

BUSINESS ECOSYSTEMS, GOVERNANCE STRUCTURES: HOW CAN VALUE CHAIN OF ECONOMY IN RURAL AREAS BE COMMERCIALIZED?

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Abstract: *Both creating and capturing value from a business activity cannot be done by a single firm in a single setting. Instead, firms with different competencies should be aligned to present the focal value and proportionately appropriate value. This study describes the governance structure and proposes the framework that organizes beekeeping actors through the proposed business ecosystem. This qualitative and descriptive action research collected data from 12 actors in the beekeeping industry. Different governance structures were piloted and tested through interpretative data analysis to develop an appropriate model. Two models are proposed: (1) the commercial firm to orchestrate the business ecosystem (2) the beekeeping association/cooperative to collaborate with the commercial firm through the honey collection centre to present a value proposition to customers. Also, ecosystem actors should share value in a fairly and truthful way. The role of an enterprise, which is an ecosystem orchestrator, is to ensure those ecosystem actors, particularly beekeepers, join and stay in the ecosystem. The study technique for data collection provides a valuable empirical ground through which management and business research can rely on the methodology. The study informs policymakers, researchers, and organizations on the crucial steps and measures to build and manage a viable commercial beekeeping ecosystem. The study provides a theoretical contribution to the ecosystems and governance theories and the empirical evidence for the approaches.*

Keywords: beekeeping, business ecosystem, governance, Tanzania.

JEL classification: M21, P46.

1. Introduction

About 80 percent of people in developing areas reside in rural areas, depending on agriculture (International Food and Agriculture Development [IFAD], 2016) and natural resources (Msamula et al., 2018; Tutuba, 2021). In Tanzania, rural areas have fertile land and natural vegetation, supporting economic activities like agriculture, fishing, and beekeeping. Upsettingly, poverty is more prevalent in rural areas, especially among female-headed households dependent on livestock and food-crop production (IFAD, 2016). The forest resources have not yet fully contributed to the well-being of society. Msamula et al. (2018) argue that “*forest resources do not at present provide a sufficient contribution to the economy*” (p. 188). Likewise, the beekeeping sector, which is part of the forest resources, remained less productive and not well governed (Tutuba et al., 2019). Therefore, promoting

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the value chains of rural economies, creating employment opportunities and improving livelihood in rural areas should be a priority (IFAD, 2016). To achieve this, promoting rural economies should become a vital driver of the transformation process: moving from a low productivity system to a semi-industrialized one in which innovative technologies improve production to support manufacturing activities (Tutuba, 2021). To understand such strategic dynamics, we need to understand how ecosystems are structured and governed (Adner, 2017; Furr and Shipilov, 2018). Therefore, this study which is limited to the beekeeping sector, sets to answer how to organize and manage beekeeping ecosystems in Tanzania to create value and capture more value for beekeepers?

Following this introduction, this study is organized as follows: first, I outline the core concepts of the study. After that, I present the methodology followed by the study's findings. Finally, the interpretation and the main results are summarized.

2. Theoretical Review

This section presents the theoretical review of key concepts and variables used in the study.

2.1. The beekeeping industry in Tanzania

In Tanzania, beekeeping has been practised and governed for many generations and through different structures (Tutuba and Vanhaverbeke, 2018). During the colonial era, government decrees ruled the sector (Ntenga, 1976; Tutuba and Msamula, 2018). After the independence and following the Arusha declaration in 1967, the beekeepers governed the sector through cooperatives (Tutuba et al., 2020). In 1998, a national beekeeping policy was formulated, and the industry was transferred to the Ministry of Natural Resources and Tourism, under the Forests and Beekeeping Department and later, the Tanzania Forest Services (TFS).

Furthermore, different business models and governance structures have been piloted to foster access to other markets. However, unexpectedly, little has been achieved: most beekeeping associations remained fragmented and weak (Tutuba et al., 2020), with limited capacity and resources to create value and capture a sizable value for beekeepers (Tutuba et al., 2019). Therefore, it is difficult to identify what may be termed as best practices in governing the industry and linking beekeepers to markets (Tutuba and Msamula, 2020). In this regard, it is essential to analyze different governance models through which beekeepers can efficiently be organized, managed, and coordinated to deliver value to customers and capture value for both ecosystem actors and society.

