Business Model Innovation for Sustainable Beekeeping in Tanzania: A Content Analysis Approach

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The understanding of a business model has been contained by the necessity to comprehend new ways of commercializing innovation. i.e. to define the architecture of the value creation, delivery, and capture mechanisms. Since the beekeeping sector in Tanzania remained non-commercial, this study analyzes how commercial beekeeping can be achieved through the business model innovation. Using a qualitative literature review, content analysis approach, a commercial beekeeping business model is suggested. The study provides a theoretical building block for innovative business model in the beekeeping sector. It also addresses the gap about the use of the business model in beekeeping sector.

INTRODUCTION

Business models have emerged as an important means of commercializing businesses. It is argued to provide the framework for a firm to create and capture value out of an innovative idea or technological development (Chesbrough, 2010; Teece, 2010). An innovative idea does not represent any value until it is commercialized via a business model. Similarly, technological development has no value unless it is commercialized (Schneider & Spieth, 2013). Therefore, business models have been considered as a focus on innovation (Vanhaverbeke, 2017). They are acknowledged as important drivers of business commercialization without which value created from innovation cannot be captured. The beekeeping business is no exception. Its innovation and technological development requires a business model to be commercial.

Beekeeping includes the art of managing honey bees for the purpose of tapping into their benefits (Cadwallader et al. 2011). These benefits include food and medicinal, raw materials for industries, and biodiversity protection. Moreover, management of bee colonies for pollination purposes is increasingly important in effective agriculture (Food and Agricultural Organization [FAO], 2012; Mujuni, Natukunda, & Kugonza, 2012). This presents an opportunity for beekeeping commercialization.

However, despite the high value of beekeeping products (Belgium Technical Cooperation [BTC], 2013) and recognized social, environmental, and economic benefits, the activity in Tanzania has remained non-commercial. This is mainly due to the lack of a proper business model. *"The beekeeping sector in Tanzania is still a virgin industry for rewarding investment. ... There is no organized marketing system to encourage the development and expansion of the industry"* (International Trade Centre [ITC], 2015:5).

Therefore, this study is set to analyze business model structures in the Tanzanian beekeeping sector. It observes and analyzes how beekeeping activity can be well coordinated and managed in order to create and capture values of the beekeeping ecosystem. Also, it contributes to a theoretical understanding and application of the business model innovation. And it builds on the body of literature on the business structures for commercial beekeeping.

This study is organized into five sections. First, the study concepts are presented to give a common understanding of the business model, beekeeping and commercial beekeeping in Tanzania. Second, a theoretical review presents the business model and how it can be structured. The third part presents the approach and methodology. This section is followed by the business model structures available in Tanzanian beekeeping sector. Given the nature of the study, it is important that every model is discussed after its presentation. This gives an opportunity to focus on and explain one issue at a time. Finally, we conclude this study by suggesting the business model for beekeeping commercialization. Areas for further studies are also identified and presented.

BEEKEEPING AND COMMERCIAL BEEKEEPING

Beekeeping, also known as apiculture, is defined in various ways (Cadwallader et al. 2011; Guyo & Solomon, 2015). But all definitions point to the art of managing honeybees sustainably for the purpose of tapping into the resource benefits.

In emerging economies, beekeeping is basically a traditional, local honey hunting, and rural-based activity. It is practiced by local communities, mostly women and the elderly (Mujuni et al. 2012; Nyatsande, Andrew, & Innocent, 2014). Similarly, unlike other rural economic activities such as agriculture, beekeeping is typically given little attention (Match Maker Associates [MMA], 2012) when it comes to resource allocation and activity development. It is then practiced through local means by those with limited beekeeping knowledge and skills. Therefore, the management of hives, bee colonies, and access to potential markets becomes the most critical challenge in business commercialization.

On the contrary, in developed economies, beekeeping is not only about collecting and retaining bees in a hive and apiary; it involves effectively and sustainably managing the bee colony. This requires modern types of equipment and tools, applying appropriate beekeeping knowledge and skills, and accessing profitable markets. This is what is referred to as modern or commercial beekeeping.

Therefore, commercial beekeeping is the application of improved top bar hives and modern types of beekeeping equipment and tools to effectively and sustainably tap into bee colony benefits. However, these benefits can be captured if all potential actors or stakeholders are included in a well-structured business ecosystem. *"It is the business model that determines the economic value of a new technology by indicating how customer value is created and how the company can capture part of that value"* (Vanhaverbeke, 2017:18).

