

What strategies support sustainable renewable energy entrepreneurship in Africa? A conceptual model

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Abstract

The importance of startups in general and energy startups in particular and their linkage to the sustainable development of the economy cannot be overemphasized. Despite this importance, renewable energy startups in African emerging markets struggle in using their dynamic capabilities because of the complex institutional framework and the turbulent business environment in which they operate. These energy startups also record minimal business success in their lifetime compared to their advanced market counterparts. In this study, therefore, we critically review existing studies in strategic management and identify some strategies that can enable renewable energy startups in African emerging markets to effectively use their dynamic capabilities, enter and adapt to the energy market, survive the institutional challenges in their environment and ensure the sustainability of their business. With the identified success factors, we design a conceptual model for the success of renewable energy startups in African emerging markets. The theoretical framework derives from the institutional theory, resource-based view and the dynamic capabilities framework.

Keywords: African emerging markets, renewable energy startups, dynamic capabilities, institutional theory, entrepreneurship

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1. Introduction

Startups in the advanced market economies have long been known to face fewer challenges in their path to sustainability and profitability (Prashantham, 2021). They have a strong government support system that enables them to use their dynamic capabilities, experiment with different market entry and adaptation strategies, compete favorably in the global context, and withstand any threat to their sustainability. Dynamic capabilities are described as the ability of startups to integrate, build and reconfigure internal and external competencies to remain relevant in a rapidly changing business environment (Teece et al., 1997; Teece, 2007). Quang (2021) reports that the cultural characteristics in the US and EU countries, for instance, reward innovation and creativity emanating from startups and their ability to take risks. Skawińska and Zalewski (2020) also suggest that they have highly developed formal and informal economic institutions which support the sustainability of startups. Lazonick (2008) argues that the success of startups in advanced economies is more prevalent due to the state-sponsored protection of small businesses, markets, and intellectual property rights. The government subsidies also enhance the business strategies of these startups.

On the other hand, small enterprises in African emerging markets and other developing regions struggle to get off the ground because of a weak institutional framework (Park et al., 2017). For instance, the financial institutions which should serve as capital sources desist from providing such funds, seeing these undertakings as too risky to invest in (Park et al., 2017). Lack of policy support is also suggested by David-West et al. (2019) as one of the challenges startups in African emerging markets face while Legas (2015) argue that all types of startups in Africa face the most unfavorable government laws and regulations, poorest financial framework and the weakest infrastructure. These are classified under the formal institutional challenges. Informal institutions such as norms also affect startups negatively in African emerging markets (Webb et al., 2020). For instance, the stigma of business failure in some African economies may discourage early-stage entrepreneurs from maximally allocating their entrepreneurial talent into revenue-generating enterprises (Lee et al., 2020). Concerning renewable energy startups in African emerging markets – our focus in this study, these challenges tend to affect their contributions to electrification rates in Africa. The International Energy Agency -IEA (2019) reports that the electricity access rate in Africa is still low. The impacts of these challenges are further heightened by the increasing uncertainty of the future of businesses globally, heralded by the COVID-19 pandemic which further threatened and continues to threaten the survival of many innovative startups (Kuckertz et al., 2020; Qudrat-Ullah & Nevo, 2021).

While many strategic management literature has focused on these already flourishing startups in advanced market economies, and how they utilize their resources and explore their dynamic capabilities to survive the early business stages as well as increase their chances of remaining profitable in the long run, it has largely ignored those in developing economies, mainly in Africa. Worse still, the few existing studies (Onyeajuwa, 2017) on African startups have acknowledged the negative roles of weak institutions on their ability to optimally utilize their resources and dynamic capabilities but have failed to articulate any solution – how these startups can optimize their resources and reconfigure their dynamic capabilities, despite institutional turbulence, to achieve sustainable business success. These oversights are noteworthy because startups in African emerging markets are located in some of the fastest-growing entrepreneurial ecosystems in the world – South Africa, Kenya, Nigeria, and Rwanda (Atiase et al., 2018). This further implies that they have higher prospects of becoming more integrated into the global economy and positively influencing venture growth and performance

in both economic and prosocial dimensions (Moss et al., 2020), but this can only happen if they succeed in the long run. And yet, with emphasis on renewable energy startups in African emerging markets, this success may translate to increased energy access and a quicker transition to renewable energy in the region. Given the expansive literature on the role of institutions on startups' performance in developed economies, extending the perspective to the failings of the institutional framework in the African context and how it can be remedied may be a significant step towards developing the fields of discourse. There is little intellectual understanding of the strategies that can enhance the full utilization of dynamic capabilities and startups' tangible resources in African emerging markets, amid a turbulent business environment. The subtle application of the institutional theory, resource-based view, and dynamic capabilities framework adds novelty to energy startups' model of success which we aim to exploit.