2.2. Business ecosystem

Promoting value chains of rural economies cannot be done by a single firm and in a single setting. Also, change in technologies, consumer behaviours, and access to resources have increased business challenges. So, firms should collaborate to share complementary assets and skills (Tidd and Bessant, 2018; Tutuba, 2021), products and components (Teece, 1986), and commercialize innovations. This combination of the value chain and complementary products is called an ecosystem (Moore, 1993).

The term ecosystem refers to a set of interacting organizations that depend on each other's activities and resources (Moore, 1993; Adner, 2017; Kapoor, 2018); and a business ecosystem as a group of interdependent businesses to co-provide value propositions (Amit and Zott, 2001). The success of an ecosystem depends on the business leaders of an industry leader (Moore, 1993) or a focal actor (Kapoor, 2018) that organize and govern other actors to co-create value. The key to a business ecosystem is an orchestrator with a strong influence and governance over the co-evolutionary processes.

Moreover, different similarities (Tsujiimoto et al., 2018) and formulations (Adner and Kapoor, 2010; Gawer and Cusumano, 2014) of ecosystems depend on the unit of analysis and the scope of the study. Nevertheless, while the ecosystem perspectives are conceptually distinct, they are mutually consistent, and one does not rule out the other as they relate to each other. Therefore, this study adopts the ecosystem-as-structure approach (Adner, 2017) as a unit of analysis. In this approach, the orchestrator interacts, engages, and defines borders with other ecosystem actors to deliver the value proposition collaboratively. And the governance of ecosystems rests on the explicit considerations of actors who lie off the critical path to the end consumer (Colombo et al., 2019). This study discusses the boundaries towards ecosystem governance and unit of analysis within three pillars: actors/participation (who needs to be included?), structure (who hands off to whom?), and governance (who sets the rules?) of business ecosystems.

2.3. Governance

The term governance has been used to describe various situations with different and sometimes contradictory meanings. Some descriptions have been linked to specific considerations, whereby governance is seen either as a process, structure, system of values, or outcome (Turton et al., 2007; Uludag et al., 2016). For example, in an enterprise, "corporate governance" is used to describe the suite of internal and external relationships, roles, responsibilities, and accountabilities that guide interactions between stakeholders, staff and management (Teece, 2016). In this study, I define governance as a structure of contractual arrangements (Sanchez and Ricart, 2010) between organizations that confer decision rights regarding activities (Teece, 2016), collaborations, policies, and assets like leasing contracts (Cunningham et al., 2017; Colombo et al., 2019). The owned and controlled activity includes the incentives to [structure] align the goals of the [set of actors] participating organizations and the mechanisms to [governance] manage the difference between different opinions of participants. Teece (2016) argues that the 'activity' can range and therefore can be analyzed differently: from a transaction (*transactional governance*) to the whole company (*corporate governance*) and a business ecosystem (*ecosystem governance*). This study is limited to transactional and ecosystem governance; it defines and examine governance at transactional and ecosystem-level within the beekeeping industry.

2.3.1. Transaction-level governance

Transactional-level, or arms'-length, is a business relationship in which transacting parties have no long-term business relationship; the relationship ends after every transaction (Teece, 2016; Tutuba et al., 2020). When the relationship involves repeated transactions over a long time, transacting parties may build up norms, shared structures, relationship capital to help govern the ongoing relationship. The issue is how the transaction is most likely to be conducted smoothly to capture efficiencies and avoid quarrels. Therefore, we suggest the transaction cost theory (Williamson, 1975, 1985) to achieve this relationship. According to Anin et al., (2016), the governance of business transactions is grounded in the transaction cost theory. Some typical examples are make-or-buy and invest-or-outsource decisions.

In a make-or-buy decision, firms in the beekeeping value chain can decide to make/produce honey or buy honey from producers. Consequently, firms can choose when and how to invest or outsource some activities in the beekeeping value chain in the invest-or-outsource decision. However, to get enough honey, and for sustainability and efficiency purposes, any decision will create a repeated and long time relationship between transacting parties. Also, parties will be required to share skills, assets, and resources (Tutuba et al., 2019; Tutuba and Msamula, 2020), establishing a collaborative relationship through interactive and contractual models.

