26 The Kwawu resilient entrepreneurial ecosystems

A complex adaptive systems approach
to achieving the Sustainable
Development Goals

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Introduction

The relationship between resource efficiency, entrepreneurial action in business ecosystems and regional economic development is receiving increasing attention from scholars and policymakers (Roundy, Brockman & Bradshaw 2018; Galindo & Méndez 2014; CII-GBC International Conference on Resource Efficiency n.d.). There is the recognition that social constructions and cultural values have the potential of generating entrepreneurial action, which in turn drive economic development and revitalisation at local, regional and state levels (Roundy et al. 2018; Strickling 2016; Arruda, Nogueira & Costa, 2013). Researchers are, therefore, gradually shifting their focus from studies of entrepreneurial action to complex, resilient entrepreneurial ecosystems and systems-level leadership (Dreier, Nabarro & Nelson 2019). Entities such as the World Business Council for Sustainable Development are offering high-level Business Ecosystems Training in cooperation with KPMG a multinational professional services network focusing on financial audit, tax, and management consulting services (World Business Council for Sustainable Development n.d.).

Whereas studies of entrepreneurial ecosystems have focused mainly on identifying the core attributes of the elements in established ecosystems (Spigel 2016), little has been done to seek to understand the extent to which complex systems of interdependencies between the said elements create emergent patterns (Roundy et al. 2018; Mack and Mayer 2016) and social innovation towards sustainability (Mulgan 2019). Nonetheless, it is this focus on the complex interactions among agents, organisations, and socio-cultural forces, that demonstrates how entrepreneurial ecosystems emerge. According to a recent Deloitte Article (Kelly 2015) these business ecosystems are characterised by way of how their interaction dynamics allow individual actors to ‘achieve something together that lies beyond the effective scope and capabilities of any individual actor (or even group of broadly similar actors)’.

In their report, the authors highlight examples where business ecosystem strategies were used to tackle complex nexus problems such as 'water resource management, [...] and food safety' (Kelly, 2015).

The objective of this chapter is to examine the nature of the resilient entrepreneurial ecosystem among the people of Kwawu in Ghana through the lens of complexity science. The study assesses how the Kwawu people have progressed in terms of nurturing a resilient entrepreneurial ecosystem through a complex network of agents, community resources, assets, and support systems that help entrepreneurs to thrive and succeed.

The rest of the chapter is organised as follows. Firstly, a brief description of the Kwawu of Ghana is provided. It is followed by a review of existing literature resilient entrepreneurial ecosystem, and complexity theory. Next, the flexibility of qualitative and interpretive methods is considered as particularly appropriate for studying the complex Kwawu resilient entrepreneurial ecosystems. Finally, findings and propositions of the study are discussed, and the implications for researchers, practitioners and policymakers are suggested.

The Kwahu of Ghana

Kwahu is an area and group of people that live in the Eastern region of Ghana. They are a part of the Twi-speaking Akan group. Their motto is 'Asaase Aban, Yenti Gyae'. 'Asaase Aban' means 'Natural Fortress', given its position as the highest habitable region in Ghana. 'Yenti Gyae' stands for 'We Do Not Quit.' Put together, 'Asaase Aban, Yenti Gyae' means 'Natural Fortress, We Do Not Quit'. Colloquially, it implies 'Natural Fortress, We Do Not Understand Stop'. It shows the tenacity of purpose and the willingness to charge forward in spite of the odds or obstacles in one's way and to cause things to happen.

The paramount king (Omanhene), and the royal lineage of the Kwawu lives at Abene, north of Abetifi on the edges of the highlands. Till date, the road from Abetifi to the enclave of Abene, which houses the Omanhene, is surrounded by some unease, given the stories recounted of the battles fought along the route. The Kwawu people of Ghana, over three centuries, have developed unique but successful, complex, resilient entrepreneurial ecosystems. These emergent ecosystems enable them to find better solutions to business problems than their peers, despite facing similar challenges and having no extra resources than their peers.

Literature review

Entrepreneurial ecosystems

According to Roundy et al. (2018), it was Bahrami and Evans (1995), who were the first to introduce the term 'ecosystem' into the academic entrepreneurship literature. The central notions of entrepreneurship studies, thus, shifted away from individual, personality-based enquiry, towards a

broadier viewpoint that incorporated the role of social, cultural, and economic forces in the entrepreneurship process (Roundy et al. 2018; Stam & Spiegel 2016).