The purpose of this study is, therefore, to explore the determinants of energy startups' success in African emerging markets. Specifically, we intend to identify strategies that can support the sustainability of early-stage renewable energy startups in Africa. To achieve this, we explore the question: What strategies support sustainable renewable energy entrepreneurship in Africa? In addressing this research question, this study makes two important contributions. First, we design a conceptual model of success for renewable energy startups in African emerging markets comprising some strategies – referred to as critical success factors - that can enable them to effectively use their resources and capabilities, enter and adapt to the African energy markets, survive the institutional complexities in their environment, and ensure the sustainability of their business. Second, we extend the literature on startups' strategy which has mainly focused on developed economies to the African context, a way of bringing scholarly attention to the entrepreneurial prospects of African emerging markets.

2. Renewable Energy Startups in Advanced and Emerging Market Economies

Swank (1998) describes advanced market economies as being characterized by a neoliberal approach towards strategic and economic management. This view may be simplistic in its description as there could be other advanced economies that adopt a more socialist stance in their economic and market reform policies, for instance, Norway (Arneson, 1934). Advanced market economies also provide an enabling environment for women entrepreneurs to launch their business startups (Welsh et al., 2016) in the form of an organized family and organizational support for businesses in the early stages. Zhao and Ziedonis (2020) further highlight that the governments in advanced market economies create viable frameworks and policy interventions through which startups and other types of businesses are supported. These institutional setups probably propel the performance trajectories of entrepreneurial firms.

On the other hand, emerging markets refer to economies with some of the attributes of developed markets but are still having minimal progress in terms of visible engagements with global markets. As emerging markets grow, they typically become more integrated with the global economy, reflected by increased liquidity in equity markets and local debts, increased trade volumes, and foreign direct investment. Some of the notable emerging markets in Africa include South Africa, Nigeria, Tunisia, Uganda, Ghana, Kenya, Botswana, Tanzania, and Zambia (IMF, 2020).

Das and Drine (2020) believe that inadequate infrastructure, an uncertain business environment, and insufficient human development are the major challenges to Africa's quest to technologically catch up with advanced market economies. Lingelbach et al. (2005) even argue that emerging economies are understudied in comparison to advanced markets, especially in terms of startup development. Cao and Shi (2021) support this claim that little is known about how an entrepreneurial ecosystem operates in such an emerging market environment, and how startups navigate the most fragile markets therein. Hence, increased research on startups in emerging markets would further clarify the wider processes that promote, constrain, and modify strategic thinking in particular contexts, thus, helping researchers to deepen their understanding of the etymological nature of startups and their strategic management in emerging markets (Hill & Mudambi, 2010).

3. Relevant Theories about Successful Strategies for Startups

The institutional theory of management has been evidenced to be important in understanding renewable energy startups in different types of markets. The impacts of institutional theory in entrepreneurial research are not restricted to discussions on organizational resources as popularized by Peng (2006), they also extend to the scholarly discussion regarding the factors that enhance organizational success (Bruton et al., 2010). Tolbert et al. (2011) also argue that the perceived appropriate structures, behaviors, and practices of entrepreneurial ventures are significantly shaped by the prevailing institutional framework – comprising of ontological expectations and comprehension of adequate organizational practices and structures – within the wider market in which they operate. Omri (2020) adopts both the institutional and the resource-based theoretical lens in his argument that institutional governance parameters (i.e., rule of law and level of corruption) and supply-side factors (i.e., startups' resources and abilities) strongly influence startups, especially in emerging markets.

Institutional theory has also been discussed with particular reference to startups and other business organizations in emerging markets, by different scholars (Banerjee et al., 2006; Estrin et al., 2019; Prabhu et al., 2017; Marquis & Raynard, 2015; Tracey & Phillips, 2011) and each of them places more emphasis on a specific aspect of the theory. Banerjee et al. (2006), for instance, strictly view the institutional theory in terms of infrastructure developing in emerging markets, i.e., how existing infrastructures affect the performance of business startups. This view appears to be narrow because, while infrastructures are salient components of institutions, they are rarely encompassing as a definition of institutions. Estrin et al. (2019) view institutions in emerging markets in terms of whether they add value to the existing startups, in which case they are productive; or they merely represent a bureaucratic environment through which rent is sought from startups, in which case they are non-productive; or they are outrightly destructive, exemplified by the choice of the institutions to organize an extortion racket.

