhance investors' confidence and participation in solar power business.

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