

# **A BUSINESS MODEL FRAMEWORK FOR MISSION-DRIVEN ORGANISATIONS**

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## Abstract

Non-profit organisations (NPOs) contribute to our society by addressing needs through value-creation activities which are normally not addressed by normal for-profit organisations. These NPOs generate their income through donations, fundraising and market activities such as the sale of products or services. However, in the pursuit of organisational sustainability, these NPOs need to ensure that their income meets their expenditure needs over the long run, to allow continuous value creation and to pursue their mission. An organisation's business model can be visualised through a business model framework (BMF), which have been illustrated to be useful tools for organisations to test new business models, plan and coordinate activities, and to communicate how an organisations business model works to stakeholders. The use of BMFs by NPOs may be useful for similar purposes. However, a key challenge for NPOs and their management is adapting for-profit tools to be more applicable to the NPO environment. Whilst there has been some progress within the literature on adapting these for-profit business model tools to NPOs, this area of research is relatively underrepresented in the literature.

The single case study method, exploratory in nature, following a deductive approach with a theoretical framework was used to evaluate the *NPO Business model framework for NPOs with multiple income streams* (Sanderse, 2014) appropriateness for the Centre for Biological Control (CBC), a mission-driven research organisation located within Rhodes University. The study made use of an interpretivist paradigm through the lens of resource-based theory.

The contextual environment of the CBC was similar to other NPOs in that their organisational sustainability was at risk due to uncertainty about the availability of long-term funding. The CBC is actively diversifying their income streams by establishing new partnerships, which increase the capacity and resource base of the organisation to improve its flexibility in meeting current and potential funders' needs. The *NPO Business model framework for NPOs with multiple income streams* was found to be a suitable BMF to visualise the holistic operations of the CBC. However, the role of governance-related matters being represented in this BMF was found to be lacking. An amended framework including governance as part of the *Business model framework for NPOs with multiple income streams* was developed. This improved the BMF, by allowing for further contextual insight into the CBCs business model as governance played a major role in the key activities and income-generating strategies they participate in.

The role a BMF has in assisting an organisation with resource management activities was also explored. A suitable BMF, which allows for a holistic and explicit display of an organisation's

business model, would assist in determining how resources could be better managed or orchestrated to pursue different potential income-generating strategies or improve the efficiency of how resources are used in the current business model.

This study contributed to business model theory by further testing the *Business model framework for NPOs with multiple income streams* as a tool to visualise an NPOs business model and identifying that once the governance block was added, this BMF became more suitable within the CBCs context. A minor contribution to resource based theory was the exploration of the potential roles BMFs play in resource management, which should be further investigated in line with additional research questions proposed.

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## **List of Acronyms**

BMC	Business model canvas
BMF	Business model framework
CRI	Citrus Research International
CBC	Centre for Biological Control
GIS	Geographic Information System
MOU	Memorandum of understanding
NPO	Non-Profit Organisation
NRF	National Research Foundation
RBT	Resource Based Theory
UCT	University of Cape Town
UKZN	University of Kwazulu-Natal
WITS	University of Witswatersrand

# **Chapter 1: Introduction**

## **1.1 Introduction**

This chapter aims to introduce the general topic of enquiry of the research as well as position the focal organization within its environmental context. The study background is introduced through a summary of the guiding theory which is followed by a brief explanation of the methodology and an introduction of the research objectives. A conclusion will outline the remainder of the document structure.

## **1.2 Study background**

Not-for-profit organisations (NPOs) create and contribute various types of value to the global economy such as skills development, job creation, social development as well as social or environmental activism (Lyons 2001, Weerawardena, McDonald and Mort, 2010). This value is created through the pursuit of a purpose, focused on addressing world needs and is often generated in complex, integrated environments. Access to funding is critical for an NPO to sustainably create value and this funding can be generated through donations, sponsorships, government projects, product sales or monetising services. Regardless of how funding is generated, a sustainable source, or sources, of funding is required for a NPO to pursue its' mission over the long run as well as achieving organisational sustainability.

South Africa has a multitude of NPOs which aim to address various social and environmental needs. NPOs within a South African context are defined as, "A trust, company or other association of persons established for a public purpose and of which its income and property are not distributable to its members or office bearers except as reasonable compensation for services rendered" (Non-Profit Organisation Act, No. 71 of 1997, Chapter 1). The financial sustainability of South African NPOs has been a topic of concern since the global economic crisis of 2008/2009, with almost 80% of NPOs suffering from budget cuts in 2011 because of reduced revenue, with a large portion of these undergoing budget cuts of between 20-50% (Hobbs, 2012). Smit, (2014, p. 119) found that "only 53% of NPOs in South Africa could survive more than three months in terms of the defensive ratio". This is congruent with Kilbey's, (2010, p. 73) study's conclusion that "57% of NPOs would not be able to survive beyond three months if they were to lose their income".

Disruptions in the reliability of traditional sources of revenue for NPOs has resulted in some organisations evaluating their options to generate funds by adopting social entrepreneurship

postures and exploring alternate methods of generating income (Hobbs, 2012). A significant challenge faced by NPOs when evaluating alternative income streams is how this may impact their alignment with their current donors' social agenda, as changes in focus by a NPO to create more diverse income streams may result in misalignment and put this traditional source of funding at risk. Banks, Hulme and Edwards, (2014) illustrated that NPOs participating in trading activity show an increased likelihood of long-term organisational sustainability. Kilbey and Smit, (2014) who suggest that to improve a NPOs chances of organisational sustainability, they will have to generate additional income streams through business ventures. However, they also noted in their study that almost 50% of NPOs observed in their study would reject assistance to develop this form of generated income.

NPOs deal with varying levels of competition for funding which are not only limited to other NPOs, but also include for-profit organisations that are incorporating sustainability into their business models and value offerings. This will likely increase as for-profit firms follow the calls for sustainable development and the concept of “people, profit and planet” (Elkington, 1998), Donaldson and Walsh, (2015) theory of business and the shift from shareholder wealth to collective value or Porter and Kramer's (2011) concept of shared value. In an effort by NPOs to overcome these increased levels of competition, various propositions have been presented which include the adoption of innovation practices (McDonald, 2007), entrepreneurial postures in their operations, a wider mission applicable to various government policies (McDonald, 2007) as well as increasing value offerings through value creation (Weerawardena and Mort, 2006).

In the pursuit of sustainable value creation, NPOs may adopt for-profit business practices (Knutsen, 2013). However, those charged with NPO governance or management functions often lack the systemic knowledge of the use and impact of incorporating business tools or practices into NPO management structures (Helmig et al. 2004; Peric, Delic and Stanic, 2020). This increases the need for these tools to become applicable to NPOs through either re-evaluation prior to their application (Laurett and Ferreira, 2018) or adjusting terminology to suit NPO requirements (Hvenmark, 2013). A potential for-profit tool which could assist NPOs in achieving financial sustainability is the business model.

The business model concept was first introduced by Konczal (1975) and has continued to be developed (Timmers, 1998; Amit and Zott, 2001; Magretta, 2002; Hedman and Kalling, 2003). The term business model is often used interchangeably with strategy, however, the term

strategy includes execution and implementation (Teece, 2010). Osterwalder, Pigneur and Tucci (2005) discuss the use, as well as the potential, of the business model concept, which includes understanding, sharing, analysing, managing prospects, and potential patentability of business models. The term “business model” does not have a single agreed definition and literature reviews by Osterwalder, Pigneur and Tucci (2005) as well as Sanderse (2014) show almost twenty definitions of varying similarities. A simple and to-the-point definition is given by Magretta (2002, p. 4) who defines a business model as “stories that explain how an enterprise works” and refers to its’ greatest strength as a “planning tool”. Osterwalder, Pigneur and Tucci (2005) focus on the use of a business model as a method to help managers capture, understand, communicate, design, analyse and change the logic of the business operations, taking into consideration that the business logic and operational form are impacted by the ecosystem in which the business operates. If business models are indeed a blueprint for how organisations operate and create value, a business model and its’ explicit framework will likely influence an organisation’s ability to adapt to its contextual environment (Saebi, Lien and Foss, 2017; Teece, 2018) as well as its ability to sustainably create value.

The business model’s applicability to NPOs has been considered beneficial to enable communication with funders, developing strategy and enabling efficient value creation (Universalia, 2013; Sanderse, 2014; Peric, Derlic and Stanic, 2020). A business model framework is a visualisation tool or a descriptive outline of an organisation’s business model (Osterwalder and Pigneur, 2010). However, business models within NPOs are often implicit rather than explicitly described in an applicable framework (Kaplan, 2012). Various frameworks have been proposed to describe business models, some with varied components, others by authors simply proposing adjustments to component definitions to increase a framework’s applicability to a particular organisation type. Business model frameworks based on for-profit business logic will most likely need to be adapted to be applicable to NPOs due to the difference that exists in their relative organisational models (Sanderse, de Langen and Salgado, 2020), as well as the complexity of stakeholders and income streams (Anheier, 2000).

Widely used as a business model framework in the for-profit sector (Spieth, Schneckenberg and Ricart, 2014), the Business Model Canvas (BMC) (Osterwalder, 2004) includes nine building blocks which represent: product offerings or value propositions, customer interface, infrastructure management and financial aspects. To develop a suitable business model framework applicable to NPOs, the BMC has been evaluated as a suitable tool for describing NPOs business models.

A study by Universilia (2013), on mission-driven research institutes in an African context, found that the BMC did not allow a sufficient description of the value creation process. Brehmer, Podoyntsyna and Langerak, (2017) found that it lacked the ability to include the network environment of organisations. Peric, Derlic and Stanic, (2020) suggest that due to the heterogeneous nature of NPOs, the BMC needed to be adjusted for local NPO-specific requirements. Sanderse, (2014) and Sanderse, de Langen and Salgado, (2020) present a modified BMC for NPOs which consists of a two-layer framework where programmatic activities are split from fundraising, marketing and financing resulting in new framework components developed in line with NPO requirements.

Teece, (2010) notes that to enable the comparison and evaluation of the business models of organisations meaningfully, the same framework should always be applied. This observation suggests that until a business model framework is developed which is as acceptable to NPOs as the BMC is to traditional business, comparisons between NPOs business models may be restricted and the progression of NPOs business model theory may be limited. In summary, the key shortfalls of the BMC for NPOs outlined above are defining value creation for various stakeholders and income or revenue generation from multiple sources (fundraising versus product sales).

### **1.3 Research Context**

The sustainability of NPOs globally is of major concern following the recent global financial crisis brought on by the COVID-19 pandemic. The pandemic not only influenced trading activity and the global economy through supply chain shutdowns but resulted in major shifts in the allocation of funding by the government towards humanitarian aid and economic stimulus packages, as well as changes in industry structure and funding available for social and environmental welfare projects. This will have both short- and long-term impacts on NPO funding and it is critical that opportunities which may assist NPOs in achieving organisational sustainability are explored.

The Centre for Biological Control (CBC) is a mission-driven research institute based within the university institutional structure of Rhodes University. It is located in the city of Makhanda in the Eastern Cape of South Africa. The CBC's purpose and mission focus its research on understanding the ecological dynamics of invasive pests, aquatic and terrestrial weeds, as well as agricultural pests and sustainable pest control methods (Mostert and Weever, 2019). Up to 90% of the CBC's funding comes from parties external to the university in the form of short-

term-research projects or grants from either public or private sectors both local and abroad. The Director of the CBC has acknowledged that the long-term sustainability of the organisation may be at risk due to the large portions of their funding based on the availability of government funded projects, which are notoriously unpredictable, and often leads to boom-and-bust cycles (Hill, 2019, personal communication).

Resources are the enabler of value creation and how these resources are used derives potential sources of competitive advantage (Wernerfelt, 1984, Grant, 1991). Barney, (1991, p. 101) described firm resources as “assets, capabilities, organisational firm attributes, knowledge, etc. controlled by a firm that enable a firm to conceive of and implement strategies that improve its efficacy and effectiveness”. Much of this definition is applicable to NPOs. Barney, (1991) summarised these resources into three categories: physical capital resources, human capital resources and organisational capital resources. The organisational capital resources included the firm’s formal reporting structure as well as both formal and informal planning. Based on this description, a business model, or a business model framework could be considered an organisational capital resource. As most NPOs only have implicit business models, an explicit business model in an applicable framework may be a valuable resource which contributes to sustainable value creation and organisational sustainability. A suitable business model framework for NPOs could promote the ability to conceive other opportunities for value creation by reallocating or combining other resources as well as assist the NPO in adjusting strategic positioning in times of global disruption as seen with the COVID-19 pandemic.

#### **1.4 Objectives for this study**

There has been an increased interest in the development of business models for NPOs focusing on the development of suitable frameworks. However, there is still no agreed suitable framework for NPOs which limits theory development and comparison of business models between organisations in this sector. This research will focus on evaluating the applicability of a business model to mission-driven NPOs and evaluate a business model framework’s usefulness as a tool to promote sustainable value creation through resource management.

The following objectives will be pursued:

1. Evaluate the contemporary context of the CBC’s operating environment and what should be considered in the development of a business model.
2. Evaluate a business model framework based on NPO business model literature and findings from the first objective.

3. Explore how business model concept could relate to resource based theory.

## **1.5 Study structure and method introduction**

This research was conducted using the case study method (Yin, 1981). The case study method is an empirical enquiry which investigates a contemporary phenomenon within a real-life context where the boundaries between the focus phenomenon and context are not clearly evident (Yin, 1984). A case study is an ideal research method when a holistic, in-depth investigation is needed (Feagin, Orum, and Sjoberg, 1991). The case study method contributes uniquely to the knowledge of the focal case and allows an investigation to retain the holistic and meaningful characteristics of real-life events (Yin, 1984). The research was structured as a single case study aiming to be exploratory in nature (Yin, 2003). A deductive approach with a theoretical framework shall be used to guide and support inferences and observations from the holistic single study, which will assist in the transferability and confirmability of this qualitative research (Yin 1981; Tellis, 1997). To achieve dependability, the researcher ensured that the research process is logical, traceable, and well documented (Nowell et al., 2017).