This view of institutions by Estrin et al. (2019) aligns with the earlier views of Baumol (1990). Prabhu et al. (2017) attempt to establish a nexus between institutions in emerging markets, startups, and the consumers of the goods and services offered by the startups. According to them, the institutional framework that facilitates formal exchanges in emerging markets either function abysmally or are entirely non-existent. This makes it difficult for entrepreneurs to deliver accessible and affordable offerings to mostly poor consumers in a financially sustainable manner. Thus, at the core of their argument is that weak institutions have deep-rooted financial implications on both the entrepreneurs and the market. Businesses in emerging markets, however, engage in three synergistic and identifiable sets of institutional strategies; relational, socio-cultural bridging, and infrastructure-building (Marquis & Raynard,

2015). These strategies, according to them, enable the businesses to navigate the weak institutional environment and are critical for performance and long-term survival. A similar argument by Tracey and Phillips (2011) is that, even though the high level of institutional instability in emerging markets could hinder entrepreneurship development, it could also provide opportunities for entrepreneurs. The opportunities are in form of strategies devised by the entrepreneurs to exploit the uncertainty. The three strategies are: spanning institutional voids, institutional brokering, and bridging institutional distance.

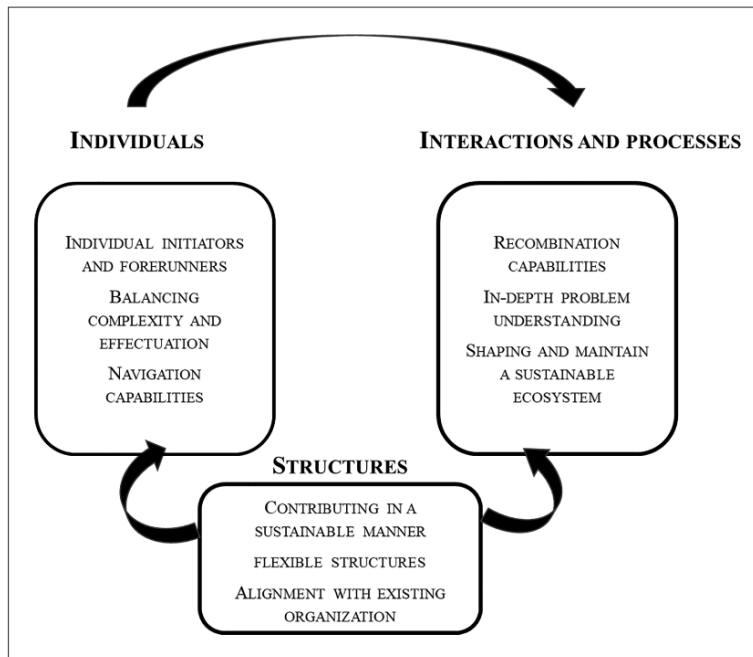
Bruton et al. (2010) admit that opportunities still abound in the scholarly domain for emerging studies to adopt novel and deeper insights and uses of the institutional theory. These opportunities will encompass a creative fusion of the institutional theory and allied theories of business and management in explaining the intricate nature of renewable energy startups in African complex emerging markets.

To fully explain the effects of institutions on startups, scholars have differentiated between formal and informal institutions (Webb et al., 2020). Formal institutions - the formalized rules, laws, regulations, and systems that recommend what is socially acceptable (North, 1990) – provide sanctions and motivations to enhance lawful behavior, while also presenting a framework such as labor and capital markets, regulatory agencies, and key elements of infrastructures (e.g., utilities, transportation or communication). When an important formal institution is non-existent or ineffective, a deficiency arises which hinders effective operations and transactions, leaving formal institutional voids in that locality (Khanna & Palepu, 1997). In emerging markets, formal institutional voids can exist in the form of a lack of clearly defined property rights (Khoury et al., 2014), harsh bankruptcy laws (Lee et al., 2007), and minimal investment sources and capital market options (Khoury et al., 2015). All these could discourage new startups' entry, limit their access to essential startup and growth funds, and reduce their abilities to gain commensurate value from their activities. Informal institutions, on the other hand, describe a society's beliefs, norms, and values and recommend what is legitimate or socially permissible. About the formal institutions, they connote more tacit restraints on societies, through "norms of behavior, codes of conduct, and conventions" (North, 1990). They eventually steer expectations and ensure higher certainty in social changes, thus, molding the actions and choices of individuals and organizations (North, 1990).

From an organisational point of view, Ringvold, Saebi and Foss (2022) take a microfoundational approach to offer some insights on how institutional-level factors influence individual (e.g., at the managerial level) or small business decisions and context of action with respect to sustainable business model development. Specifically, they argue that individual managers are pivotal in identifying ideas and hypotheses for sustainable business model development and in looking for ways to advance the ideas into coherent business models. To identify new ideas, they suggest that a wide search for external inspiration from other industries is important. They add that the identification of internal strengths to build upon can be adopted to narrow down the search for ideas and hypotheses. Again, their findings emphasize the need for cross-unit collaboration within established firms to bring together competencies on the established business model, sustainability and local market knowledge. Jointly, the rethinking with internal and external experts can contribute to what they refer to as 'recombination capabilities', i.e., the ability to identify new opportunities anchored on seeing new potential ways of combining existing resources and skills. Not least they find that top management plays a key role at an early stage of the sustainable business model development in terms of making room for entrepreneurship and establishing sustainability-related goals that encourage the search for sustainable business model innovation. Such goals can help mitigate the trade-offs among social, financial, and economic pressures, thereby enabling organization-wide

acceptance of the paradoxes and concurrent management of contradictory elements. This finding is also corroborated by Ivory and Brooks (2018). With respect to emerging markets, Ringvold, Saebi and Foss (2022) advise that care must be taken to ensure that both internal and external stakeholders, and customers understand the why and logic around the different actions taken by the top management. Figure 1 summarises their arguments.