This raises the need to re-define and review the business model structures of the beekeeping sector in Tanzania. This study, therefore, is set to analyze beekeeping business models available in Tanzania, and define the ways in which beekeeping can be structured to create value to customers and capture value to all potential firms in the business ecosystem.

COMMERCIAL BEEKEEPING IN TANZANIA

Beekeeping and honey-hunting have informally been practiced for many generations in Tanzania. In 1949, the British colonial government formed a department responsible for beekeeping within the Ministry of Agriculture. In 1998, a national beekeeping policy (NBP) was formulated. Responsibility for

beekeeping was transferred to the Ministry of Natural Resources and Tourism (MNRT), within the forests and beekeeping department (United Republic of Tanzania [URT], 1998).

The implementation of the NBP was backed by the 2002 Beekeeping Act and a ten-year national beekeeping programme (MNRT, 2001). Furthermore, several projects (MMA, 2007; BTC, 2007; BTC, 2013) and programs (NMRT, 2004) were implemented. These efforts were intended to professionalize the sector, increase productivity and export earnings from honeybee products and, further, to sustainably contribute to socio-economic development and environmental conservation (URT, 1998; SNV, 2009).

Tanzania is the second-largest honey producer in Africa, after Ethiopia (Nyatsande et al. 2014). It is endowed with a favorable environment and multi-flora vegetation, which is ideal for beekeeping (URT, 1998; Pinda, 2014). But this opportunity has not been fully utilized because the sector lacks a strong business model and well-governed value chain. *"The beekeeping sector in Tanzania is still a virgin industry for rewarding investment. But there is no organized marketing system for both local and foreign markets to encourage the development and expansion of the industry"* (ITC, 2015:5).

Moreover, emerging and rural markets, which are also termed "low-income markets" (Prahalad & Hart, 2002; Sanchez & Joan, 2010; Prahalad, 2012), has unique characteristics that present an excellent business growth opportunity. These characteristics include the market size, competitiveness, and opportunities for innovation (Majumder, 2012; Chikweche, 2013). However, these opportunities cannot be exploited without an efficient business model: *"... the logic of value creation in low-income markets depends on the nature of the business model"* (Sanchez & Joan, 2010).

Therefore, using modern beekeeping types of equipment and tools, techniques, knowledge, and skills will improve productivity and quality. The development of good business model structures, thus, coordinates all these activities toward beekeeping market potentials. A well-structured business model ensures sustainability and profitability to all actors of the ecosystem. Therefore, an innovative business model is inevitable in order to achieve this beekeeping commercialization potential.

BUSINESS MODEL

The term "business model" is often used but is not clearly defined (Chesbrough, 2007). It is often studied without an explicit conceptualization (Zott, Amit, & Lorenzo, 2011). *"Despite the fact that the term 'business model' is used widely in the business world, academic research is relatively sparse, and there is no consensus because researchers define business models in different ways"* (Vanhaverbeke et al., 2012: 11). Therefore, it is important to have a common understanding of the concept to silhouette the study.

Lindgardt et al. (2009) and Chesbrough (2007, 2010) defined a business model based on six functional parameters that might generate new value in an industry. However, they all focus on how firms create (value proposition) and capture (operating model) value. A business model articulates the logic, the data and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value (Teece, 2010)

Amit and Zott (2014) defined a business model as a system that is designed and enabled by a local firm in order to meet perceived market needs. A business model defines the way companies create and deliver value to a set of customers at a profit (Vanhaverbeke et al. 2012; Vanhaverbeke, 2017).

Similarly, Osterwalder and Pigneur (2010) define a business model as a description of the rationale of how an organization creates, delivers, and captures value. And Schneider and Spieth (2013) defined it as the heuristic logic that connects technical potential with the realization of economic value.

Therefore, a business model is a statement, a description, a representation, architecture, a conceptual tool or model, a structural template, a method, a framework, a pattern, relation function, and a set of activities that define how profits are made. It is the *how* of doing business.

THEORETICAL REVIEW

Despite increasing academic interest, the theoretical understanding of a business model has been contained by the necessity to comprehend new ways of earning money (Shneider & Spieth, 2013). The focus has been on explaining the business ecosystem's ability to work profitably. This raised attempts to refer to the term as the representation of the architecture of the value creation, delivery, and capture mechanisms (Osterwalder & Pigneur, 2010).

Similarly, the literature covering the elements and the process of conducting business model innovation has experienced a strong emphasis. Different works of literature, as summarized in Table 1, suggests business model architecture on its capacity to integrate the focal firm's ecosystem.