The study made use of an interpretivist paradigm through the lens of resource-based theory. The interpretivist paradigm takes the stance that reality is not objectively determined but is rather socially constructed (Husserl, 1965) and by its' nature, interpretivism promotes the value of qualitative data in the pursuit of knowledge (Kaplan and Maxwell, 1994). It is concerned with the uniqueness of a particular situation and contributes to the pursuit of conceptual depth (Myers, 1997).

The following chapters will be the literature review, materials and methods, results, discussion and then finally the conclusion.

## **Chapter 2: Literature Review**

### **2.1 Introduction**

As introduced in Chapter 1, this study makes use of a single case study aimed to be exploratory in nature. There have been various criticisms of the case study method over the years due to the concerns around the construct validity, internal and external validity as well as the reliability of findings achieved using the method (Tellis, 2015). Yin, (1994) suggests that the validity of a case study is enhanced by establishing theoretical constructs to guide the case study researcher in their analysis of the case. Sound theoretical grounding also assists in the reliability of generalisations made by the case researcher. This chapter aims to provide a thorough review of the extant literature on non-profit organisations, business model theory, resource-based theory and presents a synthesis of key concepts in a theoretical framework. Finally, research questions are proposed which will address the key research objectives and ultimately guide the data collection and analysis of the focal case.

### **2.2 Non-Profit Organisations**

NPOs are restricted from distributing net earnings to those who have control over the organisation (Hansman, 1980). These organisations come in many shapes, sizes, and legal forms, but all address important social and environmental needs as well as stakeholder interests (Oster, 1995). It is critical to note that NPOs are not restricted from making profits. However, these should be retained and devoted entirely to financing the functions the organisation was formed to provide or undertake (Hansman, 1980). NPOs contribute various types of value to the global economy through skills development, creating employment, and social or environmental activism (Lyons, 2001; Weerawardena et al., 2010). Over and above this value creation, they pursue missions focused on addressing items that the normal business traditionally does not serve, most likely because it is difficult to do so in a profitable manner (Hansman, 1980). However, NPOs rely on pursuing their mission through the generation of revenues that must at least meet or exceed their expenditure (Chetkovich and Frumkin 2003; Valentinov, 2008) and they must find ways to generate this revenue to enable the organisation to be self-sustaining over the long run, or it will stand little chance of achieving its mission (Bryson, Gibbons and Shaye, 2001).

NPOs revenue streams come from either donations and grants or through charging a price for their services or the products they provide (Hansman, 1980; Valentinov, 2008). Not all NPOs fit neatly into either one of these categories but rather on a continuum between the two

(Hansman, 1980). For example, universities rely upon both donations and the sales of services (contract research, tuition, accommodation revenue, various shops etc.), thus placing them somewhere in the middle of the revenue source continuum. A major traditional source of revenue for NPOs has been government initiatives. However, as policies are revised or expenditure allocations are adjusted due to various factors, the organisational sustainability of NPOs who rely on these initiatives has been brought into question (Ritchie and Weinberg, 2008).

NPOs operate within an open system where they are required to obtain the resources needed to enable them to pursue their value-creation activities, which leads to competition for said resources (Bryson, Gibbons and Shaye, 2001). NPOs are known to compete for resource such as financial and human resources, paying customers, contracts, and their prestige or brand positioning (Brody, 1996). Their competitive positioning within their sector may be influenced by their value propositions, product or service quality, contesting market share, or endeavouring to hold the best reputation (Tuckman, 1998). This may influence their ability to obtain alliances or partnerships with other organisations and government entities (Weisbrod, 1996). This competition is not limited to other NPOs but also includes traditional business organisations that are addressing similar social or environmental issues in their value-creating activities. This competition can result when NPOs enter a market segment where for-profits entities are present already and are deriving income, or if NPOs successfully introduce a product or service that for-profits later choose to offer in the same form or as a substitute. It is likely that competition between NPOs and traditional businesses will increase over time as for-profit firms follow the calls for sustainable development and the adoption of the concepts such as “People, profit and planet” (Elkington, 1998), Donaldson and Walsh’s (2015) new theory of business and the shift from shareholder wealth to collective value or Porter and Kramer’s (2011) concept of shared value.

The fact that NPOs operate in a competitive environment is well documented throughout the literature. Tuckman (1998), adapts Porter’s (1980) Competitive Forces Framework to analyse factors influencing competition in a NPO exclusive as well as a dual market landscape, where NPOs compete with themselves and with for-profit organisations. This competitive landscape has forced NPOs to adopt a variety of activities aimed at building sustainable organisations to enable them to pursue their mission (Bryson, Gibbons and Shaye, 2001; Dart, 2004; Goerke, 2003).

In the pursuit of a sustainable organisation within this competitive environment, researchers have proposed that NPOs could adopt innovation practices (McDonald, 2007) and entrepreneurial approaches (Weerawardena and Sullivan Mort, 2001), consider commercially generated revenues (Wijkstrom, 1997), adopt a market orientation (Gainer and Padanyi, 2002; Liao, Foreman, and Sargeant, 2001; Macedo and Pinho, 2006; Nicholls, 2006; Nicholls and Cho, 2006) or innovative practices (Jaskyte, 2004; McDonald, 2007), the application of business principles to fundraising (Chetkovich and Frumkin, 2003; Dart, 2004; Goerke, 2003) and consider a wider mission applicable to various government policies (McDonald, 2007) as well as increasing value offerings to improve current or potential competitive advantage (Weerawardena and Sullivan Mort, 2006).

The core issue is the need for a NPO to build a sustainable organisation that can continue to deliver the intended value through the pursuit of its mission over the long run. We have observed in the above sections that NPOs compete with both for-profit and non-profit organisations to obtain the resources required to create their desired value based on their mission. For an NPO to be sustainable, it requires that revenues exceed expenses and it must achieve this in an environment subjected to competitive forces which infer that competitive advantage in some form is required to outcompete rivals for access to revenue as well as other resources.

In the pursuit of sustained value creation, NPOs may adopt for-profit business practices (Knutsen, 2013). However, those charged with NPO governance or management functions often lack the systemic knowledge of the use and impact of incorporating business tools or practices into NPO management structures (Helmig et al., 2004; Peric, Delic and Stanic, 2020). This increases the need for these tools to become applicable to NPOs through either re-evaluation before their application (Laurett and Ferreira, 2018) or adjusting terminology to suit their own requirements (Hvenmark, 2013).

## **2.3 Resource Based Theory**

### *2.3.1 Foundations of RBT*

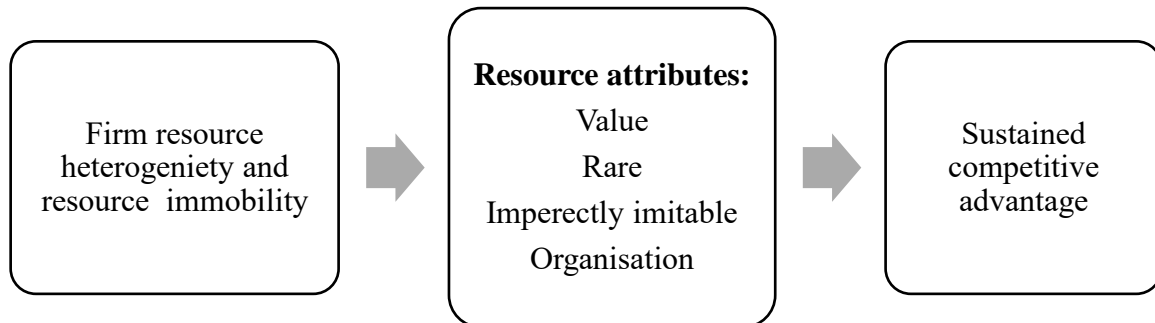
For over fifty years researchers have been postulating what makes some firms perform better than others, and at the broadest level, two explanations are evident in the literature. Porter, (1979, 1981) focuses on the impact of a firm's market power and how this may allow them to raise prices above a competitive level. Secondly, focusing less on market power and industry structure, how firms have differential abilities to respond both efficiently and effectively to

stakeholder needs (Demsetz, 1973). Penrose, (1959) proposed that the growth of a firm is limited by the opportunities that exist for it, which are regulated by the bundle of resources controlled by a firm and the administrative framework that the firm uses to coordinate these resources. This observation was the starting point of Resource Based Theory development (Barney, Clark and Delwyn, 2007). Penrose, (1959) made three other important contributions to the theory's early development; firstly, it was observed that bundles of resources controlled by firms were heterogeneous in nature, regardless of the industry they participate in. Secondly, a wide variety of resources were considered over and above tangible resources, including resources such as managerial teams and more intangible resources such as entrepreneurial skills. Lastly, it was recognised that even when considering a wider set of resources within a firm, there may be additional sources of firm heterogeneity due to the expanded scope of comparisons.

Porter's theory of competitive advantage (1980) was based on a firm's product market positioning. Wenerfelt, (1984) attempted to develop another theory of competitive advantage which was based on the resources a firm either develops or acquires to implement a product market strategy. This was referred to as the Resource Base View, as it was addressing the same competitive problem described by Porter (1980) but from the perspective of which resources a firm controls (Barney, Clark and Delwyn, 2007). Thus, a critical contribution by Wenerfelt, (1984) was the recognition that competition for resources amongst firms could have important implications for firms when implementing product market strategies. Although at a similar time to Wenerfelt, (1984), Rumelt, (1984) defined firms as bundles of productive resources and goes on to suggest that the economic value of resources will vary depending on the context in which they are applied. Simply put, two firms may possess the same resource, but the value of the resource will be determined by how they are used in the specific context of the firm. Barney (1986) went on to suggest that a theory of persistent performance of the firm could be based on the resources to which a firm has access to or controls. These four papers by Penrose, (1959), Wenerfelt, (1984), Rumelt, (1984) and Barney, (1986) outline the basic theories of Resource Based Theory (RBT).

The RBT is one of competitive advantage and is based on efficiencies (Barney, 1991). It assumes that a firm's resources which possess a certain set of characteristics will be the source of the firm's competitive advantage, and potentially sustained competitive advantage. To have this potential the four attributes a resource should possess are: 1) it must be valuable, 2) it must

be rare amongst current and potential competition, 3) it must be inimitable and, 4) it must be able to be exploited by the organisational processes of the firm (Figure 1) (Barney, 1991).



**Figure 1:** The VRIO conceptual model (Barney, 1991).

These four attributes can be used as indicators of how useful certain resources could be at generating sources of current and potential sustained competitive advantages (Barney, Clark and Delwyn, 2007). This type of analysis has become known as the VRIO analysis and importantly can be used as a tool for evaluating the current competitive position of a firm and its resources, as well as potential future resource bundles and organisational processes required to develop potential sustained competitive advantages.

#### Valuable Resources (V)

Resources can be considered valuable when they enable a firm to develop or implement strategies which improve its effectiveness and efficiencies (Barney, 1991). Whilst firm resources may have other characteristics such as rareness, imitability, and organisation, they only become valuable when used to exploit opportunities or neutralise threats in the firm's environment (Barney, 1991). This correlates with Rumelt's, (1984) view that the value of a resource is dependent on how the resource is used or applied. Therefore, the value of a resource is determined within the context of the firm and how the resource is being used within the specific market environment (Barney, Clark and Delwyn, 2007).

#### Rare resources (R)

If a resource is possessed by many firms within a specific industry, these firms will be able to use these resources to develop and implement the same or similar strategies with similar effect, thus resulting in competitive parity which means that sustained competitive advantage is not

possible (Barney, 1991). In environments of competitive parity, resources which are both valuable but common may help to ensure a firm's survival (Barney, 1989). For a resource to be a source of sustained competitive advantage, it must be rare in the context of the industry in which the firm operates (Barney, 1991).

#### Inimitable Resources (I)

Organisational resources which could be considered valuable or rare can only be sources of sustained competitive advantage if firms that do not possess these resources cannot obtain them through direct substitution or duplication (Barney, 1991). Such resources create the opportunity for sustained competitive advantage as firms which do not have access to them should not be able to conceive or implement similar strategies due to the lack of these resources. Firm resources are substitutes when they are equivalent in that they can be exploited separately to pursue the same strategy (Barney, 1991). Importantly, very different resources can be substitutes, for example, if the vision of a firm is considered to be a rare resource due to the charismatic firm leader (Zucker, 1977), other firms may be able to develop a similar vision through a company-wide planning process (Pearse, Freeman and Robinson, 1987). Three ways in which resources are inimitable were described by Barney (1991) and they can exist in combination or stand-alone; possession of the resource is linked to unique historical conditions, the link between the resource and sustained competitive advantage is causally ambiguous and lastly, this resource may be socially complex.

#### Organised Resources (O)

Lastly, resources that possess the characteristics of being valuable, rare and inimitable can only be a source of sustained competitive advantage if a firm is organised to exploit the opportunities offered by these resources (Barney, 1991). This organisation is influenced by an array of aspects which are often referred to as firms' complementary resources, and when resources which possess VRI characteristics are combined with complementary resources, the O can be obtained (Barney, Clark and Delwyn, 2007). The organisation attribute of a resource is therefore an adjustment factor within the VRIO framework, a resource may possess all other attributes, but the organisation determines what potential competitive advantage is realised (Barney, Clark and Delwyn, 2007).

**Table 1:** The VRIO Framework adapted from Barney, (1991).

<i>Is this resource...</i>				
<b>Valuable?</b>	<b>Rare?</b>	<b>Inimitable?</b>	<b>Organised?</b>	<b>Competitive implications</b>
No	-	-	No	Competitive disadvantage
Yes	No	No	Yes	Competitive advantage
Yes	Yes	No	Yes	Temporary competitive advantage
Yes	Yes	Yes	Yes	Sustained competitive advantage

Implicit in the above model (Table 1), is the fact that managers have limits in their ability to manipulate and reorder characteristics of firms (Barney and Taylor, 1991). Therefore, the sustained competitive advantage is critically dependent on the resources controlled by a firm. Without a suitable tool for managers to analyse the resources controlled by the firm, sustained competitive advantage is not likely (Barney, 1991).