Figure 1: Microfoundations Supporting Sustainable Business Model Development in Firms (Adapted from Ringvold, Saebi and Foss (2022))



The term “dynamic capabilities” was used by Helfat and Peteraf (2003); Teece et al (1997) in their analysis of the propositions of the resource-based theory of management and strategy, central of which is that for a firm (renewable startups in our context) to attain a position of sustained competitive advantage, it must possess and control valuable, unique, scarce and non-exchangeable resources and capabilities (Kraaijenbrink et al., 2010). The resource-based theory was developed as a furtherance of the industrial organization (IO) theory, with Bain (1968) and Porter (1985) as some of the major proponents, and specifically seeks to explain why firms in, for instance, the same African renewable energy industry, might be quite distinct in terms of performance. (Peteraf, 1993) reported that the four conditions that are required for firms to make a sustained entrepreneurial return include: heterogeneity of resources, imperfect factor mobility, ex-post limits to competition, and ex-ante limits to competition. A firm’s need to ex-post limits to competition entails that after it has established a dominant competitive position in the market through heterogeneous resources compared to the competitors, there have to be factors that sustain the durability of this heterogeneity condition in a way that preserves the attained superior position. On the other hand, the ex-ante limits to competition, as defined by Helfat and Peteraf (2003), imply that before the establishment of a superior position in resources by a firm, there must exist a limited competition for that position.

Dynamic capabilities are essential in the internationalization strategies of small and medium-scale enterprises (SMEs), one of which are entrepreneurial startups (Zhu et al., 2007). These enable them to recognize, build, harness opportunities continuously, and compete successfully in international markets. Trkman (2010); Gabriel and Kirkwood (2016), in their study adopting the contingency, dynamic capabilities, and task-technology fit theories, suggest

that startups succeed when there is a fit between their business process and the business environment where they operate. To describe dynamic capabilities more specifically, away from the general resource-based theory, Eisenhardt and Martin (2000) argue that they are noticeable and unique startups' processes such as strategic decision making, product development, and alliancing. These dynamic capabilities are commonly referred to by many businesses as 'best practices. They further highlight that in moderately dynamic markets, dynamic capabilities fit into the firms' traditional concept of routines: analytic, detailed, static processes with predictable outcomes. But in highly dynamic markets, they are easy, highly experiential, and fragile processes with uncertain outcomes. In other words, dynamic capabilities are easier to explore in advanced markets with stable institutional and business environments, and relatively predictable consumer behavior than in emerging markets characterized by varying levels of complexities both in the macro and micro-business environments. An important concern that their study seems not to address is how the startups (renewable energy in our context) in these complex emerging markets can explore and configure their dynamic capabilities to achieve more successful and predictable business outcomes, compete favorably with other startups in advanced markets and contribute more significantly to sustainable development.

Though the resource-based theory has been proven by scholars for over two decades to be very pivotal in a thorough understanding of the dynamics of startups (Alvarez & Barney, 2017), it still appears to possess some unresolved criticisms to date. One of such critiques, highlighted by Kraaijenbrink et al. (2010) is that its definition of resources may not be workable in the real-life situation, and this may pose a threat to a fuller understanding of its sustained competitive advantage (SCA), especially in an unpredictable and unstable environment such as the African emerging markets on which our study tends to focus. The major challenge in the underlying definitions of resources by the proponents of the resource-based theory is that they seem overly inclusive and implicitly connote that everything that is strategically useful associated with the firm is a resource, probably including the sustained competitive advantage itself, we would add. Going by this premise, it would almost be impossible to distinguish between the resources that enterprises have as inputs and the capabilities that enable them to deploy, select, and collate such inputs. Also, as Zahra, Sapienza and Davidsson (2006) suggest, a distinction could be made between dynamic and ordinary capabilities in the context of small startups. Small startups tend to be more improvisatory and ad-hoc in their business solutions because of the lack of prior experience. Over time, this would decline as the firm age, their experience accumulates, and they develop greater confidence in the cause-effect of emerging work routines. This suggests that capabilities as employed by these startups move from more dynamic (i.e., entrepreneurial and improvisatory) to ordinary (i.e., structured and repetitive). On the other hand, the capabilities literature often regards ordinary capabilities as part of the firm's resources. Therefore, there is a subtle distinction between dynamic and ordinary capabilities in small, entrepreneurial start-ups. Making this distinction clear in the context of renewable energy startups in Africa helps to develop a better understanding of how these businesses operate, as well as how they would enhance their success and sustainability.