TABLE 1
DESCRIPTION OF BUSINESS MODEL BUILDING BLOCKS

Author and Description Business Model	Business Model Building Blocks	
Chesbrough (2010), a business model is confined to six basic functions of creating and capturing value in the business ecosystem.	Articulate the value proposition Identify a market segment and specify the revenue generation mechanism Define the structure of the value chain and paired assets needed to support position in the chain Details the revenue mechanism(s) Estimate the cost structure and profit potential Describe the position of the firm within the value network Formulate the competitive strategy	
Lindgardt et al. (2009), a business model is built along value proposition and operating model activities	Target segment Product or service offering Revenue model Value chain Cost model Organization	
Osterwalder & Pigneur (2010), a business model is confined on how to create, deliver, and capture value	Customer segments Value proposition Channels Customer relationships	Revenue streams
	Key resources Key activities Key partnerships	Cost structure
Vanhaverbeke (2017), a business model defines the way a company creates and delivers value for a specific customer group at a profit	Identify a specific customers group to serve Create a customer value proposition Identify key resources Identify key processes needed to deliver that value Design a profit formula	
Amit & Zott (2012) a business model is built along content, structure, and governance	What customer needs will the new business model address? What novel activities could help satisfy those needs? How could the activities be linked in novel ways? Who should perform the activities? What novel can governance arrangements be found? How will the value be created for each stakeholder? What revenue models can be adapted to complement the business model?	
Masanell & Feng (2013), the business model is built along a simple profit function	How it creates value for customers How it captures value for its stakeholders	

Source: Review of different kinds of literature

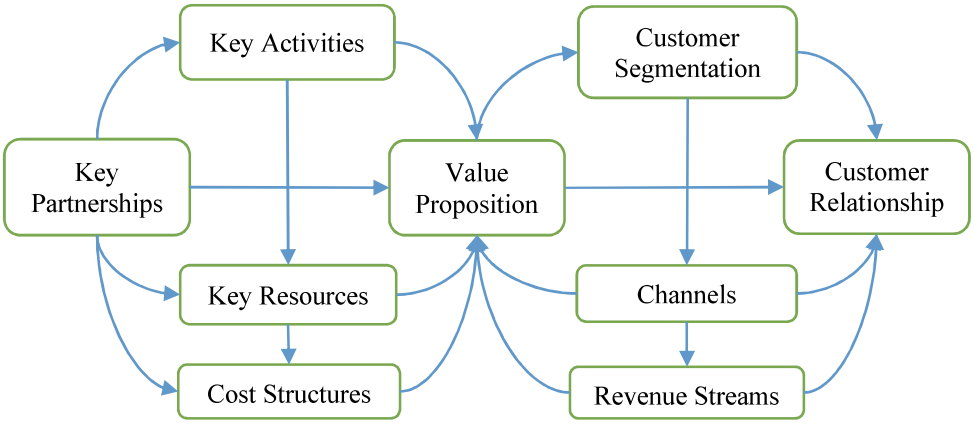
Chesbrough (2010) points out the formulation of a competitive strategy as one of the focus functions of a business model, along with governance and structure building elements. However, a business model is conceptually different from an organizational structure, product-market positioning strategy (Amit & Zott, 2014) or a value chain proposition. Although, it must be considered as a fundamental aspect of a firm's overall strategy. Therefore, at a theoretical level, a business model [innovation] is the [process of] designing/modifying a firm's extant activity system or as the discovery of a fundamentally different business model in an existing business (Schneider & Spieth, 2013).

At its heart, a business model should be built to perform two important functions: revenue/value creation and value capture. First, it creates net value through a defined series of activities, from raw materials acquisition to consumer satisfaction. This is important because, if there is no net creation of value, the other companies involved in an ecosystem won't participate. Second, it captures value from a portion of those activities. This is equally important because an unprofitable business is not sustainable.

According to this understanding, despite overlapping of building blocks, business model architecture is centered on the value proposition. A business model demonstrates how an ecosystem creates, delivers, and captures value. *"Business model defines the way businesses deliver value to a set of customers at a profit as it involves linking elements: companies create a customer value proposition, identify key resources and processes needed to deliver that value, and design a profit formula"* (Vanhaverbeke et al., 2012: 14)

To experiment with alternative business models, one promising approach is to construct maps of business models, to clarify the processes underlying them, which then allows them to become a source of experiments considering alternate combinations of the processes (Chesbrough, 2010). This modeling approach provides a pro-active way to experiment with different business architectures, and allow organizations to try various possibilities before committing to a specific model. Therefore, theoretical considerations of configuring elements of a business model here can become far more concrete as shown in figure 1 below.