Despite its popularity, there is currently no widely accepted definition of entrepreneurial ecosystems amongst researchers or practitioners. Roundy et al. (2018) attempted an explanation. They split the term, entrepreneurial ecosystem, into two elements. The authors considered the first element, entrepreneurial, as a process by which opportunities for producing innovative goods and services are examined, appraised and utilised. The second element, the ecosystem, is a biological metaphor, which connotes the interaction of interdependent actors in a geographic community. Thus, entrepreneurial ecosystems focus on the entrepreneurial culture, and supportive policies ‘cultures, institutions, and networks that build up within a region over time’ (Roundy et al. 2018: 2).

Entrepreneurial ecosystems are, thus, historically produced (Saxenian 1994; Kenney & Patton 2005) with high levels of innovativeness (Acs et al. 2014). Further, entrepreneurial ecosystems create a cohesive social and economic system that supports the creation and growth of new ventures (Spiegel 2016). In this chapter, an entrepreneurial ecosystem is defined as ‘a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory and community (Stam & Spiegel 2016: 2).

Resilience and entrepreneurial ecosystems

Korber and McNaughton (2018) reviewed extant literature at the intersection of resilience and entrepreneurial ecosystems. The authors posited that the resilience construct is essential for entrepreneurial ecosystems for several reasons. Firstly, academics frequently use resilience as synonyms for preparedness, hardiness, persistence, or self-efficacy to justify why some entrepreneurs and their firms perform better than their non-resilient counterparts. Secondly, intellectual and behavioural entrepreneurial qualities and distinct patterns of entrepreneurship are said to nurture the capacity of individuals and firms to adapt to new conditions and to contribute to long-term sustainability through innovation. Thirdly, is the ability of entrepreneurial ecosystems to foster macro-level (regions, communities, economies) resilience within the context of entrepreneurial failure, recovery and transformation.

An entrepreneurial ecosystem is, thus, resilient when it is able to ‘absorb’ disturbances and undergo the changes necessary to transform its essential behaviours, structures, and identity into a system that is better able to respond to disruptions (Stam & Spiegel 2016; Walker, Holling, Carpenter & Kinzig 2004). It can survive disruptions without suffering a significant loss of function and, can be stronger after the disruption (Stam & Spiegel 2016; Holling 1986).

Complexity systems and entrepreneurship, and emergence

Typically, complexity systems analyse the interactions between seemingly unpredictable patterns, behaviours, and structures produced at one level to develop from and influenced by processes operating at different levels and by the interactions of the overall system (Roundy et al. 2018; Anderson, Drakopoulou Dodd & Jack 2012; Lissack & Letiche 2002). Systems that exhibit complexity are adaptive and can change based on experience (Schindehutte & Morris 2009). Within such systems, the individual elements continually interact with one another and the environment across levels, altering the system and its response to disruptions and allowing it to adapt to changes (Roundy et al. 2018; Messier & Puettmann 2011).

Fundamentally, both complexity theory and entrepreneurship scholarship are the focus of the concept of emergence and new arrangements, which include structures, processes, and system-wide properties that emerge within and across the system (Lichtenstein 2011). Thus, the complexity lens explores exchanges and emergent phenomena at multiple levels of analysis and stress the significance of nonlinear and unpredictable processes that create new and emergent formations (Roundy et al. 2018; Lichtenstein 2011).

Resilient, Entrepreneurial ecosystems practised with complexity theory enable business people to practice entrepreneurship sustainably. According to Shepherd and Patzelt (2011: 6), sustainable entrepreneurship can be defined as:

- The discovery, creation and exploitation of opportunities to create future goods and services that sustain the natural and communal environment and provide development gain for others.
- These sustainable entrepreneurial activities are generally consistent with sustainable development goals and are, in turn, relevant for tackling fundamental societal challenges such as the development of sustainable production and consumption patterns (Goal 12 of the Sustainable Development Goals).

The thrust of this chapter is that entrepreneurial ecosystems are the sets of actors, institutions, social networks, and cultural values that produce and sustain entrepreneurial activity. They are resilient to the extent that they can respond to disruptions while balancing the seemingly paradoxical tension between the diversity and coherence of its elements. Complexity systems examine the interactions between seemingly unpredictable patterns, behaviours, and structures produced at one level in an entrepreneurial ecosystem to develop from and influenced by activities operating at different levels and by the reactions of the overall system.