Interactive and contracting lies somewhere between arm's-length contracts and full-on integration. Trust is critical in building a relational contractual model in the beekeeping industry. If beekeepers are not trusted to deliver quality honey as per the contractual agreement, the ecosystem will not be sustainable. Similarly, if the transacting part will not pay beekeepers as per contract, beekeepers might opt to sell honey to another trader. Therefore, collaborative governance is suggested.

2.3.2. Collaborative governance

In the transaction-level governance, the business relationship ends after every transaction (Teece, 2016). But, from a business perspective, the ecosystem concept has been tied up around value creation, firms' growth, and collaboration (Pisano and Teece, 2007; Ketonen-Oksi and Valkokari, 2019). Beekeeping organizations with different resources, capabilities, and complementary assets interact to create value propositions. However, the interactions between these actors within the ecosystems give rise to governance challenges (Cunningham et al., 2017; Tutuba et al., 2020), including distribution of resources, activities and related costs, and value appropriation. Turton et al. (2007) argue that ecosystem governance is a means for achieving direction, control, and coordination of firms with varying levels of autonomy to advance the interests and objectives to which they jointly contribute. To promote the value chain of rural economies, influence economic gains, and improve business governance, collaboration among value chain participants is essential.

In ecosystem governance, value chains are driven primarily by market requirements: The value proposition. Collaborators work together to present focal value efficiently (Adner, 2017). For example, beekeepers will be aware that if they contaminate honeycombs, processors will not be able to refine and pack quality honey, and thus customers will not get quality products, and, accordingly, value chain actors will not be able to capture value. Therefore, if every collaborator plays their role correctly, existing markets will likely change and create new markets with the right products. And the responsibility of the orchestrator, in this case, goes beyond the ability to link various partners but to find connections among different partners and encourage them to work directly with one another to identify nascent opportunities (Furr and Shipilov, 2018). This way, they can present a new value proposition to the target market.

Ecosystem governance comprises governance structures and activities that try to exert influence or deal with actors and systems in the ecosystem structure (Uludag et al., 2016). Therefore, the business ecosystem governance should be structured around the orchestrator, which must influence and find a deal through bargaining, negotiation, and compromise. Also, interactions among firms should reflect the organization rather than being random. In this regard, ecosystem actors' interconnections will be governed when parameters regarding product, process and logistic qualifications are discussed and agreed upon by all participants.

3. Methodology and approach

This qualitative action research focuses on promoting change within the study area. I adopted the approach because of its strengths to include; focus on change, the recognition that time needs to be devoted to diagnosing, planning, taking action and evaluating (Altrichter et al., 2002; McGrath and O'Toole, 2012), and the involvement of other core actors throughout the process (Greenbank, 2011; Earl-Slater, 2002). The study was conducted in four regions in Tanzania; Kigoma, Singida, Dodoma, and Iringa, which were purposively selected. I selected these regions because they are among areas with considerable beekeeping potentials. In addition, their ecological zones consisted of diverse vegetation, as has been reported by Msamula et al. (2018) and Tutuba and Vanhaverbeke (2018).

The study population contained different organizations in the beekeeping industry in Tanzania, from which 12 firms were purposively selected. The sample includes four cooperatives from Kibondo (1), Uvinza (1), Singida (1,) and Dodoma (1); four companies/enterprises from Dodoma (2) and Iringa (2). Also, three public honey processing centres from Singida (1), Dodoma (1) and Iringa (1); and one exporter from Kigoma.

Data were collected through unstructured interviews and observation techniques (Hair et al., 2007; Yin, 2018). The interview techniques were used to capture information about governance, business relationships, and interactions between firms in the beekeeping value chain. The participants-as-observer method was used while piloting the ecosystem's structure and governance of beekeeping firms, cooperatives, and corporates. According to Saunders et al. (2009), participant observation has been used much less in management and business research. Therefore, using this technique provides a valuable empirical ground through which management and business researchers can rely on the methodology in their research works.