FIGURE 1
ELEMENTS OF A BUSINESS MODEL STRUCTURE



Source: Chesbrough, (2010), and Osterwalder & Pigner, (2010)

APPROACH AND METHODOLOGY

Expanding interest in business models and business model innovation has led to an increasingly wide and confusing body of literature (Schnieder & Spieth, 2013). This study adopted a literature review approach with the aim to expansively analyze beekeeping business model structures in Tanzania.

Fink (2005) as cited by Seuring & Gold (2012) defines a literature review as a systematic, explicit, and reproducible design for identifying, evaluating and interpreting the existing body of recorded

documents. Similarly, Saunders et al. (2009) depict the process of reviewing literature as an iterative cycle of defining and refining parameters and keywords, searching for literature on the basis of these keywords, and evaluating and recording the body of literature. Therefore, the approach was adopted with the aims of mapping, consolidating, and evaluating the intellectual territory of the sector. Also, identifying knowledge and structural gaps to be filled in order to develop the existing body of knowledge in the beekeeping business model.

We adopted the three-stage process for systematic literature reviews suggested by Tranfield et al. (2003). In order to gain an overview of the existing literature on the business model in beekeeping sector, we first identified our research objective and designed our literature review process accordingly. Second, we conceptualized the terms "business model" and "business model innovation." This required careful screening of the articles in order to select those that focus on the innovation of established business models. Lastly, we analyzed business model structures in the view of commercialization of the beekeeping sector.

In analyzing a sample of research documents in a systematic and rule-governed way content analysis was used. Content analysis is a class of methods within empirical social science that can be applied in a quantitative and qualitative way (Seuring & Gold, 2012). It is a research technique for a systematic and quantitative description of the manifest content of the communication and includes any methodological measurement applied to text (or other symbolic materials) for social science purposes. Therefore, four main steps forming the process model of (qualitative) content analysis was adopted (Seuring & Gold, 2012; Schnieder & Spieth, 2013): first, the material to be analyzed is delimitated, and the unit of analysis is defined (material collection). Second, formal characteristics of the material being assessed, providing the background for subsequent content analysis (descriptive analysis). Third, the structural dimensions and related analytic categories are selected, which are to be applied to the collected material (category selection); last, the material is analyzed according to the (analytic) dimensions (material evaluation).

To report our findings within the third step of the process, existing literature on business model innovation, we presented different models used in beekeeping commercialization in Tanzania. Within each model, extant contributions are discussed focusing on how the model creates net value for the beekeeping ecosystem.

BUSINESS MODELS IN THE BEEKEEPING SECTOR IN TANZANIA

In spite of every business model being unique, there are general models that can be used as guidelines. But in Tanzania, a business model for commercial beekeeping is not yet in place (MMA, 2007; MNRT, 2004). However, different models have been designed and piloted without full adoption.

Therefore, this section analyzes different business models in two parts: first, by analyzing the nature of the interdependencies developed by the business, i.e., to analyze the impact of the business model on the ecosystem; second, to critically observe its applicability in the Tanzanian beekeeping sector toward commercialization.

Cooperative Business Model

The cooperative structure is among the highly suggested and preferred business models by the government and developing partners (The Institute of Community and Organizational Development [CODIT], 2009; Sizya, 2001). The model is highly preferred because of its advantages, most of which provide a solution to most of the rural business operation challenges. Some of the advantages are shared resources, experience and skills, aggregation, and gaining bargaining powers.

The operation structure of the cooperative business model is structured around a cooperative (MMA, 2007; Cadwallader et al., 2011). However, there are different modes of cooperatives to include: community-based enterprises/organizations (CBO), regional, national, and crop/produce-based cooperatives.

During the study, we found that most beekeeping cooperatives and associations are available to a few regions, which include Tabora, Kibondo, Arusha, and Dodoma. At the national level, the Tanzania

Beekeepers Association and Tanzania Honey Council are the most effective beekeeping associations. However, most regional associations are weak, fragmented, and are not pushing the beekeeping development agenda due to limited capacity, focus, and resources.

Another challenge to this model is based on the lost faith in the ability of cooperatives to help rural people overcome their problems. Sizya (2001) points out that the brief review of cooperative development in Tanzania during the last six decades suggests that little seems to have taken place among the rural communities, where the cooperatives were intended to contribute to better living standards.

The tricky situation of a cooperative model relies on the need for good governance, cooperation, and communication. This sort of business model would logically require a collective of other individual responsibilities among members. This could be achieved through a combination of actions and procedures, e.g., elections, rotations, and permanent responsibilities for members depending on their knowledge, skills, and experience. Other actions are decisions, mutual agreements, and voting, along with constitution guidance. With exclusive responsibilities, however, comes the need for increased dedication as well as honesty. As there is bound to be some sort of conflict, members need to agree upon a method of resolving said conflict.