Method

The study, which is qualitative, employs an inductive and interpretive approach to data collection. It aimed at gaining insight and a more in-depth

understanding of what makes the Kwawu entrepreneurial ecosystem more resilient and sustainable. Studies within the interpretive paradigm aim at giving voice to the various actors to construct their interpretation and meanings (Burrell & Morgan 1979). A primary concern of the researchers was to create an understanding, describe and explain what currently obtains in the complex, resilient Kwawu entrepreneurial ecosystem from the actors themselves. To achieve this objective, the researchers studied the actors within their social contexts. As a result, close contact qualitative methods, such as ethnographic and participant observation, mental model mapping, in-depth interviews, and focus group discussions, were used.

Before starting the study, prior consent was sought from the Omanhene of the Kwawu people. In-depth interviews were conducted with seven elders of the Omanhene and thirty Kwawu entrepreneurs. Three focus group discussions, consisting of a total of twenty-eight participants, were held.

Findings and discussions

The study presents findings on three factors that influence the interactions and interrelations in complex, resilient ecosystems. They are: (a) durable enabling entrepreneurial culture; (b) an interdependent learning cycle, which consists of five inter-related elements – observing, doing, adopting, adapting and replicating; (c) and spiriting (wisdom dispensing and ‘grey hair’ services) and social inclusion.

Enabling entrepreneurial culture

An enabling entrepreneurial culture, within this context, is the affirmative sense of empowering individuals to become successful entrepreneurs. One principal way by which the Kwawu community bolsters this shared

Figure 26.1 The eight elements of the Kwawu entrepreneurial ecosystem.

entrepreneurship (free enterprise, private enterprise) philosophy to promote prosperity and expand equitable opportunity, is the continuous investment in an enabling entrepreneurial (business, commercial, risk-taking, ground-breaking, empire-building) culture. This nurturing and self-sustaining culture is as vital as the air they breathe and the water they drink.

The community has quality mentors, who are a network of successful entrepreneurs, that are handy, to offer entrepreneurial mentoring. An important asset of the community is the availability of start-up capital, which is usually generated within these trusted networks. The entrepreneurial cultural outcomes they cherish include: created wealth, trusting and faithful relations, imaginative and inspired thinking, less wastefulness and a developed ability to 'sniff' business opportunities. Even though entrepreneurship is driven by the 'self', they also value cooperation and collaboration with business associates through the sharing of business ideas and products.

Proposition 1: *you become what your culture is.*

An interdependent learning cycle

Observing

From childhood, the Kwawu observe the traits, personas, behaviours and mannerisms of their entrepreneurial parents, uncles, aunties and other close associates and attempt to mimic them later on in life. They see close associates start businesses and fail and start again. They then develop the inclination towards having a resilient mindset that business failures can be faced squarely and overcome. Primarily, they learn the basic rules of the game of entrepreneurship and jump in almost effortlessly. Factors that encourage the inclination towards developing by observing include:

- The availability of actors such as parents and close associations who are seen to be warm, nurturing, and who reward entrepreneurial behaviour.
- Successful entrepreneurs who are wealthy and admired and have high social status.
- Community leaders who inspire entrepreneurial confidence.

Proposition 2: intense observation improves your ability to interact with your surroundings and other people to produce the desired outcome.

Doing

'Development by doing' is realised by putting observed behaviour into practice to achieve detectable levels of excellence. Development by doing is complemented by coaching from close associates to accomplish a shared agenda of successful entrepreneurial development. According to the Kwawus,

most of these skills cannot be learned in the formal lecture halls of our universities. However, it is this type of universal, time-tested apprenticeship has always been critical in addressing skills shortages globally.

The World Economic Forum echoed this when it noted that there would be no guarantee of success when one when throws intelligent and highly educated persons on a commodities trading floor without any level of apprenticeship (Stefanova Ratcheva & Leopold 2018). However, when intelligent and intuitive individuals on the factory floor or trading floor learn the complex supply chain, then they would not earn a well-paying job with growth potential, but also acquire personalised skillsets to flourish in the role and the industry. This is what the Kwawus call 'Development by Doing'.

Proposition 3: *you become what you do.*

Adopting

Sometimes, transitioning from a non-entrepreneurs to entrepreneurs involve choosing new ways of thinking and doing things. For the Kwawu, it encompasses the informed selection and accepting of other people's tested entrepreneurial ethos as your own. The Kwawus do this by deliberately choosing to embrace the philosophy of self and personal responsibility, without abandoning group interactions. They also embrace the ethos of constant and consistence learning from, and packaging themselves after, successful pace setters and the adopting of new technologies, products and service. This adopted ethos eventually becomes part of them.