### *2.3.2 Continued evolution of the RBT*

Following Barney's (1991) VRIO framework, considerable progress has been made in the development and refinement of the RBT. However, there seems to be two specific focus areas within RBT research, the possession of resources and the use of resources. Progress from a possession perspective includes the examples of knowledge as a resource (Grant, 1996), testing the link between resources and performance (Combs and Ketchen, 1999; Simonon, 1997), resource configurations (Harrison et al., 2001), the consolidation of knowledge on linking resources with performance (Crook et al., 2008), resource attributes such as versatility enabling growth (Nason and Wiklund, 2018) and slack or generic resources enabling managerial actions and impacting performance (Carnes et al., 2019). From a resource use perspective, key developments include work on dynamic capabilities (Teece, 2007), frameworks for the orchestration of resources (Sirmon et al., 2007; Helfat et al., 2007) and the requirement for synchronising orchestration actions to ensure optimal value is captured from resources (Sirmon et al., 2011).

### *2.3.3 Resources or capabilities or competencies?*

It is acknowledged by several researchers that the organisation of resources and both value creation and capture is a continuous moving target as the external environment is continuously evolving and, in some cases, Schumpeterian shocks completely disrupt a market or the competitive advantage which a firm was realising within a specific market or industry (Barney, 1991). RBT emphasises that firm-specific resources and capabilities are fundamental determinants of firm performance and the development of competitive advantage, whether sustained or not. Teece, Pisano and Shuen, (1997), proposed that competencies or capabilities can be developed, deployed, or protected through Dynamic Capabilities. Which are defined as “the firm’s ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments” (Teece, Pisano and Shuen, 1997, p. 516.). Essentially, Dynamic Capabilities enable an organisation to exploiting competencies that it has access to and develop new ones in the effort to address organisational sustainability. Dynamic Capabilities are seen as a means for identifying and developing capabilities which result in a new source of competitive advantage for a firm (Teece, Pisano and Shuen, 1997). The establishment of Dynamic Capabilities as a part of RBT has led to researchers no longer distinguishing between resource characteristics but rather those of capabilities, such as first or second-level capabilities (Winter, 2003), ordinary versus Dynamic Capabilities (Drnevitch and Kriauciunas, 2011) and critical capabilities (Achtengagen et al., 2013). Whilst acknowledging this line of literature, its’ scope is beyond the purpose of generating a theoretical foundation for the research activities conducted in this study.

### *2.3.4 Resource types, management, and synchronisation*

Incorporating the impact of the external environment as an influencing factor in RBT continued with Sirmon et al., (2007), proposing a Dynamic Resource Management model for value creation which introduces the concept of Resource Structuring, bundling resources to build capabilities and new resources, and then leveraging capabilities to exploit opportunities where these activities have feedback relationships and environmental uncertainty has a direct relationship on resource management. Resource Structuring refers to acquiring, accumulating, or divesting resources, bundling resources is linking them together or consolidating resources into a package to create a new resource, and finally leveraging is considered as mobilising, coordinating, and deploying strategies to maximise the value creation potential of the resource or resource bundle offers (Sirmon et al., 2011). Leveraging resources is a similar concept to the Origination of a resource within the VRIO framework.

With a shift in focus from resource characteristics (VRIO) to the role that Dynamic Capabilities and Resource Structuring play in developing competitive advantage, Warnier, Weppe and Lecocq, (2013) suggested that a more detailed and symmetric analysis of all available resources could assist in identifying current and future sources of superior performance. Rather than simply focusing on “strategic” resources, in addition, they introduce the concepts of junk and ordinary resources and illustrate how they can contribute to performance when the appropriate coordination activities are in place, they use the example of a business model as such a coordination activity. Their argument for doing so is that while RBT as a model assists in explaining competitive advantage, it does not shed light on the interaction or dynamics of resources contributing to any competitive advantages the firm may be realising.

In an effort to integrate resource management, possession and use, D’Oria, Crook, Ketchen and Sirmon, (2021) introduced the concept of Synchronisation whereby the most value will be derived from resources where resource structuring, bundling and leveraging actions work together. Their meta-analysis of evidence in the literature from 255 samples involving over 100 000 observations showed that:

- Possession of strategic resources is positively associated with performance;
- Resource possession and use are interdependent;
- Structuring actions are positively associated with financial performance;
- Bundling actions are positively related to financial performance and firm growth;
- Leveraging actions are positively related to financial performance but not growth.

They conclude that these observed relationships indicate that resource management, possession and use cannot be decoupled and require synchronisation to realise maximum value creation.

## **2.4 Business Models**

### *2.4.1 What is a business model?*

Business models have played an integral part in economic behaviour and trading since pre-classical times (Teece, 2010). However, the business model as a term or concept has only seen significant growth since the mid-1990s. Zott, Amit and Massa, (2011) illustrate that the term *business model* had been included in over 1 200 academic journal articles with significant increases between 1995 to the late 2 000s and noted that a similar trend was observed in non-academic articles. In their extensive literature review on business model research, they identified that there is a lack of consensus among researchers on what a business model is.

Similarly, Osterwalder, Pigneur and Tucci, (2005) and Sanderse, (2014) show almost twenty definitions of a business model.

The significant number of business model definitions available in the literature has been attributed to researchers approaching the concept from different viewpoints or contextual lenses, leading to definitions being slightly adjusted to suit the specific study and context of the research (Zott, Amit and Massa, 2011). The business model literature has developed into broad silos of e-business and information use, strategic issues such as value creation and capture, and lastly innovation and technology management (Zott, Amit and Massa, 2011). These silos have slightly different views on what the business model’s main purpose is, the mechanisms of how business models could influence organisational outcomes and the consequences of business models for an organisation (Zott, Amit and Massa, 2011). Not only has this caused confusion but also created a challenge for theory development as there is no agreed departure point of exactly what a business model is and different views of its’ main purpose. However, this is to be expected when theories or concepts are still in their developmental stages. Table 2 illustrates examples of similar definitions which encompass the concept of a business model as a method for describing an organisation’s core logic, structure, and activities to both deliver and capture value. The definition provided by Osterwalder and Pigneur (2010, p. 4) which defines the business model concept as one that “describes how an organization creates, delivers, and captures value” will be adopted for this research as it encompasses others shown in Table 2 as well as the fact that “Organization” implies all types of organisations and not only for-profit firms.

**Table 2:** Example definitions of a business model from the literature.

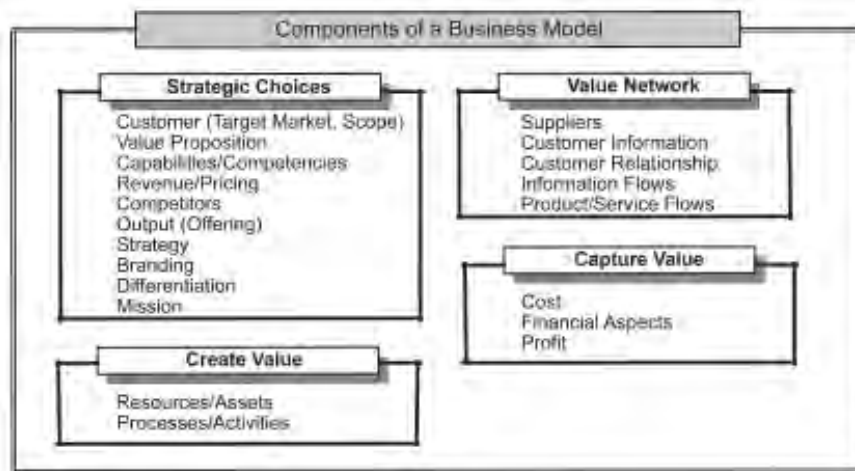
Author(s), Year	Business Model Definition
Timmers, (1998, p. 2)	“An architecture of the product, service and information flows, including a description of the various business actors and their roles; a description of the potential benefits for the various business actors; a description of the sources of revenues.”
Amit and Zott, (2001, p. 511)	“The content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities.”
Zott and Amit, (2010, p. 216)	“A system of interdependent activities that transcends the focal firm and spans its boundaries.”

Magretta, (2002, p. 4)	“Stories that explain how enterprises work.”
Teece, (2010, p. 179)	“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.”
Osterwalder and Pigneur, (2010, p. 14)	“A business model describes how an organization creates, delivers, and captures value.”
Shafer, Smith and Linder (2005, p. 202)	“Representation of a firm’s underlying core logic and strategic choices for creating and capturing value within a value network.”

#### 2.4.2 Business model use, components and frameworks

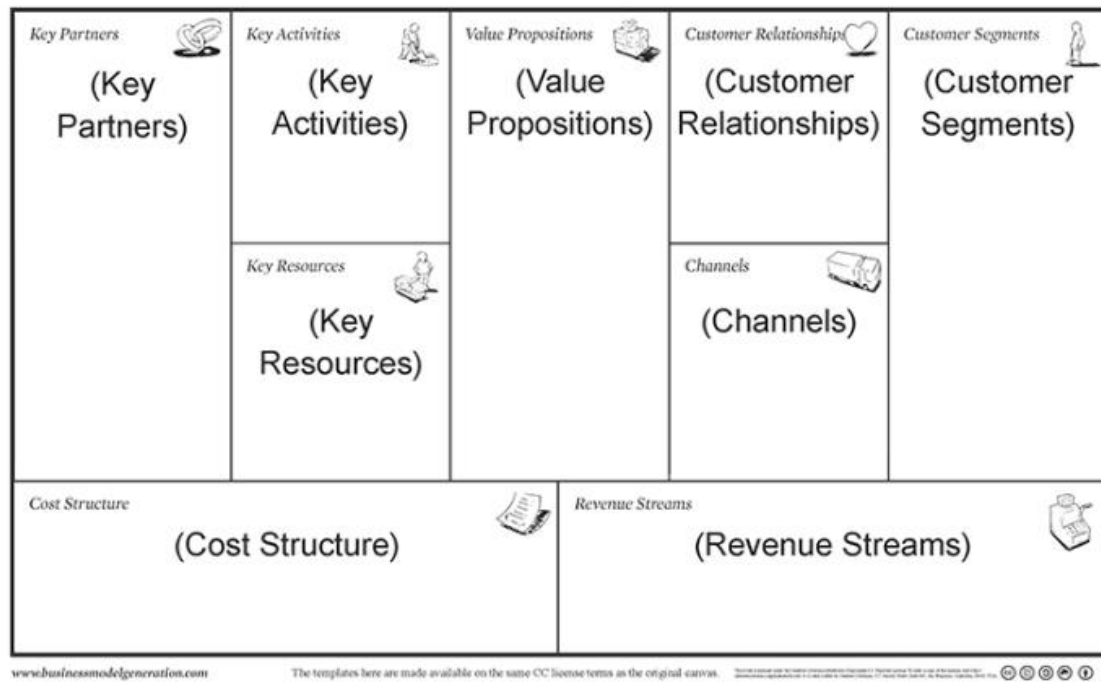
The literature is full of examples of how business models can influence business outcomes through various mechanisms. Examples of these include competitive advantage and unique value propositions (Teece, 2007), value creation and the distribution of bargaining power through business model design (Zott and Amit, 2007, 2008), Schumpeterian innovation (Teece, 2010) and connecting technology with customers (Chesbrough, and Rosenbloom, 2002). Whilst these are mechanisms of how a business model can influence business outcomes and not the outcomes themselves, much work has been conducted on the outcomes of using an effective business model which includes; value creation (Amit and Zott, 2001), various forms of competitive advantage (Christensen, 2001), firm performance (Casadesus, Masanell and Ricart, 2010) and the creation and appropriation of value from technology (Chesbrough and Rosenbloom, 2002).

From the above examples, the business model concept can be seen as a unit of analysis centred on the firm with its’ boundaries being wider than those of the firm (Zott, Amit and Massa, 2011). However, for a business model to be a unit of analysis, the business model itself must have various components which make up a business model and allow the establishment of linkages between how the business model creates mechanisms that influence a firm’s outcomes as well as influencing the outcome of the focal firm. Shafer, Smith and Linder, (2005) reviewed the various components which were part of business models presented by researchers in twelve different papers and identified over forty different components, some of which were common among the papers, but most only occurred incidentally. They went on to simplify these into higher orders through an affinity diagram which resulted in four different components of a business model; strategic choices, value network, create Value and capture Value shown below in figure 2.



**Figure 2:** Components of a business model illustrated by Schafer et al., (2005, p. 202).

A business model can also be used as a planning tool (Margaretta, 2002). Osterwalder, Pigneur and Tucci, (2005) discuss the use and potential of the business model framework concept which includes understanding, sharing, analysing, managing prospects, and the potential patent of business models. Demil and Lecocq, (2010) compare uses of the concept in the literature and identify two standpoints; a static approach, as a blueprint serve the purpose of description and classification. Secondly, transformational approach, as a tool to innovate business operations and processes. Langen and Bitter-Rijkema, (2012) suggest the business model framework concept can assist an organisation in asking itself fundamental questions concerning its business model components in the organisations current and future environment. Subsequently, various constructs of a business model framework have been proposed, the most notable of these is the Business Model Canvas (BMC) (Osterwalder and Pigneur, 2010). The BMC outlines nine building blocks shown below in figure 3, that represent the business model components of product offerings, customer interface, infrastructure management and financial aspects. These are slightly different to the components outlined by Shafer, Smith and Linder, (2005). However, due to the wide use of the BMC as a tool for communicating and analysing business models of for-profit businesses (Spieth et al., 2014), the BMC provides a shared language by which organisations can describe, visualise and access all components and their interactions, providing a thorough understanding of the business model (Nielsen et al., 2019).