Tripartite Business Model

In 2000, Honey Care Africa developed a unique business structure that can be applied in the beekeeping sector: the tripartite business model. The model was successfully developed, piloted, and adopted in Kenya (Jiwa, 2000). This business model is configured to operate in a three-way synergistic partnership. The business structure is sketched on the core capabilities of each partner because each partner has a specific and complementary role to play. Therefore, the value is created and captured through a strategic and synergistic partnership of core partners: the development sector organization (DSO), private sector (PSO), and rural community (RC).

The first partner in the structure is the DSO, whose main roles in the model are to facilitate linkage and play an arbitration and mediation role (Branzei & Mike, 2007). This creates a check and balance between the two trading parties. For example, PSO cannot develop the exploitative relation to beekeepers, and beekeepers cannot sell to other unrelated PSO. In some cases, DSO provides financial support and facilitates initial business operations. Therefore, DSOs should have a broad outreach and experience in working with RC to make them an ideal waterway for the system.

The second partner in the model is the PSOs. This includes commercial firms of the ecosystem. It is the commercial heart of the system. At all times PSO is sensitive to supply–demand dynamics and plays an important role in ensuring the structure can be commercial. In order to create value for all actors in the beekeeping ecosystem, PSOs have to collect, process, pack and sell honey for profit.

The last partner in this symbiotic model is the RC. This partner includes the beekeepers and honey hunters. Their main role in the model is to effectively and efficiently produce quality products. The value propositions of the model begin here.

Despite the successful commercialization of the beekeeping sector by the tripartite model in Kenya, the experience in Tanzania is different. During the study, we observed that the model is constantly facing operational challenges. The first challenge is over-reliance of the PSO's actions and decisions. Because all key activities are done by PSOs, sustainability and efficiency of the business structure will, therefore, depend on that of the PSO. If it collapses, the whole model will collapse. In the Morogoro district, for example, we observed three beekeeping businesses that collapsed because the PSO ceased operations in the area.

The second challenge is an inability to create value for those established through donor-funded projects, which made them unsustainable.

> *"The huge funding from donors has been disbursed ... but insignificant impact on the ground. Many small-scale beekeepers in this country (Tanzania) have remained very poor despite numerous interventions to improve the sector"* (MMA, 2007:7).

The third challenge is the conflicting goals and objectives between partners in the model. Their differences are extended to affect the revenue streams and cost structures. For example, PSOs are profit-oriented, while DSOs are mostly charitable and social-oriented. They differently define customers (segmentation), value propositions, channels, and relationships. Therefore, PSO partners with RC on a profit basis, while DSOs do it is for community outreach. It is important for partners to have common objectives so that they can mutually create and capture value for every member of the beekeeping ecosystem.

Another important observation is the failure of DSOs to play a coordination role between other operating units. When this happens, the model looks like a *duoparpite* than tripartite. For example, when there is a missing link between DSO and RC, PSOs have to resolve rising conflicts between them and RC.

> *"There was one member who was not being cooperative. He was thinking of selling his honey somewhere else. We talked to him, and now he's all right"* (Branzei & Mike, 2007:11).

The fair inclusion of beekeeping community members is challenging. It may rise into division and jealousy among beekeepers, which reduces the future performance of the model. In the Mvomero district, for example, we observed a conflict between two beekeeping groups just because one group was supported by DSOs. Therefore, for the model to create value, it needs a fair synergistic inclusion of all potential partners of the ecosystem.

The tripartite model creates a favorable condition to start beekeeping through a combination of different partners. It also shows inclusion of other key partners, DSOs, which may not be directly linked to core business activities. These partners have to ensure support for adequate training and easy access to beekeeping tools and equipment. Also, easy payment, a guaranteed market at a mutually acceptable price, and cash on-the-spot payment are the most important issues of the model. However, a different and more sustainable beekeeping business model is necessary to make sure the beekeeping sector is commercialized.

Contract Farming Business Model

Contract farming (CF) is a forward agreement specifying the obligations of farmers and buyers as partners in business (Will, 2013). Normally, a buyer provides embedded services such as inputs, pre-financing of input delivery on credit, and other nonfinancial services.

Melese (2011) described CF as one such structure offering opportunities to agribusinesses to lower transaction costs. They gain a degree of control over the production process and traceability without necessarily requiring ownership. It is one of the governance structures between the two extremes: spot market and vertical integration.