Proposition 4: *what you adopt becomes part of you.*

Adapting

Developing by adapting is done in response to changing business circumstances and environment (for examples, changes in social, political and economic conditions; the emergence of new technologies, products and services). The purpose is to ensure relevance, survival and to remain competitive in changing markets. This sort of development is not only done to mitigate undesirable impacts of past decisions and actions about the business and business environment, but also to explore new ways of making better decisions and improving outcomes. The adaptation involves cooperation and collaboration with business associates and at formal and informal gatherings and festivals that encourage individual input and self-achievements.

Proposition 5: *when you adapt, you stay relevant.*

Replication

Replication refers to a situation where tested and established business strategies of the Kwawu are tried elsewhere in a new geographical area or a new market, or for a new set of customers. Replication often leads to the leaners setting up new businesses or trading systems where the ability which has already been acquired is used to set up expanded or new companies. For the Kwawu people, replication is meant to reproduce and multiply business outcomes through themselves or selected individuals.

Proposition 6: *when you replicate, you reproduce.*

Spiriting

Spiriting, in this context, connotes dispensing wisdom and ‘grey hair’ services to the entire community. It is about incarnating one’s self into individuals and the community by descending into the system to give birth to one’s entrepreneurial kind. The Kwawu Spiritors are holders and the embodiment of entrepreneurial wisdom. They encourage and stir up the community to entrepreneurial action. The Spiritors are few but noticeable. They are very experienced community leaders who are vision carriers and successful pace-setters who have great wisdom. The role of Spiritors are as follows:

- Empowering and enabling the community to create and preserve entrepreneurial culture.
- Figuring out and shaping how the community creates and maintains the entrepreneurship edge.
- Describing how the community creates an emergent entrepreneurial ecosystem.

They provide:

- Insight, awareness and comprehension about entrepreneurship.
- Influence, encouragement and guidance on entrepreneurship.

The most desired future of the Spiritors includes valuing and exploiting future socio-economic-environmental ideals, grooming of future holders of the vision and collaborating with current vision bearers to build businesses in Ghana.

Proposition 7: *when you ‘spirit’ out, you multiply and spread over a wide area.*

Social inclusion

It is the character and atmosphere that holds the elements of the entrepreneurship development together. Social inclusion provides the required

energy and conditions for mutual sustainability. The Kwawus do this by staying mindful that welcoming, accommodating, nurturing and interacting with many different peoples and cultures (internal and external stakeholders) for mutual benefits and sustainability are vital.

Proposition 8: social inclusion leads to improved opportunity and ability of humanity to live in dignity.

Contributions to sustainable management and development theory and practice

The Kwawu project is an ongoing international effort and intends to make some contributions to sustainable management and entrepreneurial theory and practice. Firstly, it combines entrepreneurship ecosystem, resilience and complexity systems theory to develop an ecosystem-level unit of analysis. By using an ecosystem and complexity lenses, researchers can better observe the competitive, collaborative and cooperative characteristics of business organisations.

Secondly, the findings suggest that increasing the degree of enabling entrepreneurial culture, interdependent learning cycles and spiriting, can enhance levels of interaction and interrelations in ecosystems, resulting in more efficient use of social and material resources for economic development. Consequently, more skills, knowledge, ideas, resources, and different forms of support can be exchanged within complex entrepreneurial ecosystems to make it resilient, robust, enriched and sustainable. These insights are aligned with research done by the United Nations Global Compact and Volans (n.d.), stating that business collaboration in ecosystems drastically increases their resource performance and ability to deliver against the United Nations Sustainable Development Goals.

Thirdly, understanding to create and sustain entrepreneurial business ecosystems is an essential component of the implementation of the circular economy (Valkokari, Tura, Ståhle, Hanski & Ahola 2019). By analysing mental models, our chapter shows how entrepreneurs, over centuries, successfully collaborated in networks to co-create value.

Finally, the insights from this chapter are constantly tested and further developed with a wide range of ecosystem partners from research and practice. Together they are applying the described principles in reality labs, developing policies and systemic actions. These projects are co-hosted by the Institute of Development and Technology Management, Cape Coast, Ghana, The Engagement Company and SAXION University of Applied Sciences, Academy of Finance, Economics and Management (Engagement Company 2019).

Acknowledgements

This project was a pre-study of the early version of ARISE before it (ARISE) was funded. ARISE is an acronym for ‘Africa Renaissance, Integration and Sustainable Entrepreneurship’, which is a think tank registered in Ghana. The vision of ARISE is to be the pivotal facilitator in driving Africa’s prosperity through sustained entrepreneurial development.

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