**Figure 3:** The Business Model Canvas (Osterwalder and Pigneur, 2010).

From an analytical and theory development perspective, it has been noted by Teece, (2010) that until an agreed business model framework or archetype is developed that can be applied across organisations for comparison of business model constructs, the development of business model research and theory development will be hindered.

#### 2.4.3 Business models and frameworks in the context of NPOs

The business model’s applicability, when explicitly defined, to NPOs has been considered beneficial to enable communication with funders, developing strategy and enabling efficient value creation (Universalia, 2013; Sanderse, 2014; Peric, Derlic and Stanic, 2020). Seelos, (2010, p. 23) highlights the use of the business model for non-profits to, “facilitate better internal coordination of activities and external evaluation of an organization’s potential”. Sleurink, (2002) suggests that business models can help NPOs in guiding the organisation’s mission and how they accomplish achieving it, as well as, providing a clear framework for understanding the NPO in relationship to its contextual environment.

A business model framework is a visualisation tool or a descriptive outline of an organisations business model (Osterwalder and Pigneur, 2010). However, business models within NPOs are often implicit rather than explicitly described in a suitable framework, meaning that there is a business model driving the organisation, but it is not described in an explicit manner (Kaplan, 2012; Universalia, 2013). Various frameworks have been proposed to describe business models

for NPOs, some with varied components, others by authors simply proposing adjustments to component definitions to increase a framework's applicability to a particular organisation type.

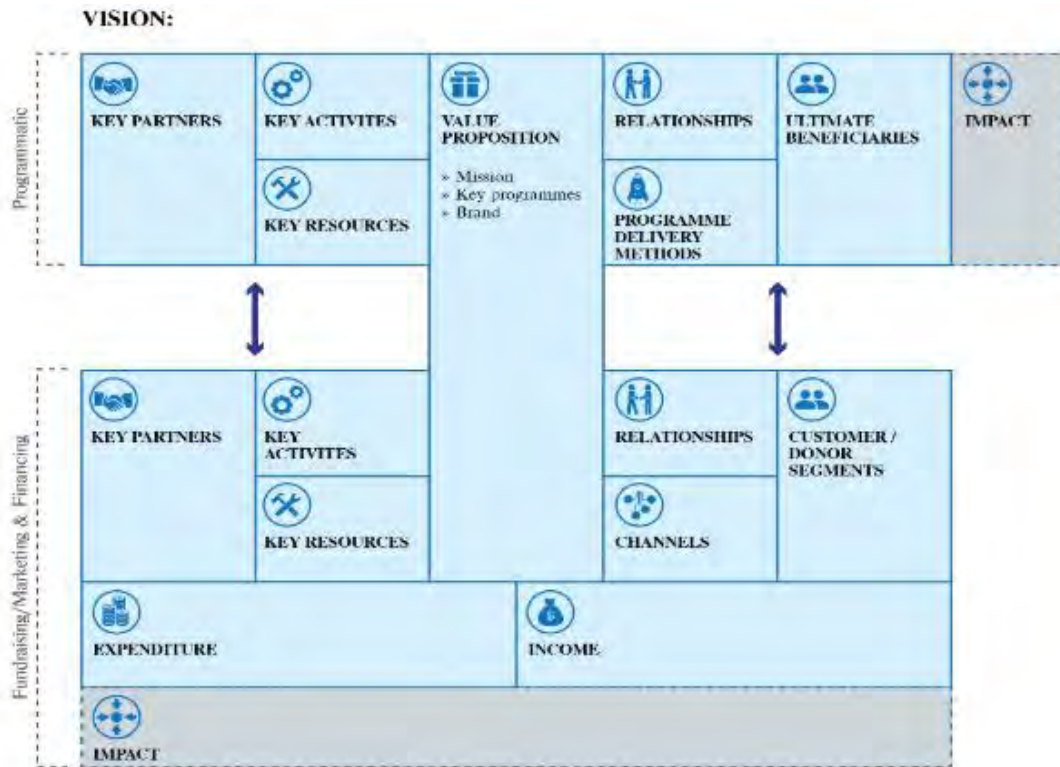
*“The application of the business model canvas is in no way limited to for-profit corporations. You can easily apply the technique to non-profit organisations, charities, public sector entities and for-profit social ventures” ... “every organization has a business model, even if the word “business” is not used as a descriptor. To survive, every organization that creates and delivers value must generate enough revenue to cover its expenses. Hence, it has a business model. The difference is merely a matter of focus”* (Osterwalder and Pigneur, 2010, p. 264).

Contrary to the excerpt above, business model frameworks based on for-profit business logic will most likely need to be adapted to be applicable to NPOs due to the difference that exists in their relative organisational models (Sanderse, de Langen and Salgado, 2020), the complexity of stakeholders and the organisation's income streams (Anheier, 2000; Sanderse, de Langen and Salgado, 2020). Although the BMC is widely used in the for-profit sector (Spieth, Schneckenberg and Ricart, 2014), a variation of the BMC for NPOs was acknowledged by Osterwalder and Pigneur, (2010) who go on to show two variations of the BMC for NPOs or what they term as “beyond profit” organisations. The two models are based on two different revenue streams; the Triple Bottom Line BMC incorporates “social and economic costs and benefits” and can be used for NPOs generating revenues through the sales of products and services to the beneficiaries. The Third Party Funded BMC can be used when recipients of the products and services are not responsible for paying for them and the payment is made by third parties such as donors or the public sector. However, in both cases, the specific definitions of each building block within these two BMC's share the same definitions as the original BMC.

To evaluate whether the original BMC is applicable for use by NPOs, its' use has been tested as a suitable tool for describing their business models. A study by Universilia, (2013), focusing on mission-driven research institutes within an African context, found that the BMC did not allow a sufficient description of the value creation process for both donors and beneficiaries as the BMC only considers customer aspects of value. The BMC was used as a tool by Brehmer, Podoyntsyna and Langerak, (2017) in their sustainable business model research which found it lacked the capability to include the network environment of organisations. Peric, Derlic and Stanic, (2020) suggest that due to the heterogeneous nature within NPOs in Croatia, the BMC should to be amended for local NPO-specific requirements. Key suggestions were a wider focus on the stakeholder landscape, as well as separate components for customers and donors

due to different value expectations. Another observation was funding streams would have a significant impact on cost structure, mainly between fixed and variable costs, which impacts framework requirements.

Two modified business model frameworks for NPOs with foundations in the BMC was proposed by Sanderse, et al., (2020), using the case study method along with revised building block component definitions. The case study design was explanatory in nature as Sanderse et al., (2020) identified that little applicable theory was available, resulting in a conceptual framework of a business model canvas that needed testing. Their study had replicated cases contributing to the final case study and incorporated feedback from experts in the NPO sector. It followed an iterative approach and the conceptual business model canvas proposed at the start of the study was adapted as data was collected and analysed from the individual cases. The two models vary in one was focused on foundations that funded other organisations and then the second looked at implementing NPOs. Specifically, for implementing NPOs, the *Business model framework for NPOs with multiple income streams*, consists of a two-layer framework where programmatic activities are split from fundraising, marketing, and financing resulting in new framework components developed in line with NPO requirements, see figure 4 below. The framework was found to be suitable for NPOs who rely on multiple income streams of grant-based funding as well as the sale of goods and services for a large portion of their income. However, none of the NPOs who participated in Sanderse, et al., (2020) mainly rely on government and grant funding as their major source of funding, this highlighted the issue of its' untested applicability to organisations with these income models.



**Figure 4:** The NPO Business model framework for NPOs with multiple income streams (Sanderse et al., 2020).

Over and above the changes in components in the *Business model framework for NPOs with multiple income streams* compared to the BMC, Sanderse et al., (2020) also adjusted the definition of the various components throughout their study and made final suggestions of definitions which would be appropriate to NPOs (Table 3). It is suggested that these need to be further validated in different NPO contexts and business models.

**Table 3:** Definitions for individual building block components for the *Business model framework for NPOs with multiple income streams* (Sanderse, 2014 p. 47-48)

Canvas component	Definition
Vision	Outlines what the organization wants to be. It can be emotive and is a source of inspiration.
Key partners	The network of cooperative agreements with other people or organizations (including governments) necessary to efficiently offer and distribute the organisation’s mission and programmes.
Key activities	The main actions which an organisation needs to perform to create its value proposition.

Key resources	The physical, financial, intellectual or human assets required to make the business model work.
Value proposition	The organisation's mission, its main programmes and brand.
Mission	Defines the fundamental purpose of an organization, succinctly describing why it exists and what it does to achieve its vision.
Relationships	The type of relationship the organisation has established or wants to establish with each key beneficiary or donor segment.
Programme delivery methods	The method which the organisation uses to achieve its mission or programme activities to the beneficiaries.
Ultimate beneficiaries	The target group who the organisation principally aims to reach and serve to achieve its vision/mission.
Channels	The methods of communication, distribution and sales used by the organization to interface with its customer/donor segments.
Customer/Donor segments	The different groups of customers and/or donor segments which the organisation targets for its fundraising activities. In this component customers tend to be more related to the merchandising section of the organisation and donors tend to be related to the fundraising section of the organisation.
Income	The income or funding streams, this could be donations, merchandises/sales, investments or other income streams available for the organisation to work on its value proposition.
Expenditure	The total expenses which the organisation incurred (or will incur) to implement the agreed activities
Impact	The higher-level situation that the project or programme aims to achieve

## 2.5 Synthesis and theoretical framework

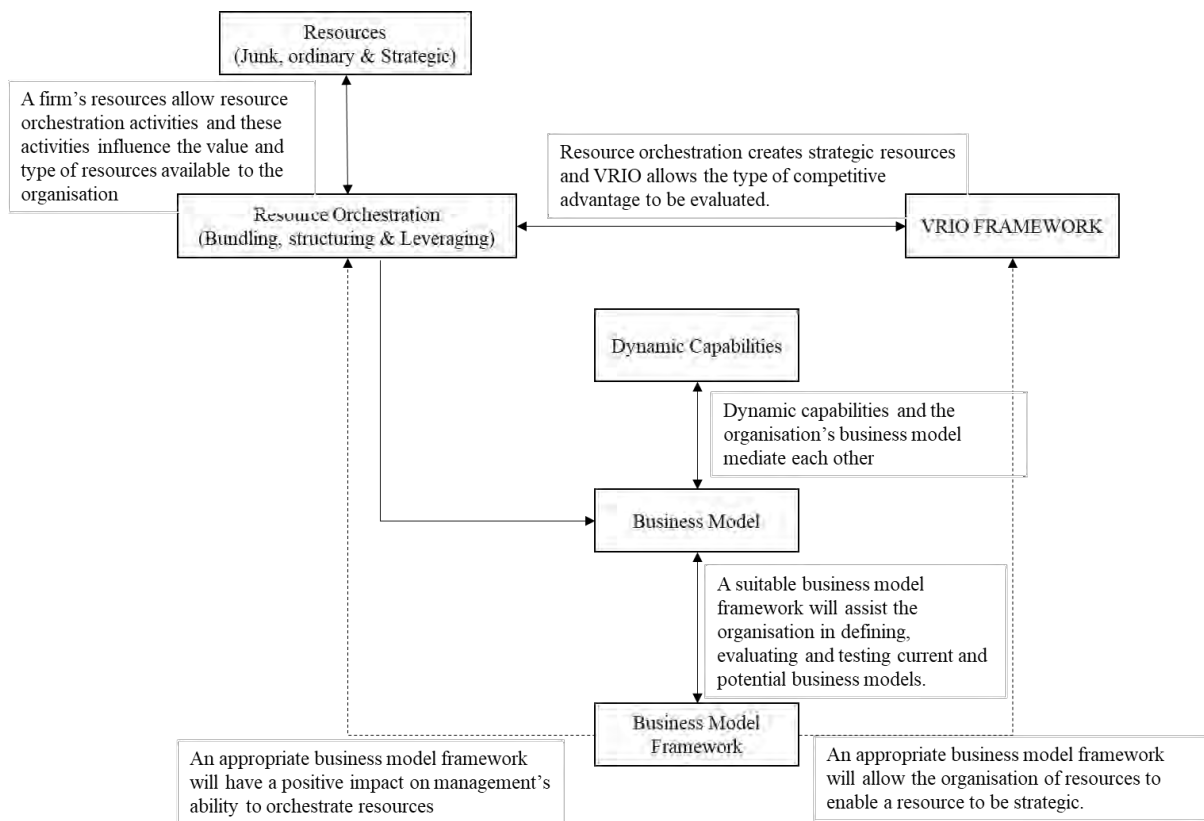
Two key observations have been made from a review of the extant literature on business models for NPOs and the applicability of RBT to business model theory. Firstly, there has been very little integration of RBT with that of business model theory. The only notable research which considers the integration of RBT and business models is Teece, (2018) who is of the opinion that business models, dynamic capabilities and an organisation's strategy are interdependent, and an organisation's dynamic capabilities shape its' ability to design business models, while

simultaneously, an organisation's business model will influence that organisation's dynamic capabilities. When defining the business model concept as one that "describes how an organization creates, delivers, and captures value" (Osterwalder and Pigneur, 2010, p. 4), it is possible to view the business model as a resource in its' own right, as well as a tool to assist with the organisation of resources for the organisation to create and capture value. When viewed in this way, a suitable business model framework can assist managers in resource management, organisation and orchestration in the quest for establishing some form of competitive advantage, whether temporary or sustained.

The VRIO framework suggests that a strategic resource which is not organised leads to a competitive disadvantage, and a resource can only be considered valuable if it is organised (Barney, 1991). Thus, the organisation of a resource is a mediating factor in the hopes of creating some form of competitive advantage. Similarly, when considering resources other than those that are strategic (junk and ordinary resources), resources can be orchestrated in ways that create new resources or increase an existing resource's potential to create and capture value, but this only takes place when they are leveraged, or organised. Similarly, an organisation's dynamic capabilities will influence how resources are used or orchestrated to create and capture new types of value in a changing environment.