The model can be set up through different business structures, depending on the intensity of vertical coordination, the type of product and inputs engaged, and the number of key partnerships involved in the ecosystem. The model can be grouped into five contract farming structures (Will, 2013): the centralized model, nucleus estate model, multipartite model, informal model, and an intermediary.

The *centralized model* is the one that PSOs turn into the center of the ecosystem. They trade with producers under strict predetermined quantity and quality-control conditions. The involvement of PSOs can vary from supporting with the inputs to providing different services and technologies at various stages. The Honey King company, for example, uses this model in the Taboa region.

The *nucleus estate model* also referred to as the "out-grower learning farm model," or *shamba darasa* in Swahili is a variation of the centralized model, where PSOs own an apiary adjacent to independent contracting producers. The estate is usually used to guarantee throughput for the processing unit. Also, it is used for research and breeding purposes. The farmers are at times called "satellite farmers," illustrating their link to the nucleus farm. Ruaha farms use the model in the Iringa region.

The *multipartite model* is a business structure that involves various partners such as governments, NGOs, and service providers in the contract. According to different studies (Jiwa, 2000; Meles, 2011;

Will, 2013), this is an appropriate model for rural producers. It integrates the effort of many actors. Therefore, it eases the burden on individual contracting parties.

Usually, the model involves producers through their organizations, and it creates a partnership among the government, DSOs, and the PSOs. Contracts under this model may involve a varying degree of coordination depending on the interest they have in an ecosystem.

The fourth model is *the informal model*, which is usually characterized by entrepreneurs and/or small companies that enter into informal contracts, usually on a seasonal basis. Unlike the first three models, this model has limited resources for strong vertical coordination. Therefore, its success usually depends on the strengths of social bonds among contracting parties, the amount of business and operational support provided in the ecosystem. In Tanzania, this is the most available business structure. Because beekeeping operates under informal arrangements, it also depends on informal business structures.

Last is *the intermediary model*, which involves intermediaries, the agents, between producers and buyers. They act as the link between producers and PSOs. Also, they set business terms and conditions based on the requests of the PSOs. However, in most case, the arrangements are on short-term bases. Creating value in this model depends solely on the performance of intermediaries.

Collection Centre Model

The collection center model is a business model in which all commercialization activities are structured around a collection point known as a collection center. The center is used for aggregation purposes. Beekeepers bring their products to the collection center. Buyers collect the product from the center.

Depending on how it is owned and managed, the model is structured/formulated around the collection center to perform the aggregation, commercialization, and linkage roles. It receives products from depositors (beekeepers), checks for quality, traceability, and does the grading. It 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 collection center creates a good link such that products are easily sold and at a good price. However, developing an appropriate commercial structure is a challenge, particularly in establishing the cost structures. Africare and BTC are still piloting the model in the Tabora and Kigoma regions, respectively (MMA, 2007; BTC, 2013).

The strength of the model, however, is built on its ability to manage the revenue streams. With well-defined activities of the center: value proposition, customer segments, channels, and relationships can also be well managed. To achieve this, a well-structured partnership model is necessary.

Warehouse Receipt System Model

Warehouse receipt systems (WRS) is one of a series of a modern market model that can be adopted in different combinations and permutations according to the circumstances. It has been used to develop more productive agriculture markets in delivering benefits to producers and consumers (URT, 2012). First, it arranges a market window, which can help to secure the best possible deals. Second, it provides a platform for the introduction of institutional innovation like product grading and exchange trading (Onumah, 2010). Third, it provides a focus for development of the entire commodity chain through incentives. Last, it facilitates aggregation of products (Paschal, 2012; URT, 2012).

The model is structured around a registered warehouse, and it is run or traded by using a transferable document called a "warehouse receipt". To serve its purpose, WRS includes other participants like financial institutions, PSOs, and DSOs. Also, it integrates the government, through its agencies and organs, to oversee the system.

In some cases, the model seems to be inappropriate because of constant government and political interventions. However, we think the inclusion of government agencies is important because operating in unclear rules, regulations, and procedures that govern the sector reduces the ability to capture value.

> *"... government regulations can change a profitable SME niche business into a nightmare in just a few weeks or months"* (Vanhaverbeke et al. 2012: 09).

Therefore, the WRS model in the beekeeping sector can be effective if a key partnership is well structured and coordinated such that there are trust and operational confidence among members. Also, cost structures should be reviewed so that beekeepers can see the benefit of trading through the model.