After recording the interviews, data were coded, grouped and interpretatively analyzed to understand how firms interact and collaborate and how they are governed. The findings of the study are presented in the next section.

4. Study findings

Under this section, first, we present the organization of the ecosystem actors in the beekeeping industry, defining both the actors and the structure of the business ecosystem. Secondly, we offer the governance of the ecosystem based on the links in the ecosystem organization.

4.1. The existing beekeeping ecosystem in Tanzania

The interaction of firms in the beekeeping value chain is grounded in the industry architecture of the ecosystem. The arrangement of actors in the value chain depends on the core activities they perform – who does what? We found that the beekeeping ecosystem is organized through suppliers like carpenters, artisans, tailors, and firms selling beekeeping tools; the producer group like beekeepers and honey hunters; honey traders like retail shops, supermarkets, vendors; and customers like households, local brewers, traditional healers, tourists, hotels and restaurants. Unlike the argument by Adner (2017) and Furr and Shipilov (2018) that the alignment structure of partners needs to interact to present a "focal" value proposition, and the orchestrator set the stage for these actors. The findings show that every actor works independently to present their value proposition. Even in cooperatives, beekeepers are not organized through the cooperative as they manage beehives, process and sell honey independently.

I found that beekeepers and honey hunters are the most honey producers regarding honey production and productivity in the beekeeping ecosystem. Most beekeepers produce honey using only traditional means and tools, and the occupancy rate is 48 per cent. Also, honey hunters are found in areas that have natural forest reserves. Regarding the links and structures, we discovered that beekeepers are coordinated and interlinked through cooperatives: the cooperative orchestrates the beekeeping ecosystem in a particular area. We observed that cooperatives operate within the district and have at least 200 members. In this type of ecosystem, the cooperative is in the middle of the structure linking the production side (beekeeper) and the market through the collection centre. Furthermore, the cooperatives owned and managed existing collection centres. Moreover, the cooperatives operate the aggregation, refining and packaging, and channel management to present value delivery to the target customers.

4.2. Governance of the beekeeping ecosystem

The existing governance structure in the beekeeping value chain is transaction-based, as there are no long-term relationships among actors. However, in some areas like Kigoma and Singida, beekeeping ecosystems are governed through cooperatives and community-based organizations (CBO). Also, by working through the collection centre and collaborating with potential secondary actors, beekeepers gain some competitive advantages: (1) They change the working model from a transactional to a collaborative (2) They take part in the ownership of the CC through the cooperative. (3) They do not have to develop and manage channels because cooperatives do that. (4) Beekeepers take part in the association's management, leadership, and operational activities.

Regarding the governance of the beekeeping cooperatives, we found that most cooperatives are not efficiently operating their CC because (1) they have continuous stockouts of honey because either member are not depositing honey or there is not enough honey to bring to the CC. Also, beekeepers sold honey to local traders instead of depositing it to the CC. (2) They don't have enough funds to run the facility, and (3) They delay making decisions because most cooperatives are not organizing annual meetings. (4) Productivity is low as the cooperatives neither invest in assets nor attract organizations with capabilities to join the ecosystem. Therefore, a different governance model is necessary to improve efficiency and value creation in the sector.

5. Discussion of the findings

In this section, we discuss the governance structure of the ecosystem in the beekeeping industry in Tanzania.

5.1. Restructuring the beekeeping industry

The structure of a business ecosystem requires a configuration of different firms to co-create focal value. Unlike natural ecosystems, business ecosystems do not happen automatically but through proper alignment and governance of firms. Therefore, defining the industry architecture is critical; the ecosystem governance should begin by determining who does what to present focal value – changing the business model of the beekeeping industry.