A sound business model framework for an organisation should allow it to explicitly document its' business model within the organisation's context, illustrate the organisation of strategic resources as well as enable resource orchestration actions (structuring, bundling, and leveraging). An organisation's dynamic capabilities will influence the organisation's resource orchestration activities; however, the business model and business model framework will likely influence the development of the organisation's dynamic capabilities themselves.

Figure 5 illustrates the theoretical framework, developed by the researcher, that shows how a business model framework could be integrated into RBT as a tool which influences resource orchestration activities and promotes the organisation of potentially strategic resources to enable them to be valuable, thereby allowing certain resources to be regarded as strategic.



**Figure 5:** Theoretical framework illustrating the potential relationship between the business model, business model framework and components of Resource Based Theory.

The second observation is that a suitable business model framework that is as applicable and as widely accepted as the BMC is to for-profit organisations needs to be developed for NPO business model theory to be developed by allowing the comparison of NPO models with a universal tool, as suggested by Teece, (2010). Sanderse et al., (2020) proposed such a framework which requires further testing and scrutiny in different NPO contexts and with different business models.

## 2.6 Summary

NPOs compete with both for-profit and other NPOs for resources and funding. Whilst NPOs are fundamentally different from for-profit organisations in that they do not exist to generate shareholder wealth but rather to pursue their mission, they still require organisation sustainability. This is achieved through sustainable revenue generation through either grant funding, sales of services or goods, or a combination of the two. RBT suggests that a firm's resources and resource organisation are the basis for how well the firm can compete in a market, and Figure 5 shows how business models and business model frameworks are linked to resource management and orchestration.

A business model is also seen as a unit of analysis where comparisons can be made between organisations as to how they structure their activities to create and capture value. For these comparisons to be made in a manner that contributes to theory development, a standardised business model construct or framework should be used (Teece, 2010). The BMC has been demonstrated as a suitable business model framework for profit-driven organisations, but it may not be suitable as a framework for NPOs in its' current state. Although there has been an increase in interest in the development of business models for NPOs focusing on the development of suitable frameworks; most recently the *NPO Business model framework for NPOs with multiple income streams* has been proposed and tested as a business model framework suitable to describe NPO business models. There is a gap in the peer-reviewed literature on whether an explicit business model for an NPO assists with resource management activities.

This research will focus on evaluating the applicability of a business model framework to a mission-driven NPO and evaluate the framework's usefulness as a tool to promote sustainable value creation through resource management. The below objectives will be pursued by answering the associated research questions.

- **Objective 1:** Evaluate the contemporary context of the CBC's operating environment and what should be considered in the development of a business model.

*Research Questions:*

- How does the contemporary context of the CBC's operating environment influence organisational sustainability?
  - What are the contextual aspects that should be considered in developing a business model for the CBC?
- **Objective 2:** Evaluate a business model framework based on NPO business model literature and findings from the first objective.

*Research Questions:*

- How suitable is the *NPO Business model framework for NPOs with multiple income streams* as a business model framework for the CBC?
- **Objective 3:** Explore how business model concepts could relate to resource based theory.

*Research Questions:*

- Does the business model framework assist in resource management activities?

## **Chapter 3: Methods**

### **3.1 Introduction**

This chapter will describe and justify the methodology used in this research. The chapter is structured to first introduce the case study method and its' appropriateness for use in this scenario. Data collection methods and activities will be described and compared to other studies which may be drawn on for data validation and generalization purposes. Lastly, a data analysis strategy will be presented with a focus on how the strategy contributes to aspects of validity and reliability.

### **3.2 Introducing the case study method**

#### *3.2.1 Introduction to the case study method*

The case study method of enquiry “copes with the technically distinctive situation in which there will be many more variables of interest than data points and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result benefits from prior development of theoretical propositions to guide data collection and analysis.” (Yin, 2002 p. 14-15). The case study method is an empirical method of enquiry which investigates a contemporary phenomenon within a real-life context, where the boundaries between the focus phenomenon and context are not clear (Yin, 1984). A case study is an ideal research method when a holistic, in-depth investigation is needed (Feagin, Orum and Sjoberg, 1991) and contributes uniquely to our knowledge of the focal case and allows an investigation to retain the holistic and meaningful characteristics of real-life events (Yin, 1984). Case studies are normally preferred when “how” and “why” forms part of the research question and the researcher has little control of events and when the research focus is on a contemporary phenomenon within some real-life context (Yin, 2002). Whilst the case study method has been commonly used in psychology, sociology and social work (Gilgun, 1994), it has also been well developed in business research (Ghauri and Gronhaug, 2002), management research and information systems.

Whilst the case study method has gained significant popularity as a useful scientific method, several prejudices exist against its use as a method. These are concerns over the potential lack of rigour within case study research and the common concern that they provide little basis for scientific generalization (Yin, 2002). Whilst case studies may not be useful for statistical generalization, and many state that one cannot test hypotheses with case studies but only create them (Patton and Appelbaum, 2003), it is pointed out by Yin, (1984) that the researcher's goal

in case study research is to expand on and generalise theories. Thus, the generalisation sought is that of analytical generalisation (Yin, 2002).

### 3.2.2 Types of case studies

Several types of case studies are described in the literature (Stake, 1995; Yin, 2003), and these are normally related to the type of questions being asked and the availability of extant theory to test or apply to the case. Definitions of various case study types are shown in Table 4. Yin, (1994; 2002) noted different reasons or applications for case studies:

- To explain presumed causal links which are too complex for survey or experimental strategies;
- To describe an intervention and the context in which it occurred;
- To explore situations in which the object being evaluated has no clear, single set of outcomes;
- To illustrate specific topics within an evaluation or a meta-evaluation.

**Table 4:** Definitions of various case study types.

<b>Case study type</b>	<b>Definition</b>
Explanatory	Seeks to answer a question that sought to explain the real-life interventions that are too complex for the survey or experimental strategies (Yin, 2003).
Exploratory	Explores those situations in which the intervention being evaluated has no clear, single set of outcomes (Yin, 2003).
Intrinsic	Appropriate approach when the intent is to better understand the case. (Stake, 1995).
Instrumental	This is used to accomplish something other than understanding a particular situation. It provides insight into an issue or helps to refine a theory. The case is of second interest; it plays a supportive role, facilitating the understanding of something else (Stake, 1995).

### 3.2.3 Case study design

The research design of a case study is critical as it is the logic that links the data collected and the conclusions drawn to the initial research questions (Yin, 2002). Having a sound theoretical understanding of what is being researched within the case study assists the researcher in ensuring the case study design is logical to the research questions and study objectives. The

research design is a “logical plan for getting from here to there, where here may be defined as the initial set of questions to be answered, and there is some set of conclusions about these questions” (Yin, 2002 p. 21). For case studies Yin, (2002) states five research design components which are of critical importance in case study design:

- A study’s questions;
- Its propositions or expected outcomes;
- Its unit of analysis;
- The logic linking the data to the propositions; and
- The criteria for interpreting findings.

It is critical that the design of the case study considers various aspects of quality that will determine the usefulness of the case study. These are referred to as quality control aspects and include construct validity, internal validity, external validity, and reliability (Tellis, 1997).

#### *3.2.4 The role of theory in Case study design*

Theory development as a part of case study design is essential. The available theoretical knowledge allows either the development of theoretical propositions to be evaluated (in the case of well-established theory) or identifying the theoretical developments that wish to be achieved in the absence of well-established theory (Yin, 2002). This foundational theory development assists the researcher in addressing the correct data collection processes and activities. Theory development not only plays a significant role in defining an appropriate research design but also indicates the level at which analytical generalisations are able to be made. In analytical generalisation, theory should be used as the template against which the case study results are compared (Yin, 1984). Theory development contributes to improving the potential quality of the case study in relation to the types of validity and reliability achieved by the case study design.

#### *3.2.5 Types of data to be used in case studies*

The use of the case study method does not restrict the researcher to certain types of data or data collection methodology (Baxter and Jack, 2008). The case study methods’ unique strength is that it allows the researcher to deal with a full variety of evidence collected in different manners, such as documents, artefacts, interviews, and observations (Yin, 1984) which also contributes to enhancing data credibility (Patton, 1990; Yin, 2002). Case studies are known as a triangulated research strategy which implies that various types of data should be collected and then this data converged in the analytical process to establish consistency of findings or

observations from different sources or similar contexts (Baxter and Jack, 2008). Importantly, the case study method is not descriptive in how data is collected and analysed, and as such, each data type and collection method should follow relevant accepted norms and standards. As an example, the case study method does not provide instructions or a set format on how to conduct a content analysis of interviews or documents. It is up to the researcher to justify the methods used based on the

### *3.2.6 Quality control in case studies*

As the research design is supposed to follow a logical framework, the quality of the case study design can be judged from logical tests. These include construct validity, internal validity, external validity and reliability (Tellis, 1997). The definitions of these tests are given below as stated in Yin, (2002, p. 35);

- **Construct validity:** establishing correct operational measures for the concepts being studied;
- **Internal validity:** establishing a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships (for explanatory or causal studies only, not required for descriptive or exploratory studies);
- **External validity:** establishing the domain to which a study's findings can be generalised;
- **Reliability:** demonstrating that the operations of a study can be repeated with the same results.

Various literature discusses quality control in case studies (Yin, 1984; Yin, 1989; Yin, 1994; Stake, 1995). Table 5 is adapted from Yin, (2002, p. 34) and outlines the different approaches or activities the researcher can adopt throughout the case study design and implementation to address the four quality parameters introduced above.

**Table 5:** Different approaches or activities the researcher can adopt to address case study quality parameters, adapted from Yin, (2002, p. 34).

<b>Tests for judging the quality of case study research design</b>	<b>Approaches available to the case study researcher</b>	<b>The phase of research where this occurs</b>
Construct validity	Use multiple sources of evidence Establish a chain of evidence Have key informants review the case study report	Data collection Data collection Composition of case study
Internal validity	Pattern matching Explanation building Address rival explanations Use logic models	Data analysis Data analysis Data analysis Data analysis
External validity	Use of theory in single case studies	Research design
Reliability	Use case study protocol Develop case study database	Data collection Data collection

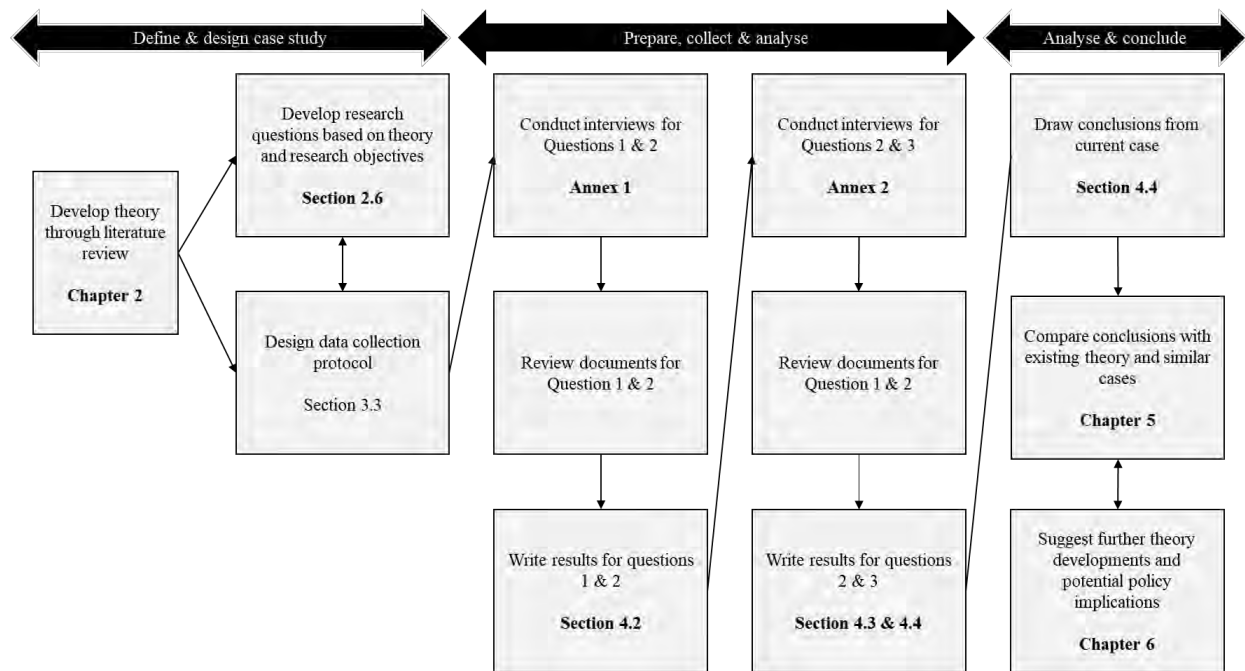
To this point, a general overview of the case study as a research method has been provided. This is by no means an in-depth review of the subject but provides the reader with sufficient exposure as to what a case study is, the different types of case studies and what sort of quality control parameters should be addressed in the research design, data collection and analysis. The remainder of this chapter operationalises these concepts and presents the method followed within this study.

### **3.3 Case study design and protocol**

This research was conducted using the single case study method (Yin, 1981) with the unit of analysis being the Centre for Biological Control (CBC) at Rhodes University, South Africa, represented by the sole Director of the CBC as the protagonist. The researcher made use of an interpretivist paradigm through the lens of resource-based theory. A deductive approach with a theoretical framework was used to guide and support inferences and observations from the study, which will assist in the transferability and confirmability of this qualitative research (Yin 1981; Tellis, 1997). To achieve dependability, the researcher ensured that the research process

was logical, traceable and well documented (Nowell et al. 2017) making use of the various approaches listed above in Table 5 to ensure a high-quality case design.

Although one drawback of the single case study design is its' use in the ability of the researcher to make a generalising conclusion, data triangulation was undertaken to enhance transferability (Patton and Appelbaum, 2003). A summary of the research process flow adapted from Verchuren and Doorewaard, (1998) and Sanherse, (2014) is presented in Figure 6 below. This illustrates the process flow and summarises the research process. This also illustrates how different sections of the report link to the research questions.