DISCUSSION

In practice, the above-mentioned models are not mutually exclusive. For example, combined features of different contract farming may be found in one contractual arrangement. This is to say that the boundaries between models are fluid with regard to organizational structures, operational arrangements, and size of operations.

The models chosen for starting up a scheme may change over time through the integration of lessons learned, changing attitudes, and adoption of new technologies. A model that proves to be appropriate for the start-up phase, or the certain location, may need to be adapted and perhaps changed for the consolidation and scaling up phase, respectively.

Adopting a beekeeping business model has shown some challenges mostly from the beekeepers' side. Side-selling, adulteration, and aggregation are the most pressing issues for value capture. For example, some beekeepers breach the terms of a contract when other buyers offer a better price than that offered in the contract. They failed to work as per the contract terms with the Honey King, the Chinese honey processing company in Tanzania. Also, beekeepers misuse or resell the provided inputs. In the Turiani, Morogoro region some beekeeping groups have started to lease protective equipment.

Similarly, beekeepers are disadvantaged in some situations. For example, whenever the market condition changes, produce may be rejected and prices re-negotiated on the grounds of quality conformity. Moreover, nontransparent pricing mechanisms, quality specifications, and loss of control and flexibility in deciding production mix can limit beekeepers to benefit from market opportunities. Therefore, an innovative model is needed to ensure sustainability of value capture for beekeepers. The model should include moderating partners such as the government agencies, DSOs, which can ensure that all partners benefit in the ecosystem.

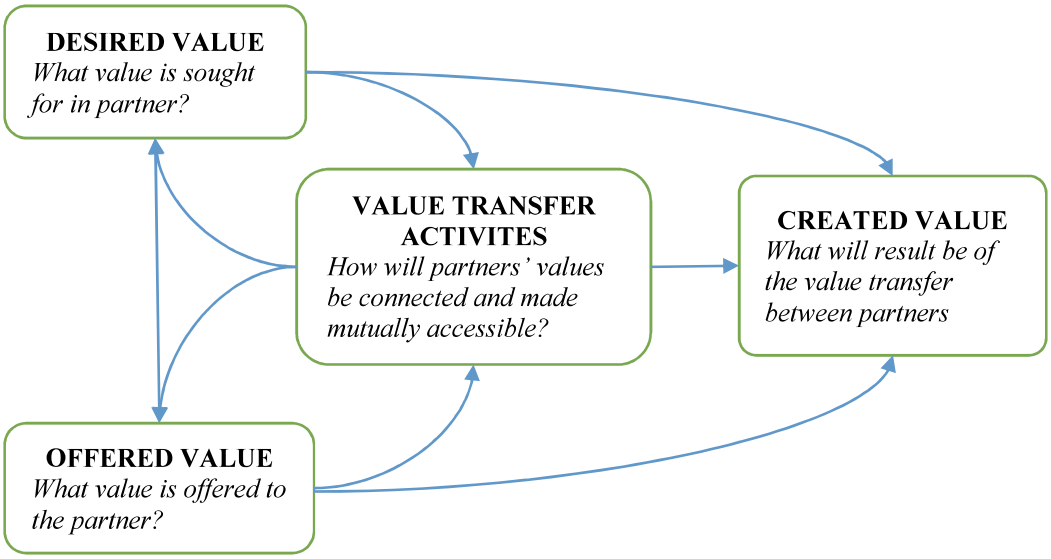
In Tanzania, it is evident that identifying and selecting beekeeping commercial model is an art rather than scientific process. The sector is washed with many actors who use different approaches and art of conducting business transactions. The beekeepers, who are main producers and the core elements of the business model, are being approached by traders or intermediaries and processors from local and regional markets on a short-term transaction basis. There is hardly a business pattern established after the collapse of Beekeepers Cooperative Societies in the late 1990s (MMA, 2007).

Of late, several support organizations have taken different entry points of supporting the different actors in the chains. It is difficult to identify what may be termed good or best practice in linking beekeepers to markets. Hence, there is no one and the only way to identify and select a value chain as well as business structure to further be promoted. In such a situation, it is not about selecting one of the channels – it might also entail crafting a chain or a combination of chains that would deliver the benefits of well-functioning structures, as discussed above.

Experience has shown that most beekeepers are not operating on business principles, and their participation is not based on economically viable units, as they still use traditional approaches, which are inefficient. Also, the adoption of improved models and their optimal use has not been attained. Keeping in mind the characteristics and key elements of business model innovation, it is important to identify a partnership business model that creates and supports thresholds for the involvement of beekeepers based on economically viable units. It should be a partnership that considers beekeeping as a business and not as a tradition. Involvement of the beekeepers as partners in the model should be judged on the merits of providing an opportunity that outsmarts the alternative use of labor and investment at a household level.

