

Towards the Development of Uncertainties Resilient Business Model for Driving the Solar Panel Industry in Nigeria Power Sector

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Abstract : The emergence of electricity in Nigeria was dated back to 1896. The power plants have the potential to generate 12,522 MW of electric power. Whereas current dispatch is about 4,000 MW, access to electrification is about 60%, with consumption at 0.14 MWh/capita. The government embarked on energy reforms to mitigate energy poverty. The reform targeted the provision of electricity access to 75% of the population by 2020 and 90% by 2030. Growth of total electricity demand by a factor of 5 by 2035 had been projected. This means that Nigeria will require almost 530 TWh of electricity which can be delivered through generators with a capacity of 65 GW. Analogously, the geographical location of Nigeria has placed it in an advantageous position as the source of solar energy; the availability of a high sunshine belt is obvious in the country. The implication is that the far North, where energy poverty is high, equally has about twice the solar radiation as against southern Nigeria. Hence, the chance of generating solar electricity is 66% possible at 11850 x 103 GWh per year, which is one hundred times the current electricity consumption rate in the country. Harvesting these huge potentials may be a mirage if the entrepreneurs in the solar panel business are left with the conventional business models that are not uncertainty resilient. Currently, business entities in RE in Nigeria are uncertain of; accessing the national grid, purchasing potentials of cooperating organizations, currency fluctuation and interest rate increases. Uncertainties such as the security of projects and government policy are issues entrepreneurs must navigate to remain sustainable in the solar panel industry in Nigeria. The aim of this paper is to identify how entrepreneurial firms consider uncertainties in developing workable business models for commercializing solar energy projects in Nigeria. In an attempt to develop a novel business model, the paper investigated how entrepreneurial firms assess and navigate uncertainties. The roles of key stakeholders in helping entrepreneurs to manage uncertainties in the Nigeria RE sector were probed in the ongoing study. The study explored empirical uncertainties that are peculiar to RE entrepreneurs in Nigeria. A mixed-mode of research was embraced using qualitative data from face-to-face interviews conducted on the Solar Energy Entrepreneurs and the experts drawn from key stakeholders. Content analysis of the interview was done using Atlas. It is a nine qualitative tool. The result suggested that all stakeholders are required to synergize in developing an uncertainty resilient business model. It was opined that the RE entrepreneurs need modifications in the business recommendations encapsulated in the energy policy in Nigeria to strengthen their capability in delivering solar energy solutions to the yawning Nigerians.

Keywords : uncertainties, entrepreneurial, business model, solar-panel

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