**Figure 6:** Research model and process flow for this research.

### 3.3.1 Research questions and data collection

This case study focused on evaluating the applicability of a business model to mission-driven NPOs and aimed to evaluate its usefulness as a tool to promote resource orchestration and management. There are two overall research objectives, with each objective having specific questions which were endeavoured to be answered through the data collection process.

- **Objective 1:** Engage with the CBC around the contemporary context of their operating environment and what should be considered in the development of a business model.
  - **Research question 1:** How does the contemporary context of the CBC's operating environment influence organisational sustainability?

- **Research question 2:** What are the contextual aspects that should be considered in developing a business model for the CBC?

To answer the first two questions, two types of data were collected. Firstly, an interview with the Director of the CBC was conducted. This was done in a semi-structured manner with open-ended interview questions which focused on gathering information on the contextual environment in relation to organisational sustainability as well as the contextual aspects that the protagonist felt should be considered in the development of a business model for the CBC (Appendix 1). Secondly, publicly available annual reports were collected from the CBC's website and were used to supplement the data collected in the interview and provide opportunities to triangulate the analysis of the semi-structured interviews. The focus of the annual reports will be the Director's report as it provides a summary of the document and highlights other notable information pertaining to the CBC from the protagonist's perspective.

- **Objective 2:** Construct and evaluate a business model framework based on NPO business model literature and findings from the first objective.
  - **Research question 3:** How suitable is the *NPO Business model framework for NPOs with multiple income streams* as a business model framework for the CBC?
- **Objective 3:** Explore how a business model concept could relate to resource based theory.
  - **Research question 4:** Does the business model framework assist in resource management activities?

Data collection for research questions three and four were addressed through a semi-structured interview following an adjusted interview protocol conducted by Sanderse, (2014) relating to the evaluation of the proposed business model frameworks in their study (Appendix 2). To answer research question three, the *NPO Business model framework for NPOs with multiple income streams* was completed during the interview with the participant which was facilitated by questions within Appendix 2.

All interviews were recorded and transcribed using Otter.ai and then voice to text transcription was used within the software. Once these were available the researcher then reviewed the transcripts and matched the text with the audio from the recordings to ensure that the transcripts were accurate reflections of the audio content. Following this the transcripts were downloaded to the researcher's computer and stored within an encrypted folder. These transcripts were

shared with the interview participant, who confirmed that the transcripts were a true reflection of their interview.

### *3.3.2 Data validation and generalization*

Data validation and generalisation are key components when considering the quality of a case study. Table 5 was used as a starting point to ensure various approaches to improving the case quality were incorporated into the research methodology and design. Addressing construct validity was achieved through using multiple sources of evidence as described in section 3.3.1. and is illustrated in the case study database, as shown in table 6. The chain of evidence is established through the case study database and to ensure the credibility of data generated through interviews, transcripts were shared with the participants for them to confirm the content is valid. External and internal validity as well as generalisation was pursued using a theoretical framework following a detailed literature review and the incorporation of questions for interviews from previous relevant studies to assist with both data triangulation, generalisation and theory building.

### *3.3.3 Data analysis strategy and case study database*

#### *3.3.3.1 Case Study Analysis*

Yin, (2003, p. 109) states that data analysis in case studies consists of “examining, categorizing, testing and otherwise recombining both quantitative and qualitative evidence to address the initial propositions of a study”. Once a pattern is identified, it can be interpreted in terms of the context in which occurred, and the researcher can then move from the description of the pattern to a more general interpretation of its meaning (Neuman, 1997). Patton and Appelbaum (2003, p. 67) suggest that “the goal of the case study is to uncover patterns, determine meanings, construct conclusions and build theory”. No quantitative data was collected during this study and the data analysis strategy of the gathered qualitative data is described below.

Qualitative content analysis is most likely the longest-established method of text analysis (Titscher et al., 2000). Babbie, (2001, p. 304) defines it as “the study of recorded human interactions” and Bryman, (2004, p. 392) states that qualitative content analysis is “probably the most prevalent approach to the qualitative analysis of documents” and it “comprises a searching-out of underlying themes in the materials being analyzed”. The method used for conducting the document analysis of the data represented within the case study database (Table 6) is based on Mayring, (2003) and is outlined below.

To organise the content into categories which correspond with the research objectives and questions being asked as well as the underlying theory an inductive category development approach was undertaken (Mayring, 2003). The first step of document analysis was reviewing the text and making relevant notes and observations as to how the text under review relates to the research questions, the contextual environment, or the underlying theory. Following this, the content was reviewed again, and inductive categories were derived from the material based on the notes and observations which were initially made. As this is a holistic single case study and no data replication was undertaken, content related to certain themes was then used as evidence to justify the interpretations or explanations provided by the author to answer the research questions.

### *3.3.3.2 Objective 1*

Content analysis was undertaken with Nvivo (NVivo qualitative data analysis software; QSR International Pty Ltd. Version 12, 2018). For Objective one, Question one, the content was analysed in an inductive approach where the contextual environment of the CBC was described. However, for Objective one, Question two, a deductive approach was adopted with a thematic framework derived from the building blocks and their associated definitions in the *NPO Business model framework for NPOs with multiple income streams* (Sanderse, 2014) as the guiding themes (definitions appear in Table 3). These are represented in a thematic framework and the content was described to represent the contextual details which should be considered when considering a business model for the CBC. To assist with data triangulation, tools used to visualise how themes overlapped within content as well as how these themes appeared across content are displayed in hierarchical charts. The references within the thematic framework were then subjected to a cluster analysis by coding similarity. Similarity was determined through using Pearson's correlation coefficient with values greater than or equal to 0.5 were regarded as having strong relationships and overlap in the content coding. A visual display of this analysis was created to assist with illustrating how the various themes are linked with each other.

### *3.3.3.3 Objective 2 & 3*

For Objective two, definitions of business model components for the *NPO Business model framework for NPOs with multiple income streams* as defined by Sanderse, (2014) were reviewed by the protagonist to determine whether they agree with the definitions or whether these should be adjusted in some way. Suggested changes or alignment were noted and are

displayed in the results chapter. The *NPO Business model framework for NPOs with multiple income streams* was then populated following conducting the interview protocol outlined in Appendix 2. For Objective three, the second section of Appendix 2 involved questions around whether the protagonist felt that the canvas developed was a true reflection of the CBC’s business model, and whether it could be improved or amended to be more appropriate as well as its’ useability or usefulness as a tool for resource management.

**Table 6:** Case study database outlining information used in data analysis with a short summary of the analysis strategy, document number and the data type.

<b>Data type</b>	<b>Database number</b>	<b>Source details</b>	<b>Related appendix</b>	<b>Analysis strategy</b>
Literature	Chapter 1	Academic peer-reviewed articles Books	NA	Literature review
Documents	A1 A2 A3	CBC Annual Report 2019 CBC Annual Report 2020 CBC Annual Report 2022	NA	Content analysis
Media	A4	CBC Website PDF	NA	Content analysis
Interviews	A5 A6 A7	Interview 1 – MH (transcript and recording) Interview 2 – MH (transcript and recording) Interview 3 – MH (transcript and recording)	Appendix 1 Appendix 1 Appendix 2	Content analysis

### 3.3.4 Ethical considerations

The researchers’ pre-understanding, insights, and experience pose a potential threat to the objectivity of the data collected as well as the interpretation thereof (Gummesson, 1991). The researcher has a personal relationship with the protagonist and has studied through, and worked with the CBC since its’ establishment in a professional capacity. This is acknowledged by the researcher and all efforts were be made to mitigate the impact of personal paradigms and selective perception because of this pre-understanding (Patton and Appelbaum, 2003). This is

demonstrated through the structured interview process and the detailed evaluation of the transcripts through coding mechanisms and programme analysis.

Although the CBC has already indicated their interest to participate as the focus sample for this study, in so far as ethical requirements are concerned, the researcher ensured that the requisite permission to use the information sourced from the CBC is properly obtained. Such information was sourced in compliance with the rules and the regulations of the University after ethical clearance was obtained on the 11<sup>th</sup> of May 2022 by the Chair of Rhodes University Human Research Ethics Committee. Gate Keeper permission was received on the 18<sup>th</sup> of May 2022 by the Acting Human Resources Director of Rhodes University and the Participant Informed Consent Declaration was signed by the participant prior to the interviews taking place. This documentation appears in Appendix 3.

## Chapter 4: Results

### 4.1 Introduction

This chapter aims to communicate the results collected through the described methodology to answer the research questions associated with each objective. A logical flow is followed, first addressing objective one with presenting results for questions one and two, then moving on to objective two with addressing questions three and four.

### 4.2 Objective 1: Engage with the CBC around the contemporary context of their operating environment and what should be considered in the development of a business model.

*4.2.1 Question 1: How does the contemporary context of the CBC's operating environment influence organisational sustainability?*

The CBC's vision is to:

*“Conduct research to sustainably control environmental and agricultural pests to protect ecosystems and the societies that depend on them, and to ensure that maximum benefits of biological control were realised through excellence in research, teaching and learning, implementation, and community engagement.”*

The CBC undertakes this vision by operating in a very flexible manner and receives a large portion of its operating income from parties external to the university. Whilst this allows the CBC to pursue a variety of value creation activities, it means that they are subject to externalities which may influence organisational sustainability.

*“In universities in South Africa, a lot of research, most of research, 90% of the research probably is driven from either internal grants from universities, or from the National Research Foundation. Our business model has actively looked outside of that, as a result of which we are prone to changes in an environment that we have very little control over.”*

Most of this external funding is through government programmes which are becoming increasingly unreliable due to lack of available funding and timing of payments related to tenders. COVID-19 also had a major impact on the CBC as it resulted in significant delays in tender payments which caused the need to retrench staff at their mass rearing facilities and reevaluate their funding framework. This has resulted in the CBC pursuing different avenues of income through private sector activities such as providing research services to commodity

groups such as the Citrus Growers Association as well as the Honey Bush Growers Association. However, these partnerships are also at risk of external environmental impacts as availability of financial resources they allocate to research activities is influenced by the levies collected from farmers, these levies depend on export quantities, which are subject to market forces outside of the farmers' control. In addition to this the CBC has agreements with international clients to which they are providing research-based services relating to the vision of the CBC.

Although the CBC has been running for almost five years now, the Director could not provide a definition for the business model concept and had not heard of a business model framework before. He explained his understanding of the CBC's business model as:

*“Chaotic, haphazard, strategic adaptive management. Make it up as you go along. So... I'm not able to really define my business model. You know, we don't do things like say, what's our cash flow going to be over the next X period of time? How much of that should go to salaries? How much should actually go to training? How much of that you're going to infrastructure? We have absolutely none of that.”*

Whilst the above excerpt may create the impression that little planning goes into the CBC's business model, the CBC has adopted a hub and spoke approach to expanding their resources and capabilities to pursue different avenues of income through the establishment of consortium partners who have their own set of resources, expertise and opportunities which are shared within the CBC.

*“The CBC has adopted a hub-and-spoke approach with researchers, technical staff and students spread across several campuses, including Rhodes University main campus, the Waainek research facility, the Uitenhage research facility, the University of Witswatersrand, the University of Cape Town, the University of KwaZulu-Natal, The University of the Free State (QwaQwa and Bloemfontein), the University of Mpumalanga (Nelspruit) and the University of Pretoria.”*

*“What it's done is many of our consortium partners whether it be at Wits or at UCT or University of Pretoria, as well, they, they weren't aware of the opportunities and I think that by bringing them to the table, by bringing those different skills to the table, it's given us a far bigger skill set to sell.”*

The CBC benefits from being located within the university structure in many ways; through the availability of a research network, it is currently collaborating with ten different

departments within Rhodes University and has done so since its' establishment. Other than collaborations, the CBC also benefits from the university's financial resources, infrastructure, a continuous flow of students and support staff. Consortium partners which sit within similar institutions also provide similar benefits. This has a major positive effect on organisational sustainability of the CBC as it does not have to budget for these operational expenses being carried by host institutions. However, being part of a host institution does make it difficult in some respects with regards to financial planning considering the boom-and-bust cycles the CBC goes through with regards to funding avenues.

*“What I'm pushing the University on now, if I have a reserve of R10 million, how do I invest it? How am I allowed to invest that within the university's financial system? Can I take it to a broker and put you know X amount on call X amount into conservative investments X amount into potentially higher risk or high return investments? How do I deal with that? And that's something we're going to have going forward I think.”*

The brand of the CBC has emerged as a prominent theme in the content analysed. This brand is perceived to have aligned staff of the CBC to a greater collective purpose and has increased the ability of the CBC to collaborate more effectively within the university structures and has contributed to establishing international partners through developing a strong reputation for providing a good service.

*“I think it became much, much more a collective feeling versus who we were, so there was a sense of being in those in the staff which was which was really pretty amazing. In terms of funding. I think having that, voice and having that brand. It's essentially exactly the same people doing the same thing. But putting that brand out there, that CBC brand out there. Our income has grown, we've got a lot of international recognition, and with it, with other international funding for projects, and also locally. The income stream has increased probably three or four times because of that.”*

This brand is supported through strong scientific reputation that the CBC has developed through continuously producing high quality research published in peer reviewed journals, attending academic conferences and the reputation of key staff within the CBC. Examples of this are:

*“2020 was another productive year in terms of outputs with about fifty peer reviewed papers, seven PhD students and ten Masters students graduating.”*

*“In 2021 we graduated five Honours, two Masters of Commerce, ten Masters of Science and seven PhD graduates as they walked across the virtual stage in two graduation ceremonies at Rhodes University and numerous other graduates at consortium universities. We published over forty peer-reviewed research papers and book chapters, had nearly fifty conference and symposium papers, and convened two conferences.”*

*“Our students performed spectacularly at conferences and, at the National Symposium on Biological Invasions; we were awarded the Best Oral Paper by a student and runner-up; the best poster by a student; and at the ESSA conference, we again were awarded best student presentation and runner-up, and best student presentation.”*

*“There were many highlights in 2021: one colleague was appointed to the rank of full professor; another was made a visiting professor at Rhodes University, and another colleague was appointed President of the Entomological Society of Southern Africa (ESSA).”*

In summary, the organisational sustainability of the CBC is supported by it falling within Rhodes University’s organisational structure, which provides operational and infrastructural support. Whilst funding is mainly from sources external to the university, students from the university and the consortium partners are an important resource for both brand development and to assist with resources and capacity within the CBC to take on new projects. The “hub and spoke” model the consortium partners create additional income opportunities through the extended resources that these partners contribute, the activities of the consortium partners also contribute to the CBC’s brand. All this together allows the CBC to continue to develop and manage its brand or image within the key area of activities in which they operate. The intent to gear the CBC towards flexibility in its activities with regard to funding opportunities may play a pivotal role in its continued organisational sustainability.