The partnership model is structured around the connection of partners in the value delivery process. Four building blocks are designed to make sure that value is captured as it can be created by all partners in the business. Figure 2 below shows the partnership model for commercialization of beekeeping activities.

FIGURE 2
THE PARTNERSHIP BUSINESS MODEL STRUCTURE



Source: Adapted from https://valuechaingeneration.com/2014/10/17/the-partnership-canvas/ as visited on March 10, 2018

The desired value is the building block aiming to look for a partners' contribution in the model: *what value is sought for a partner? Why do we need a partner? What value do partner convey in the business?* To fill in this block, the firm describes the missing component from its own business model, for which it finds a partner. For example, if aggregation and processing are missing elements, then, firm will look for a partner to cover those components. Similarly, if acquisition of commercial hives is a missing element, then beekeepers should look for a partner to provide the element. The description of the missing components are used to screen candidate partners on value(s) it desire(s).

Offered value defines the firms' contribution to the partnership: *what value is offered to the partner? What matching offer are we contributing in the business?* After recognizing a desired value in a partner, then a matching offer that connects with that value should be developed. An effective offer either complements or add to the desired value from a partner. Since all partners need to capture value, therefore, unless this connection is made, a basis for creating a relationship is possible. Otherwise, the model will not be ecological.

To minimize the challenges and contradictions observed in the cooperative, tripartite, and contract farming models, it is important for partners to decide on the way to connect values. *Through what collaboration activities will value be connected? Through what arrangements will these values be connected? How will desired and offered values be connected?* The value transfer activity defines the exchange by which synergy between the partnering business models is created. It is important that partners find a way to integrate the value that they are putting to the table.

Lastly, is the value creation building block. Basically, the first three blocks define a basis for connecting values. However, the critical question is whether this value engine enables to create a new form of value in one of the business model. Therefore, with the first three building block, an engine is created that enables value to flow between partners.

To create net value in emerging markets, there are different strategies. However, creating an ecosystem that co-evolves with inputs from partners, many of them located outside the formal economy, not only helps to improve socio-economic context but also allows value creation and it is a source of a more sustainable competitive advantage. Business models with a high degree of cooperative interdependences are especially convenient for this goal. While it is true that this scenario presents greater uncertainties, we have shown throughout this paper different success stories of how firms' efforts and creativity have been fully rewarded.

CONCLUSION AND STUDY IMPLICATION

A good business model should aim to create value for customers, and also capture value for participants in the ecosystem. In beekeeping, two factors are important to consider when building a business model: quality of the products and volume. However, it is a challenge to obtain good volume without compromising quality. Beekeepers alone cannot capture this potential.

However, since the main challenge of available beekeeping business models is the inclusion of potential partners, which drives firm's choices to the objective of improving productivity while reducing costs. The partnership model can take advantage of this opportunity and gain greater efficiencies in its operations. Partners can refine and extends its own skills, capabilities, and resources to commercialize the sector. The expected result, in this case, is an innovative partnership model which is able to increase income options while generating economic profits. Therefore, the benefit to local communities, in this case, goes beyond consumption, since it helps to meet broader social interests of those actors involved in the business model. In short, interactive business models apply new engineering logic for changing the actors' behavior and creating the capacity to pay.

In sum, there are different strategies when entering the low-income markets. However, creating an ecosystem that co-evolves with inputs from global and local partners, many of them located outside the formal economy, not only helps to improve socio-economic context but also allows value creation and it is a source of a more sustainable competitive advantage. Business models with a high degree of cooperative interdependences are especially convenient for this goal.

LIMITATION AND AREAS FOR FURTHER STUDIES

This study aimed at analyzing the commercialization of beekeeping in Tanzania through the business model structure. Therefore, it was limited to the analysis of structuring a business model that could bring positive net value to all players in the beekeeping ecosystem. However, commercialization should be integrated with the value chain and production capabilities. It is an opportunity for other studies to analyze a potential value chain that can commercialize the sector. Also, there is no consensus on the building blocks of an effective business model. The study, therefore, encourages more research on the business model structure and industrial architecture in the beekeeping sector.

Similarly, productivity and quality of beekeeping products and trust among different partners in the ecosystem have repeatedly been observed as the constraining factors for effective business model operations. They leave a room for further studies on different means to overcome these challenges. However, most businesses in developing and emerging markets are built on trust and social ties among members. It is therefore important to design and pilot a partnership beekeeping model so that to get an appropriate model which can be adopted in other emerging markets.

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