Changing the relationship models changes the way value is created and captured by reversing actors' roles. In the ecosystem, value is created by performing specific activities, reducing the number of actors in the value chain, and sharing complementary skills and assets. This approach will increase the size of the pie by lowering costs, increasing efficiency and improving the quality of honey. For example, specializing in value-adding activities and defining the position in the beekeeping value chain suggests that the business model of beekeepers will change because they have to align their business model to that of the orchestrator. The value proposition of a beekeeper contributes to the focal value of the ecosystem; all actors create value together. The orchestrator becomes the new customer of the beekeepers, and the customer relationship changes from transaction-based to a collaborative relationship. The revenue stream comes from selling refined honey: Beekeepers are paid for the quantity of unadulterated honey extracted from their deposit at the agreed price.

5.2. Structural governance of the beekeeping ecosystem

Commercializing beekeeping activities requires three critical issues: quantity (volume), quality, and sustainability. An ecosystem can achieve these things if firms in the beekeeping industry work together through the collection centre (CC). And the governance of the particular ecosystem is determined by the operations of the CC. The CC can be owned and operated by either a cooperative, hence cooperative centric management, or a private

company, therefore corporate centric governance; or both cooperative and enterprise, hence the hybrid model.

5.2.1. Proposed governance structures of the beekeeping ecosystem

The first proposed governance structure is the cooperative centric governance which the CC is owned and operated by the beekeeping cooperative. This model presents some advantages to beekeepers in the ecosystem. But, the model is not efficient, and beekeepers are disinclined to work through cooperatives. Therefore, for the structure to foster commercialization, it should organize the ecosystem to encourage beekeepers to deposit their produce and transact honestly and effectively with other actors and service providers. In addition, the cooperative should have scope and means to improve productivity and efficiently reach potential regional markets.

The second option is to govern the ecosystem through a commercial enterprise. In this governance structure, the enterprise orchestrates the ecosystem by supporting beekeepers with means and scope in exchange for quality honey. The enterprise buys honey at a relatively higher price than the market price. The enterprise do all these activities to get a steady supply of high-quality honey, which it could sell at a higher price: It increases the pie to take a part of it that is larger in volume than in a purely competitive setting. This finding is grounded in the Ruaha Farm in Iringa (Vanhaverbeke et al., 2021) and the Central Park Company in Dodoma. However, when the enterprise plays the ecosystem competitive, the ecosystem becomes a trader-based business model purely, and the business relationships can take different forms like a tripartite model and contract farming model (Tutuba et al., 2019). This poses a risk to compete mainly by sharing the pie. Instead, they should focus on how to increase the size of the pie. Trust and commitment of the producer group, beekeepers, in this case, is key to the success of this model. The role of the orchestrator should be to enhance access to production inputs, quality management, and effective management of channels in the markets.

The third suggestion is the hybrid model: The business ecosystem model where beekeepers are organized in a cooperative to produce honey and sell to the business enterprise, the orchestrator. The hybrid ecosystem model comprises primary actors: beekeepers, orchestrators (cooperative and corporation), retailers, and consumers.

5.2.2. Ecosystems-as-structure of the hybrid model

Ecosystem-as-structure describes important roles/activities performed by the actors in the ecosystems and the interlinkage of actors. In the hybrid model, the CC is owned by the cooperative; machines and working tools are owned by the corporate; the management and operational activities of the CC are the corporate's responsibility.

The hybrid ecosystem model starts with the supply of inputs followed by honey production, which beekeepers perform. The leading roles of beekeepers include collecting honey from bee colonies, bulking, and depositing honey to the CC. In the ecosystem, beekeepers have three primary links: the link to suppliers, which helps them acquire beekeeping inputs, to the CC for reliable access to the market. Finally, the link to cooperatives guarantees the protection of the beekeeper's interest in the beekeeping industry.

The beekeeping cooperative is the third actor in the hybrid ecosystem governance model. The central role of the cooperative is to facilitate linkages between beekeepers, suppliers and business support organizations, and the corporate. In addition, the cooperative protects the interest of beekeepers and deals with legal/regulatory issues for the benefit of beekeepers. Also, it ensures that beekeepers are fairly/smoothly paid. The cooperative get revenue from three sources: rent of the CC, monthly subscription fee of members, and commission from honey sales. Furthermore, the cooperative board should decide all charges and be approved by members in the annual general meeting—again, the