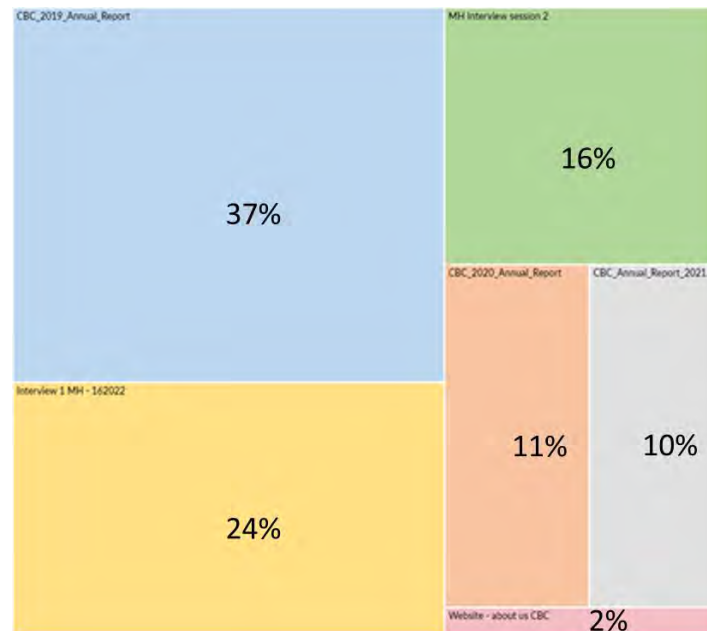
#### *4.2.2 Question 2: What are the contextual aspects that should be considered in developing a business model for the CBC?*

Table 7 below shows the deductive thematic framework used when undertaking the content analysis to address this research question. Impact and income were the most prominent within the analysis whilst resources, key activities, key partners and value propositions occurred at high frequency. Figure 7 illustrates the proportion which overall themes occurred within the different source documents subjected to the content analysis. The 2019 Annual report had the largest contribution whilst the two transcripts of Interview 1 and Interview 2 with the Director

of the CBC also contributed significantly. The CBC website had the lowest contribution in terms of references related to the themes within the thematic framework (Table 7).

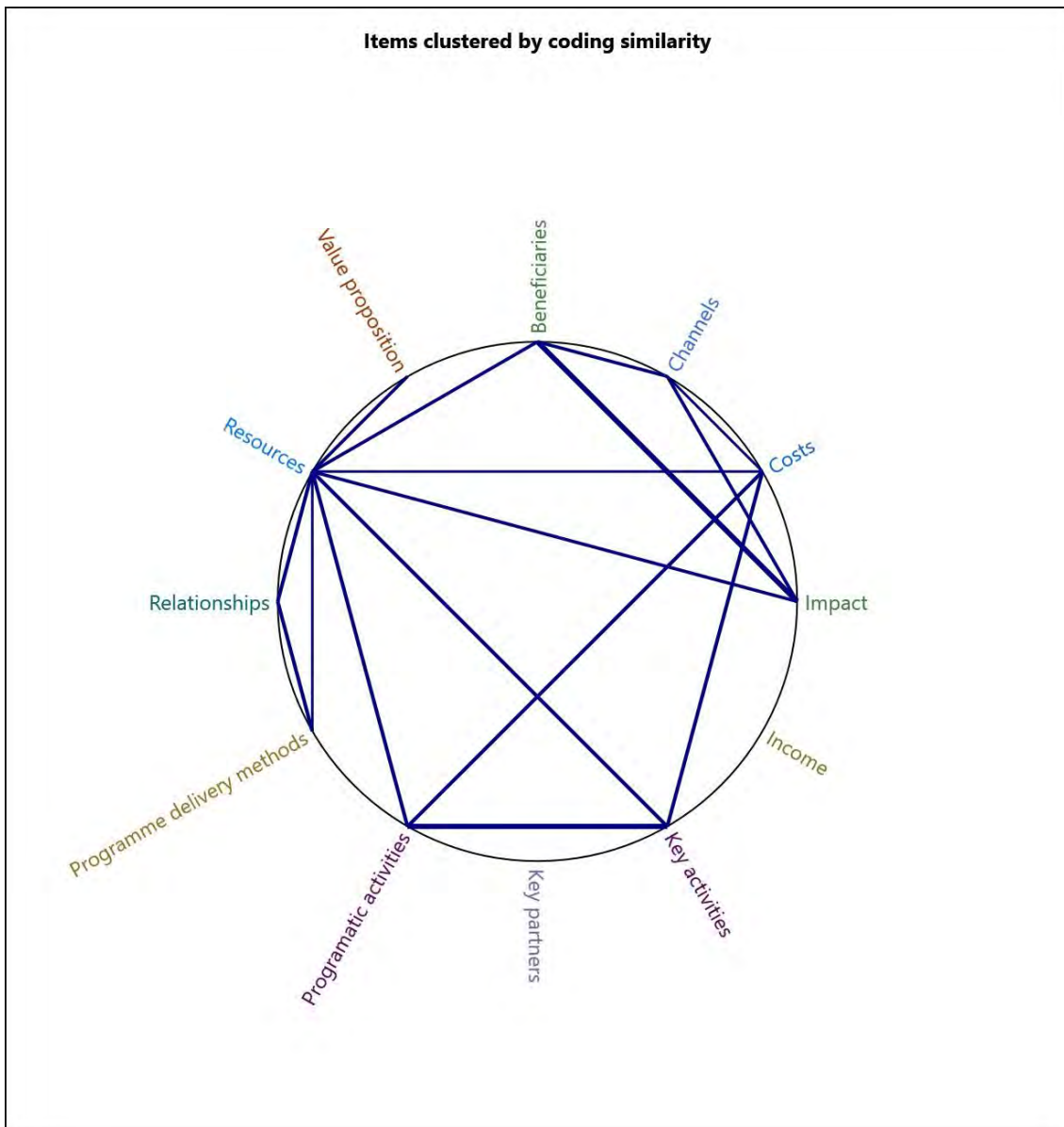
**Table 7:** Thematic framework based on key building blocks of the *NPO Business model framework for NPOs with multiple income streams* (Sanderse, 2014).

Theme	Files	Reference
Impact	5	26
Income	6	25
Key activities	3	17
Key partners	6	17
Resources	4	17
Beneficiaries	5	14
Value proposition	5	14
Programmatic activities	3	10
Channels	4	8
Costs	2	4
Programme delivery methods	2	4
Relationships	3	4



**Figure 7:** Distribution of proportion of references across the source documents used for content analysis.

Several themes overlapped when using the cluster analysis tool (Figure 8). Figure 6 shows a visual display of items clustered by coding similarity, where lines illustrate a correlation coefficient between themes as greater than or equal to 0.5. Resources had the most links with a value of greater than or equal to 0.5 (eight in total) which was followed by costs (four in total). The thicker the lines the stronger the correlation. Table 8 shows the correlation coefficient values for the theme's relationships with each other from strongest to weakest. The strongest relationships were between impact and beneficiaries (1.0), programmatic activities and key activities (1.0) (Table 8).



**Figure 8:** Cluster analysis of overlapping code references within the thematic framework

**Table 8:** Shows the overlap of codes through Pearson’s correlation coefficient from the thematic framework.

<b>Code A</b>	<b>Code B</b>	<b>Pearson correlation coefficient for Code A x Code B</b>
Impact	Beneficiaries	1.0
Programmatic activities	Key activities	1.0
Key activities	Costs	0.7
Programmatic activities	Costs	0.7
Relationships	Programme delivery methods	0.7
Resources	Key activities	0.7
Resources	Programmatic activities	0.7
Resources	Relationships	0.7
Channels	Beneficiaries	0.6
Impact	Channels	0.6
Resources	Beneficiaries	0.6
Resources	Impact	0.6
Value proposition	Resources	0.6
Costs	Channels	0.5
Resources	Costs	0.5
Resources	Programme delivery methods	0.5
Key activities	Beneficiaries	0.4
Key activities	Impact	0.4
Programmatic activities	Beneficiaries	0.4
Programmatic activities	Impact	0.4
Relationships	Beneficiaries	0.4
Relationships	Impact	0.4
Value proposition	Key activities	0.4
Value proposition	Programmatic activities	0.4
Value proposition	Relationships	0.4
Relationships	Key activities	0.3
Relationships	Programmatic activities	0.3
Costs	Beneficiaries	0.3

Impact	Costs	0.3
Programme delivery methods	Beneficiaries	0.3
Programme delivery methods	Impact	0.3
Value proposition	Costs	0.3
Value proposition	Programme delivery methods	0.3
Resources	Channels	0.3
Income	Beneficiaries	0.0
Income	Channels	0.0
Income	Costs	0.0
Income	Impact	0.0
Key activities	Channels	0.0
Key activities	Income	0.0
Key partners	Beneficiaries	0.0
Key partners	Channels	0.0
Key partners	Costs	0.0
Key partners	Impact	0.0
Key partners	Income	0.0
Key partners	Key activities	0.0
Programmatic activities	Channels	0.0
Programmatic activities	Income	0.0
Programmatic activities	Key partners	0.0
Programme delivery methods	Income	0.0
Programme delivery methods	Key activities	0.0
Programme delivery methods	Key partners	0.0
Programme delivery methods	Programmatic activities	0.0
Relationships	Channels	0.0
Relationships	Costs	0.0
Relationships	Income	0.0
Relationships	Key partners	0.0
Resources	Income	0.0
Resources	Key partners	0.0
Value proposition	Income	0.0

Value proposition	Key partners	0.0
Value proposition	Beneficiaries	-0.2
Value proposition	Impact	-0.2
Programme delivery methods	Channels	-0.3
Value proposition	Channels	-0.3
Programme delivery methods	Costs	-0.5

The below section aims to describe the contextual environment when considering the themes used in the thematic framework.

### ***Programmatic activities and programme delivery methods***

The CBC has several programmatic activities which include human capital development, community engagement and outreach, socio-economic studies as well as mapping and GIS. These activities are encompassed in two broad programmes namely the biological control of invasive weeds and biological control of pests of agricultural importance. These two programmes have evolved over time in their contribution to workload and funding income. The programmatic delivery methods for the biological control of weeds are resource intensive for the CBC as it must maintain several mass rearing facilities to allow the inundative releases of biological control agents in the field. This requires maintaining infrastructure as well as staff to ensure that these facilities continue to function. In comparison, on the biological control of pests of agricultural importance the programme delivery methods are not as resource intensive due to the collaborative partners playing a major role in fulfilling this function.

Whilst these programmes drive the CBCs activities, they are viewed in separate light by the Director but are connected through a government grant received from the National Research Foundation in the form of a Research Chair.

*“And the way that we have pulled those two together, is that we have a research chair. When I wrote the proposal for the research chair, I had eight different areas of focus, four of which were around weed biological control, and four of which were around the biological control of agricultural pests. And so that research chair, I would say is almost like the spine that pulls together those two programmess. I mean, the principles are the same, although we’ve kept them fairly separate. There hasn’t been a lot of integration and I think that’s something that we need to look at going forward that some of our functions and functions would obviously be things*

*like financial management, outreach and community engagement, which probably cuts across those two broad programs, but we've kept them quite compartmentalized up to this point.”*

Whilst the programmes are linked, the scope of the biological control of invasive weeds is subjected to greater funding constraints compared to the biological control of pests with agricultural importance. Obtaining resources to undertake these programmatic activities will be a key driver in the focus of the CBC going forward:

*“When I started in, in 2002, I did 90% of my work in weed biocontrol, now it's about 50:50. And I see the agricultural side of what we're doing growing more and more, it's sad in a way because we want to be working towards improving the environment of South Africa by biocontrolling invasive alien plant species. But at the end of the day, it comes down to resources and if we're not going to get funding to do that. The funding is sporadic and difficult to get. Whereas in the agricultural environment at the moment, the funding is easier to get because I think we offer a good product, not that we don't have a good product for weeds, but it's a decision we made probably about a year ago now”*

#### ***Key activities, value proposition and impacts***

Key activities of the CBC are linked to their programmatic activities. These include undertaking theoretical and applied research (both field and laboratory based), building human capital through training programmes, community engagement and supervising students for post-graduate degrees. A single value proposition for the CBC is not available at this point but could read as:

*“The CBC provides an easily identifiable and coordinated entity that builds skills and capacity through undergraduate teaching and postgraduate supervision and provides a holistic approach to biological control as an environmentally safe and sustainable supplement to other control methods aimed at the suppression of invasive organisms and pests.”*

Monitoring the impact of the CBC is something that the Director feels should be improved on, but it has become part of their key activities in some long-standing projects within the programmes, specifically the biological control of invasive weeds.

*“Having a geography student on board who, through satellite imagery, has been able to show landscape changes in the water hyacinth infestation levels over time, has been important in showing landowners and water resource managers what can be achieved.”*

*“We started collaborating with resource economists to quantify the benefit of biological control to justify the expenditure on these projects. Her Masters’ thesis showed that South Africa has saved more than one billion rand by not having to use herbicide on water lettuce, giant Salvinia, parrot’s feather and red water fern for the last twenty years.”*

Another form of impact that is not as easily quantified is the impact of education, skills development, and the dissemination of knowledge. As the CBC forms part of an academic environment, it is critical to note that there is a significant contribution towards knowledge creation and dissemination which the greater part of society could benefit from, considering a global perspective.