A very unique and important dimension to the theories of business management and strategy discussed in this section, which mostly focus on the advanced markets, is that the export of these theories and practices obtainable in these advanced markets to the emerging markets may contribute only very minimally to the growth and sustainability of the renewable energy startups in the latter. Hofstede (1993) corroborates this by arguing that the business realities and structure of startups in each region of the world are laden with unique characteristics which no general theories or models can account for. Besides, the meaning of business, management, or strategy probably differs from one country to another, thus,

necessitating a significant historical and cultural insight into local conditions to understand a country's business processes, philosophies, and problems. Li and Liu (2014) also added more recently that the specific capabilities as found in institutionally stable environments may not be directly applicable to emerging markets with the complex nature of environmental dynamism. Thus, a study that investigates the peculiar strategies that may increase the odds of success for renewable energy startups in Africa, and hinged on their environmental and business realities, is necessary. These may not necessarily conform to the widely developed strategies that have been proven to be successful in other markets.

The stakeholder theory is a theory of organizational management that highlights several constituencies affected by firms – employees, suppliers, local communities, creditors, and others (Freeman et al., 2020). Its view of a firm's strategy combines resource-based view, market-based view, and socio-political dimension, and suggests that businesses should put the needs of stakeholders or their entrepreneurial ecosystem at the beginning of any action (Jones et al., 2018). Barney and Harrison (2020) argue that the stakeholder theory has enriched the debates that intersect business and society while Jones et al. (2018) add that it has several performance implications for firms. An important dimension of the stakeholder theoretical discourse is the extent to which the internal and external stakeholders can be combined to ensure the sustainable success of the firm (Qudrat-Ullah et al., 2020) by providing clearer picture of the startup ecosystem in which the firm operates. An increased stakeholder engagement could help these renewable energy startups to even navigate institutional uncertainties and enhance their sustainable growth and success. Therefore, systematic integration of relevant stakeholders' views of energy startups is essential for their long-term success. Foss, Schmidt and Teece (2023) also offer useful insights with respect to a theoretical discussion on building a renewable energy ecosystem in the African emerging market for startups. They do this by adapting Teece's original conceptualisation of dynamic capabilities, as well as the transaction cost economics. They argue that the emergence of such an ecosystem is enhanced by an efficient coordination and cooperation among multiple economic agents within the same market of interest towards a defined innovative value proposition. They refer to this as ecosystem system leadership. Again, to discuss the application of this sort of leadership, the authors adopt Teece's tripartite dynamic capabilities scheme and further opine that leadership enables ecosystem emergence through three externally-oriented dynamic capabilities: facilitating the formation of a shared vision (sensing), convincing others to make ecosystem-specific investments (seizing) and getting involved in extempore problem-solving to create and maintain stability (reconfiguring/transforming). Not least, they argue that ecosystem leader role in a mature ecosystem emerges from the successful application of these capabilities, and that their application places the leader at a strategic position for value capture.

4. Market Entry and Adaptation Strategies of Renewable Energy Startup in African Emerging Markets

The question of what strategies drives the success of startups, especially in both advanced and emerging markets remains an important issue in contemporary studies on international strategic management. The increasing number of renewable energy startups in the most financially vulnerable emerging markets may be the last great frontier in international business since a deep understanding of how they strategize their business for success is still poorly researched (Bruton et al., 2011). Some researchers (Holtbrugge & Baron, 2013) have also demonstrated that given the complicated nature of the business environment in emerging markets, renewable energy startups in these markets adopt different strategies for market entry and business adaptation. These market entry strategies in emerging markets proceed from two important questions of how to enter the market and when to enter and have a significant effect

on market success (Holtbrugge & Baron, 2013). Two decades earlier, Green and Ryans (1990) identified similar components of market entry strategy – the magnitude and areas of investment, the timing of entry, and the basis for competitive emphasis. These studies especially emphasize the importance of timing for African renewable energy startups to cope with the weak institutional framework therein. For instance, entering the market just before a major election may not be the best timing because such periods in Africa are sometimes accompanied by civil and political unrest and changes in regulatory and bureaucratic policies and processes. These may further impact the new renewable energy startup negatively.