cooperative link with the orchestrator. So, beekeepers, cooperatives, and orchestrators interlink at the CC. The role of the cooperative is (1) to make sure that the building and its infrastructure are in good condition to enhance the smooth operation. (2) To make sure that all beekeeper-members sell their honey through the CC and there is no side selling. Beekeepers deposit honey which is checked by both the cooperative representative and the orchestrator employee. Then, they record/document and sign the papers: the document is customized depending on the information they want to capture. First, however, some basic information like the depositor's identity, type/category (comb or semi-refined), grade, quantity, and value/price should be captured. Then, after signing, every partner should take a copy of the document for further references. This documentation is crucial as it clears all doubts, complaints, and fraud that may arise concerning quality, quantity, and later payments. In this regard, the role of a beekeeper and a cooperative in handling honey ends at this point. After that, the cooperative can claim or follow-up for payments from the orchestrator and make sure that the depositor [beekeeper] is paid: The orchestrator pays the respective amount of money to the cooperative, which pays the beekeeper accordingly. The orchestrator is the following important link in the ecosystem. It is an enterprise, the commercial company, which oversees all commercial operations of the ecosystem. The orchestrator has two crucial links: the link to the production side through the CC and the link to the market. First, the orchestrator is linked to both the cooperative and beekeepers in the CC. It is the buyer of all honey deposited by beekeepers and manages all CC activities. As a result, the efficiency of the beekeeping ecosystem is improved as the orchestrator owns the machines and working tools and operates the CC's operational activities. The following link is in the channel where the orchestrator is linked with traders in the honey market. The orchestrator decides on the communication mix and the distribution channels to reach customers in the region. Therefore, the market is served with few strong brands, competition is managed, and the collaboration model increases the size of the pie: Creating value together and sharing revenue fairly.

The last but equally important actor in the ecosystem is the customer. All the activities, arrangements or positioning and interlinkage of actors aim to present the value proposition to target customers in the market. For example, in the beekeeping industry in Tanzania, potential customers are individual households, tourists, and hotels and restaurants in the urban market. Therefore, the honey products should be delivered to target customers in urban markets, and the trader should capture revenues. So, the orchestrator is linked with customers through both direct and indirect channels of value delivery and should decide on how customers will pay.

6. Conclusion

The value chain of rural economies can be commercialized by changing the industry architecture from a transactional level to a collaborative model. This transformation should foster the re-arrangement of the industry structure by organizing the ecosystem and its governance around the CC. This re-arrangement will ensure bulking of produces, one voice or negotiation power, shared markets and access of complementary skills and assets. In the end, the collection point performs the aggregation, commercialization, and linkage roles. For example, depending on how the CC is owned and managed, honey is received from depositors (beekeepers), employees check for quality, traceability, and grading.

The centre manages deposits, keeps records, maintains safety, and find markets. Also, it is a link between producers (beekeepers) and buyers or private sector organizations. A well-structured CC creates a good connection such that products are quickly sold and at a reasonable price. However, developing an appropriate commercial structure is a challenge. It is pretty evident that few actors, primarily traders, set the game's rules to promote and

protect their interests. Given the weak organization at the producer level, presumably, beekeepers are not much involved in the governance of the value chain. The government does not yet enforce the policy and guidelines. It leaves the sector at the mercy of some greedy actors. With well-defined activities of the centre: value proposition, customer segments, channels, and relationships can also be well managed. To achieve this, a well-structured partnership model, also called the "hybrid model", between a cooperative and commercial company is necessary.

References

- Adner, R., 2017. Ecosystem as Structure: An Actionable Construct for Strategy. *Journal of Management*. 43(1), pp.39–58. DOI: 10.1177/0149206316678451.
- Adner, R. and Kapoor, R., 2010. Value creation in innovation ecosystems: How the structure of technological interdependence affects firm performance in new technology generation, *Strategic Management Journal*. 31(3), pp.306–33.
- Altrichter, H., Kemmis, S., McTaggart, R. and Zuber-Skerritt, O., 2002. The Concept of Action Research, *The Learning Organisation*. 9(3), pp.125 – 131
- Amit, R. and Zott, C. (2001). Value creation in e-business, *Strategic Management Journal*, 22(6–7), pp.493-520.
- Anin, E.K., Essuman, D. and Sarpong, K.O., 2016. The Influence of Governance Mechanism on Supply Chain Performance in Developing Economies: Insights from Ghana, *International Journal of Business and Management*. 11(4), pp.252-264 doi:10.5539/ijbm.v11n4p252
- Colombo, G.M., Dagnino, B.G., Lehmann, E.E. and Salmador, M., 2019. The governance of entrepreneurial ecosystems. *Small Business Economics*. 52, pp.419–428. <https://doi.org/10.1007/s11187-017-9952-9>
- Cunningham, J.A., Menter, M. and Wirsching, K., 2017. Entrepreneurial ecosystem governance: A principal investigator-centered governance framework. *Small Business Economics*. <https://doi.org/10.1007/s11187-017-9959-2>
- Earl-Slater, A., 2002. Critical Appraisal of Clinical Trials: The Superiority of Action Research? *British Journal of Clinical Governance*. 7(2), pp.132-135
- Furr, N. and Shipilov, A., 2018. Building the Right Ecosystem for Innovation; As companies grapple with uncertainty and change, they must collaborate in new ways with unlikely partners. *MIT Sloan Management Review*. Summer 2018, pp.59-64
- Gawer, A. and Cusumano, M.A., 2014. Industry platforms and Ecosystem Innovation. *Journal of Production Innovation Management*. 31(3). pp.417-433. DOI: 10.1111/jpim.12105
- Greenbank, P., 2011. Improving the process of career decision making: An action research approach. *Education and Training*, 53(4), pp. 252-266. DOI 10.1108/00400911111138433
- Hair, J.F., Money, A.H., Samouel, P. and Page, M., 2007. *Research methods for business*. John Wiley and Sons Ltd, United States
- IFAD, 2016. United Republic of Tanzania: Country strategic opportunities programme, *Executive Board — 117th Session*, Rome, 13-14 April 2016
- Kapoor, R., 2018. Ecosystems: broadening the locus of value creation”, *Journal of Organization Design*. 7(12), pp.1-18 <https://doi.org/10.1186/s41469-018-0035-4>
- Ketonen-Oksi, S.K. and Valkokarin, K., 2019. Innovation Ecosystems as Structures for Value Co-Creation. *Technology Innovation Management Review*. 9(2), pp.25-35
- McGrath, H. and O’Toole, T., 2012. Critical issues in research design in action research in an SME development context. *European Journal of Training and Development*. 36(5), pp.508-526. DOI 10.1108/03090591211232075
- Moore, J.F., 1993. Predators and Prey: The New Ecology of Competition. *Harvard Business Review*, 71(3), pp.75-83.