One of the key challenges of startups in emerging markets is the level of corruption, which Uhlenbruck et al. (2006) described as “arbitrary and pervasive.” In their study of 64 emerging economies, mostly from the African continent, they found that startups manage the pressures of corruption by belonging to joint entry ventures, short-term contracting, or other forms of business partnerships. Their argument supports the institutional theory of management as corruption probably emanates from a weak institutional framework. Startups tend to re-strategize for market entry with a high level of corruption within the external environment, but it remains a bit elusive how these same startups will manage the corruption within their business organization. By corruption in the business organization, we refer to the dishonest and illegal strategies that the managers of startups adopt to engage in activities against business and organizational ethics, mostly for personal gains. We also expect that a strict punishment for organizational corruption would enhance the success of renewable energy startups in entering and adapting to the energy market. But this can be achieved with a dynamic internal leadership predicated on the ability to react to different individuals and situations.

Adaptation of startups in emerging markets is categorized in two: the economic adaptation and the social adaptation (Zhao et al., 2014), and both comprise knowledge and capabilities that would affect the sustainable operations of startups in emerging markets positively. Some of the adaptation strategies suggested include early entry into the market (Park et al., 2020), recognition of local leadership in their business operations, and speedy incorporation and expansion of local employees. Local expertise, especially in the context of renewable energy, is very important to consider in the incorporation of local employees as renewable energy startups’ operations may involve varied forms of technicalities. The dynamics and competitive nature of the renewable energy industry in the current business age require that startups time their market entry their entry appropriately. Such an approach could help in balancing the risks of premature entry (for instance, founding a startup solely focusing on underdeveloped tidal energy in the present period) against the missed opportunity of late entry (Lilien & Yoon, 1990). The knowledge component of the economic and social adaptation suggested by Zhao et al. (2014) suggests that innovation remains pivotal for the sustainability of firms. Thus, we suppose that Africa requires sustainable innovation and adaptation in harnessing its dynamic capabilities and ensuring business success that can withstand institutional turbulence.

In the larger emerging markets context, startups may perform better if they are located in a market where the barriers to entry are minimal and where the business offerings are corporate core products (Pehrsson, 2004). According to the author, corporate core products are the companies’ promotions, services, or products that can be purchased by consumers. These core products may also be integrated into end products by other smaller businesses within the emerging market, or by secondary consumers who purchase the product for multiple uses. The study highlights the importance of quality product offerings to the success of businesses, and this could be particularly important to renewable energy startups in the African emerging markets that face intense government monitoring. There is no clear discussion, however, on

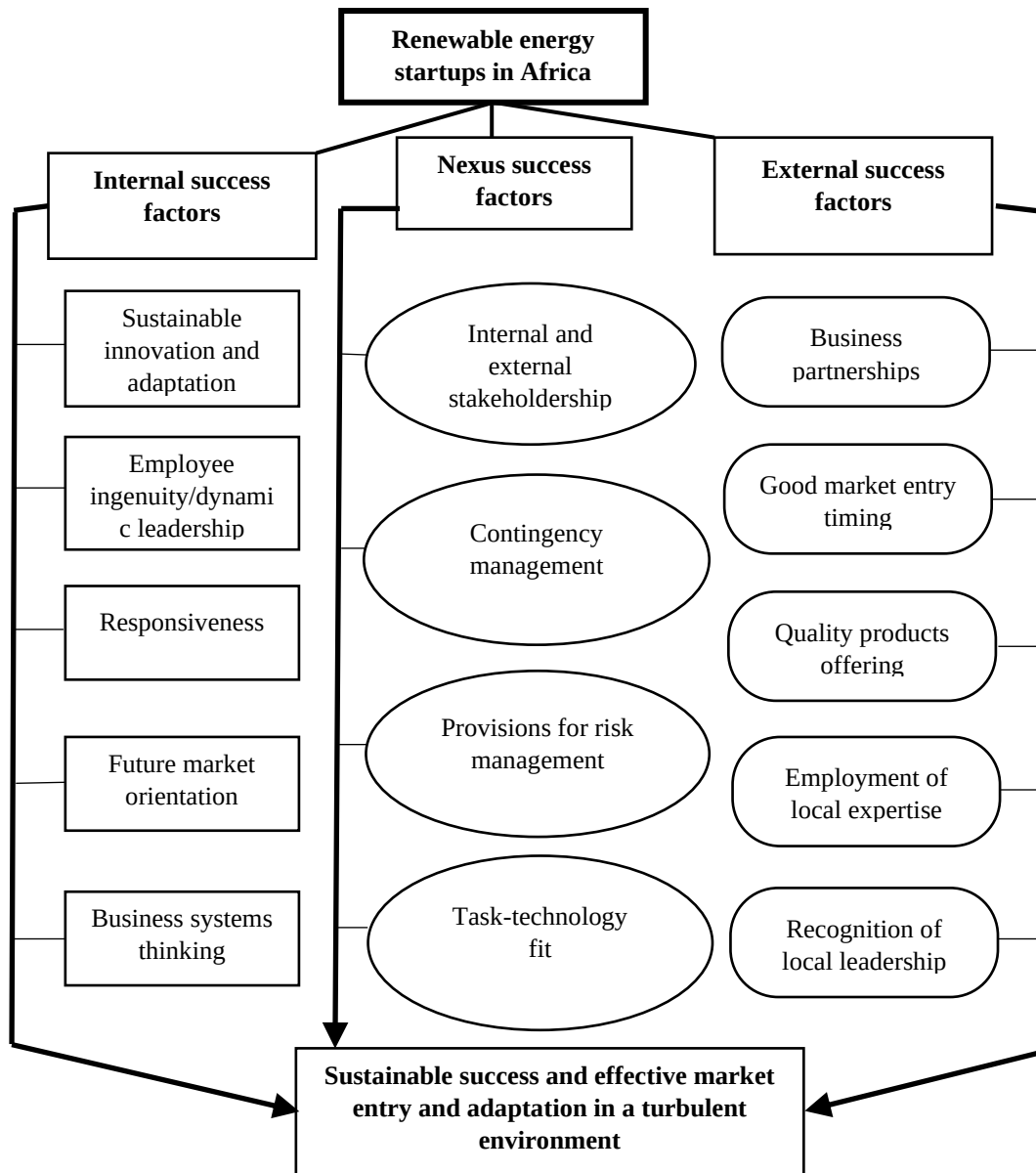
how low entry barriers and the provision of corporate core products impact the performance of startups. One possible explanation could be that when entry barriers are low, it enables the early-stage startups to immediately benefit from the already existing market share while increasing their capacity to generate revenue and profits. Provision of quality and core products may also increase the startups' goodwill in the long run, and this could easily translate to larger markets. With these, the new startup could perform better and compete favorably with existing ones.

5. Towards A Conceptual Model for Success of Renewable Energy Startups in African Emerging Markets

Building on the review and analysis of the empirical and theoretical literature, we present a conceptual model that integrates various strategies, referred to as success factors for renewable energy startups in African emerging markets, as shown in Figure 2.

To successfully answer the question of what strategies support sustainable renewable energy entrepreneurship in Africa, expanding the arguments in extant literature, we divide the success factors into three categories: internal success factors, external success factors, and nexus success factors. The internal success factors are applied within the firm to ensure internal performance boost and success and draw from the dynamic capabilities and resource-based theories. Similarly, the external success factors describe the relationship of these startups to the larger emerging market dynamics and draws from both the institutional and stakeholder theories. The nexus success factors involve a linkage between the internal and external environments of the business.

Figure 2: Conceptual Model for Success of Renewable Energy Startups in African Emerging Markets



Internal success factors comprise sustainable innovation and adaptation, employee ingenuity, responsiveness, future market orientation and business systems thinking. Zhao et al. (2014) opine that knowledge utilisation enhances the success of firms. We add that the correct application of this knowledge shapes the ability of African renewable energy startups to introduce novel ideas, workflows and methodologies for a long time. Thus, sustainable innovation and adaptation could ensure the success of these startups, despite existing institutional challenges. One may argue that it is almost impossible to recognize sustainable innovation and adaptation *ex ante*. However, predicting the impacts of sustainable innovation and adaption on startups' success before market prediction is quite easy considering that, in addition to high-quality products, consumers are now, more than ever, putting sustainability at the forefront of their consumption decisions. Thus, it is not difficult to identify startups whose core values are in alignment with the idea that environmental resources should not be used faster than they are replenished, and that waste generation should not exceed the carrying capacity of the ecosystem.

Again, sustainability is a dynamic issue, implying that startups that desire sustainable success may need to continuously innovate, and not just scale existing solutions. For instance, no matter how effectively companies were able to scale existing solutions pre-COVID-19 pandemic, there was a crucial need for more innovation and adaptation that are unique to the challenges created by the pandemic. Sustainable innovation and adaptation closely relate with employee ingenuity which we propose as another internal success factor for African renewable energy startups. This ingenuity refers to the ability of startups' employees to invent or initiate new, better ways of carrying out all internal business operations daily. This implies that at the notice of fresh institutional changes which may be detrimental to business success, employees can invent new and better ways of navigating it. It is also important to highlight that this employee ingenuity will be optimized with dynamic internal leadership that is up-to-date- with the current business realities of the current African emerging market. Responsiveness is the readiness to promptly disseminate market intelligence throughout the firm. While we suggest that this enhances sustainable success, we emphasize that it will be enhanced by a minimal internal bureaucracy.