- Msamula, J., Vanhaverbeke, W. and Tutuba, N., 2018. Influence of institutions on value creation activities of micro and small enterprises in rural Tanzania. *Afrika Focus*. 31(1), pp.187-211
- Ntenga, G., 1976. Beekeeping Development programmes in Tanzania. *Proceedings of the Workshop on Apiculture in the Tropical Climates*. IBRA, London, pp207:147-154.
- Pisano, G.P. and Teece, D.J., 2007. How to capture value from innovation: Shaping IP and industry architecture. *California Management Review*, 50(1), pp278-296.
- Sanchez, P. and Ricart, J.E., 2010. Business model innovation and sources of value creation in low-income markets. *European Management Review*. 7, pp.138–154.
- Saunders, M., Lewis, P. and Thornhill, A., 2009. *Research Methods for Business Students*. 5th ed, Harlow: Pearson Education.
- Teece, D.J., 1986. Profiting from technological innovation: implications for integration, collaboration, licensing and public policy. *Research Policy*. 15(6), pp.285-305.
- Teece, D.J., 2016. Governance, (eds.) Augier, M. and Teece, D.J. *The Palgrave Encyclopaedia of Strategic Management*. DOI 10.1057/978-1-349-94848-2_737-1
- Tidd, J. and Bessant, J., 2018. *Managing Innovation. Integrating Technological, Market and Organizational Change*. 6th ed, TJ International Ltd, Padstow, Cornwall, UK
- Tsujimoto, M., Kajikawa, Y., Tomita, J. and Matsumoto, Y., 2018. A review of the ecosystem concept — Towards coherent ecosystem design. *Technological Forecasting and Social Change*. 136, pp.49-58. <http://dx.doi.org/10.1016/j.techfore.2017.06.032>
- Turton, A.R., Hattingh, J., Claassen, M., Roux, D.J. and Ashton, P.J., 2007. Governance as a Dialogue: Government-Society-Science in Transition. *Water Resources Development and Management Series*, ISBN-10 3-540-46265-1, Springer-Verlag Berlin Heidelberg.
- Tutuba, B.N. and Vanhaverbeke, W., 2018. Beekeeping in Tanzania: why is beekeeping not commercially viable in Mvomero? *Afrika Focus*. 31(1), pp.213-239
- Tutuba, N.B. and Msamula, J.S., 2018. *Ufugaji nyuki kibiashara: Nadharia na vitendo*, Mzumbe University, School of Business. Vilex enterprises. Dar es Salaam, Tanzania. ISBN 978-9987-9916-1-7
- Tutuba, N. B., 2021. Commercialization Inabilities of Rural Value Chain Activities in Emerging Markets: The Theory of Constraints Approach. *Journal of Management Policy and Practice*, 22(2), pp.72-82 <https://doi.org/10.33423/jmpp.v22i2.4467>
- Tutuba, N.B. and Msamula, J.S., 2020. Industry architecture: A model to create value and appropriate value in the value system of rural economies in Tanzania. *Journal of Academic Research in Economics*. 12(3), pp.509-531. https://www.jare-sh.com/current_issue.html
- Tutuba, N.B., Msamula, J.S. and Tundui, H.P., 2019. Business Model Innovation for Sustainable Beekeeping in Tanzania: A Content Analysis Approach. *American Journal of Management*. 19(1), pp.74-88. <https://doi.org/10.33423/ajm.v19i1.1340>
- Tutuba, N. B., Tundui, H. P. and Msamula, J. S. 2020. Governance of the Business Ecosystems to Commercialize Beekeeping Activities in Emerging Markets. *Journal of Strategic Innovation and Sustainability*, 15(5). pp.103–115 <https://doi.org/10.33423/jsis.v15i5.3590>
- Uludag, O., Hefele, S. and Matthes, F., 2016. *Platform and Ecosystem Governance*, Technical University of Munich, German
- Vanhaverbeke, W., Tutuba, N., Msamula, J., Pascoe, P., Kilumile, J., and Tundui, H, P., 2021. *Ruaha Farm (T) Ltd: Engaging Local Beekeeping Communities in Tanzania*, Ivey Publishing, <https://www.iveycases.com/ProductView.aspx?id=113320>
- Williamson, O.E., 1975. *Markets and hierarchies: Analysis and antitrust implications, a study in the economics of internal organization*. Free Press, New York.
- Williamson, O.E. 1985. *The economic institutions of capitalism: Firms, markets, relational contracting*. Free Press, New York.

Yin, R.K., 2018. Case study research: Design and methods. 6th ed, United States: Sage Publications

Bio-note

Tutuba Bhikolimana Nicholaus is a lecture and researcher in entrepreneurship and innovation management at the *School of Business, Mzumbe University in Tanzania*. For the past ten years, Nicholaus has been researching the commercialization of the value chain of rural economies, forest and agriculture in particular, by changing their business models. Also, he writes and publish in different local and international peer-review journals; and participated in numerous local and international conferences presenting results of these studies. Some of the meetings include EURAM 2019 conference. Lisbon, Portugal; 4th Academy of Business and Emerging Markets (ABEM) Conference, Manila, Philippines; and the 3rd AEM and TIM conference, University of Bergamo, Italy. Nicholaus obtained his PhD in Business Economics from Hasselt University, Belgium, and also graduated a Master program on Perspectives on Learning and Teaching in Higher Education from VU University, Amsterdam, The Netherlands; a Masters program in Science in Entrepreneurship, and Bachelor program on Business Administration from Mzumbe University, Tanzania.