Future market orientation refers to product development and creation focused on customer satisfaction both in the present and the future. It involves the simulation of a series of changes that may occur in the customers' demand processes over time using trends of social and institutional changes and how they affect energy consumption. A similar internal success factor for African renewable energy startups is the adoption of systems thinking in the business sense. This describes a holistic analysis of Africa's energy market to understand the systematic consequences of single business decisions. For sustainable success and effective market entry and adaptation to the African emerging energy markets, renewable energy startups explore business partnerships. Uhlenbruck et al. (2006) suggest joint-entry ventures and short-term contracting as some of the key business partnerships that help startups withstand institutional pressure. Huggins and Thompson (2015) also argue that business partnerships and networks promote the ability of startups to identify and exploit market opportunities. This, in the African renewable energy market context, further enhances their chances to thrive despite institutional weakness and ultimately achieve sustainability. Good market entry timing is another pivotal success factor in the external business environment (Holtbrugge & Baron, 2013; Green & Ryans, 1990). Institutional turbulence in the African context may escalate in times of election or crisis. So, it is probably not in the best interest of renewable energy startups to enter the market such times if they target sustainability. In line with the reviewed studies also, we emphasize the importance of offering quality renewable energy products and services to the African emerging markets to ensure sustainable success. Pehrsson (2004) regards quality products as a success factor, in addition to core products – products that can serve both primary and secondary purposes. Finally, employment of local expertise into renewable energy startups in African emerging markets and recognition of local leaders does not just make a bold statement on the commitment of these startups to corporate social responsibility, but also strengthen their engagement with the external business environment, which further translates to effective market entry and adaptation – and sustainable success.

A good balance of interaction between internal and external stakeholders of a firm may promote business performance (Marques et al., 2019). This success factor draws from both within and outside the firm. Thus, we argue that it is equally important for the sustainability of African renewable energy startups. Contingency management is the ability of a firm to take the optimal course of action, depending on the internal and external business dynamics at the time under consideration (Pratono, 2016). We propose this, in line with extant literature, as a success factor for renewable energy startups in African emerging markets as it would enable them to further withstand sudden organizational, societal, or institutional changes. Closely related to it

is the ability to manage inside and outside business risks efficiently. This is especially pertinent for African renewable energy startups which probably face the biggest risks that threaten their existence in the earliest days. Task-technology fit describes the synchronization between the renewable energy technologies available to these startups within the African emerging markets and the tasks to be performed within their organization and their resources. In other words, we suggest that African renewable energy startups tend to survive institutional anomalies if they avoid over-ambitiousness and become more realistic in their daily business operations.

With these factors in place, renewable energy startups in Africa stand a better chance of succeeding in the long run, which in turn implies that they can effectively use their dynamic capabilities, enter and adapt to the emerging energy markets as well as enhance their sustainability over time, despite the weak institutional framework that characterizes the region.

6. Conclusion

Renewable energy startups in African emerging markets struggle in using their dynamic capabilities. This has been attributed to the turbulent business environment in which they operate and the complex institutional framework therein. In this study, therefore, we have critically reviewed existing studies in strategic management and propose a conceptual model. This conceptual model integrates various critical factors including internal, external, and nexus factors. These identified factors in our model, backed by core management theories, can enable renewable energy startups in African emerging markets to effectively use their dynamic capabilities, enter and adapt to the energy market, survive the institutional complexities in their environment, navigate their business ecosystem and ensure the sustainability of their business.

To effectively enter the African emerging markets, renewable energy startups therein should clearly articulate the timing of entry. These market entry strategies would address the two important questions of how to enter the market and when to enter and have a significant effect on market success. Adaptation of renewable energy startups in African emerging markets, on the other hand, is classified into economic adaptation and social adaptation, both of which comprise sustainable innovation that would positively affect the sustainable operation of these startups. The key adaptation strategies that would help these startups to withstand an institutionally turbulent environment include recognition of local leadership in their business operations and speedy incorporation, expansion, and upskilling of local employees. Joint ventures and short-term contracting are also important business partnerships to renewable energy startups in African emerging markets for survival in their local business environments characterized by institutional weaknesses. Finally, to survive the turbulent environment in African emerging markets, African renewable energy startups would have to balance their engagement and interactions with both their internal and external business environment for sustainable success. These factors have been broadly classified into internal success factors, nexus success factors, and external success factors.

Although we have identified, to the best of our knowledge, factors that can enhance sustainable energy startups' success in African emerging markets, it will suffice to say that those are not exhaustive. Future research, for instance, can investigate the impact of the ESG framework on the success of energy startups in Africa.

The acceptance of digital communication, enhanced by internet technology, remains one of the most important business developments of the past two decades, yet less than 5% of peer-reviewed articles in business and marketing have thoroughly investigated the impacts of digitalization and new technologies as market entry and adaptation strategies in both national and international business environments (Watson et al., 2018). In the context of renewable energy startups in African emerging markets, it would probably be very essential for scholars to conduct more research on the view of African energy startups regarding the incorporation of new technology as a market entry strategy, as well as how digitalization can help in positioning them for a sustainable business future. The coronavirus (COVID-19) has further emphasized the importance of these factors in both the renewable energy industry and all other sectors of the African economy, and thus, necessitated more research in this area.

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