*“One of the other things that we haven't touched on at all is the dissemination of knowledge. One of the outcomes would be a skilled student, but also a publication. So, where's the value in that? The value in that is that it tells the rest of the world what we've done and potentially prevents them from going down the wrong path if that's what our research showed.”*

### ***Beneficiaries and income***

There is no doubt that there is a multitude of beneficiaries relating to the CBCs activities and programmes. Two main forms of beneficiaries were evident in the content, those who benefit from products or services offered by the CBC who paid for them (paying beneficiaries) and those who benefit from products and services but did not directly pay for them (non-paying beneficiaries). Examples of paying beneficiaries include growers’ associations which are mainly related to the crop production sector. Generating income from these beneficiaries is simple as they pay the CBC to provide some form of service, often to generation of knowledge related to sustainable pest management to promote their own industry or sector’s sustainability.

A key challenge for the CBC is generating income from non-paying beneficiaries especially when environmental aspects or public goods are involved. This challenge is not only related to the beneficiary’s willingness to pay but also an internal struggle within the CBC on monetising biological control agents which have been developed through government funded contracts.

Example of beneficiary’s willingness to pay for a product/service related to the biological control of invasive weeds:

*“There seems to be this disjunct between what a farmer is prepared to pay for a pest intervention in comparison to what the man in the street is prepared to pay for something that*

*they see as an environmental issue or maybe an issue that the government should be dealing with.”*

An example of the CBC’s Directors view on generating income from the biological control of invasive weeds:

*“I see that the development of a biological control agent for false codling moth increases the revenue of growers, whether it be through market access, whether it be through a reduction in other control interventions, an increase pack out percentage, whatever it happens to be that that they are generating income. When I look at the weed side, I see is very much working for the environment. And that's not necessarily, true because we are opening recreational opportunities, we are opening opportunities for people to sell properties and to buy properties. So, there is a commercial side to that. If we introduce a biological control agent on jointed cactus and it opens grazing areas for farmers, they reduce their herbicide bill. They put more sheep in or livestock into that area. They derive revenue but I have seen them as two different things.”*

To deal with the challenge faced in the willingness to pay for products or services related to invasive weeds in the delay of payment of a government grant, a different approach was taken by the CBC which involved the use of crowdfunding as there were many beneficiaries in this specific instance of managing an invasive weed within a public space:

*“What we've done in Hartebeespoort is we set up a crowd funding, and we said right, we know if we if at the beginning of spring, we released the hopper in big numbers, a month down the line, the water hyacinth is at a level where you guys can use the dam and how much are you prepared to pay? To put your hand in your pocket. We did it towards a specific outcome and the outcome was, in the absence of you guys paying we will not be able to provide the required insects because the guys who rear insect are about to be retrenched. And so, we raised in a short space of time, about R200 000.”*

Regardless of the opportunities to generate income through different channels on the weeds biological control side of things, there is a definite preference shown to expanding the more predictable income streams generated through the agricultural entomology programme:

*“Our agricultural entomology projects have been well supported, mostly through the citrus industry who see direct benefits from our research into novel ways of controlling pests. I think*

*that the current situation has shown us that we should not be too reliant on one funder and need to diversify our funding streams.”*

Linking direct returns of investments relating to income streams should also be pursued with caution, as a major beneficiary of the CBC are the students which participate in the various activities the CBC undertakes. This was referred to as a different form of currency and it should not be disregarded:

*“Producing a master student and their thesis out of a piece of work as a return on investment...  
...there's different currencies almost in what we do.”*

As the CBC is a producer of knowledge as well as biological control agents, there are many forms of potential income that could be generated from this. One area which seems to be lacking regarding income streams is the use of this knowledge or biological control agents to derive income through royalties from licencing the knowledge or technology out to a third party to use for commercial gain. This may be because of an ethical dilemma experienced by the Director or due to the contextual environment of operating within a university environment:

*“We've signed contracts with River Bioscience and CRI. And exactly the same with the developments in patenting of this virus. We've used CRI money, we've used River Bioscience money, we've developed this together. Now we're going to get a return on investment on that, on that virus. Should we get a return on investment or that of that virus? Have we not done our job in the using somebody else's money to develop that into a product? So, this is interesting coming from an academic environment.”*

### ***Resources in the context of the CBC and the role of key partners***

Resources emerged as a theme within the content in several contexts. Firstly, financial resources are critical to the CBC being able to undertake its' key activities. These financial resources come in the form of grants and service-based income from outside of the university structure. It has been observed that being reliant on a single source of financial resources is not sustainable and there is a drive to diversity this as far as possible. In an effort to increase organisational sustainability the Director of the CBC aims to have a full year of staff salaries for the CBC in reserve. The CBC leverages its' access to students as a human capital resource from Rhodes University as well as its' consortium partners. These students are transient in nature and are not a permanent resource for the CBC. However, as they are continuously generating knowledge it is important that the CBC sees this as a resource and understands that

this type of resource is often path dependant and is not easily replicated by others unless they have followed similar paths.

*“So, I guess, creation of knowledge, I think knowledge has to be a product. And we have to create new knowledge... I think we have to create students. And those are those are probably our two our two biggest products. Obviously, we have other products and those happen to be new techniques, possibly new biocontrol agents, so it's multi-layer, knowledge and personal... people.”*

*“One of the big opportunities that that is non-negotiable is access to new people coming into the business. And by that, I mean, by in large students coming into the business. Because of who we are, and I think this is something that we would need to fit in within the business model is that we retain very few staff, if we also define postgraduate students as staff. So, they're contributing to the to the to the terms of reference that we might have, to do what we do, but they're transient. So, they're in for two years or in for three years and then move on, some maybe five years and then some, maybe we retain them... so we've got this revolving door in terms of staffing, and, and that's, that is non-negotiable.”*

The hub and spoke approach of the CBC with its' consortium partners allows for dynamic resource management and resource creation to meet new opportunities for providing services or obtaining grant funding. This highlights the role that key partners play in relation to resources the CBC has access to and can leverage for value capture and creation activities.

*“And all we did by putting together this consortium is I think we created more mass and people saw it not as competition, but as an alternative. And that's really increased our income.”*

*“On campus, we have the Waainek research facility, and we have another facility in us and that's the Rhodes facilities. Remember all the time, the CBC has a consortium, so we also obviously have a lab at UCT, we have a lab at UKZN, we have a labs at Wits. We've now just signed an MOU with sugar research for their lab there. But this was mainly weed biological control, the agricultural sector we obviously collaborate very closely with CRI the labs they have out there and River Bioscience, they use the labs they have there. So, in terms of shared resources, once again, not necessarily, but also because the science of research is quite different to those two sectors. So, with the weeds biological control stuff, there's a lot of need for quarantine, there's a need for mass rearing, and there's a lot of need for fieldwork. And in the insect biocontrol up to this point, we've largely looked at entomopathogenic viruses and*

*fungi and a little bit of classic biological control using parasitoids. So, there are different needs for that research.”*

In summary the key contextual aspects that should be included in a business model for the CBC are represented through the building blocks which make up *the NPO Business model framework for NPOs with multiple income streams* (Sanderse, 2014). The linkages between these building blocks shows that they are highly integrated and dependent on each other. However, the importance of ethics and governance to the CBC may not be as explicitly expressed in the current building blocks available in the framework.

### **4.3 Objective 2: Construct and evaluate a business model framework based on NPO business model literature and findings from the first objective.**

#### *4.3.1 Question 3: How suitable is the NPO Business model framework for NPOs with multiple income streams as a business model framework for the CBC?*

Prior to completing the blocks within the canvas, the definitions developed and used by Sanderse, (2014) were tested for alignment with the Director of the CBC. The definitions for key activities, key resources, value proposition, mission, programme delivery methods, ultimate beneficiaries, channels, income, and expenditure were agreed with. However, some suggestions were made to allow increased acceptance of vision, key partners, relationships, customer/donor segments and impact (Table 9).

**Table 9:** Building block definition feedback from interview process and adjusted definitions.

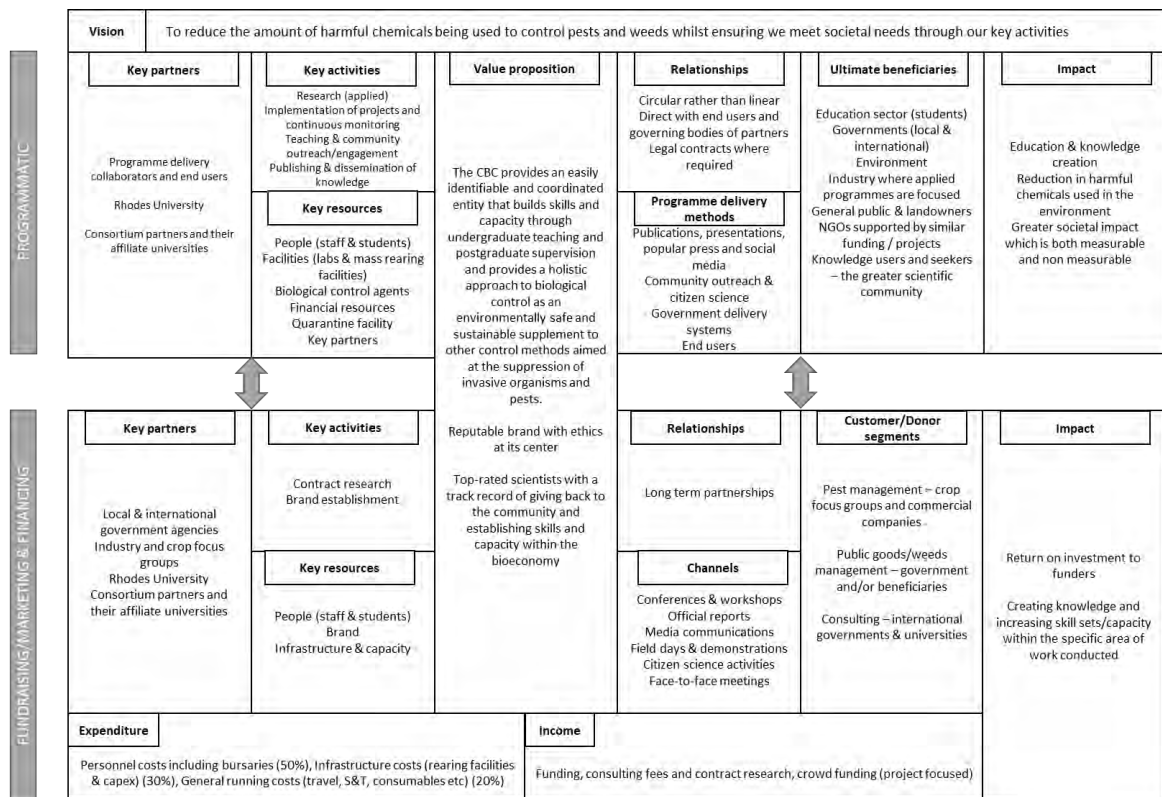
<b>Canvas component</b>	<b><i>Business model framework for NPOs with multiple income streams</i> (Sanderse, 2014 p. 47-48)</b>	<b>Feedback from interview</b>
Vision	Outlines what the organization wants to be. It can be emotive and is a source of inspiration.	<i>“Your vision outlines what the organization wants to be, it can be emotive, and a source of inspiration. But I don't think that captures what I've used in two words here: ambitious and aspirational. So, it's not just emotive, and inspirational, it's driving you forward. It's something you almost put on a pedestal, and it might be a little bit out of</i>

		<i>your reach, but it's something that you pull towards”</i>
<b>Revised</b>	Outlines what the organisation aspires to be. It can be ambitious or emotive and is a source of inspiration.	
Key partners	The network of cooperative agreements with other people or organizations (including governments) necessary to efficiently offer and distribute the organisation’s mission and programmes.	<i>“The word I didn't like there was agreements. I think that once again, the rest of the definition I'm comfortable with. But when you only have partners through agreements, it suggests that they are a client to me. So, I didn't like the word agreement there”</i>
<b>Revised</b>	The network of people or organizations (including governments) necessary to efficiently offer and distribute the organisation’s mission and programmes.	
Customer/ Donor segments	The different groups of customers and/or donor segments which the organisation targets for its fundraising activities. In this component customers tend to be more related to the merchandising section of the organisation and donors tend to be related to the fundraising section of the organisation.	<i>“I think there's something missing from there. Because I'm looking at it specifically from a CBC perspective. We, by and large, don't have donors, but we do have funders... so the difference there is that the NRF is not a donor. They are on the outside from industry, you might look at it and say they're a donor because in fact, they're giving you a lot of money and expect very little back, but in fact, they're giving us money to do contract research and in a lot of ways, so I thought donor was a bit difficult.”</i>
<b>Revised</b>	The different groups of customers, funders and/or donor segments which the organisation targets for its fundraising activities. In this component customers tend to be more related to the merchandising section of the organisation, funders are related to service based income and donors tend to be related to the fundraising section of the organisation.	

<b>Impact</b>	The higher-level situation that the project or programme aims to achieve.	<i>“I was happy with the provided definition, but the higher-level impact must include the benefit to both economic and societal benefits. And those societal benefits would be things like the contribution we make to environment, education and so on.”</i>
<b>Revised</b>	The higher-level economic, societal, and environmental situation that the project or programme aims to achieve.	

Following the revision of the building block definitions, the *Business model framework for NPOs with multiple income streams* was then completed (Figure 9). The framework was easily completed and whilst guiding questions were asked during the interview. It became an interactive process with blocks needing to be revisited once another block had been addressed. Once the model was completed the CBC Director agreed that Figure 9 was a true reflection of the CBC’s current business model:

*“I think it does. I really do think it does. I think, it's wonderfully chaotic with enough contradictions to suggest that it does reflect what I have been saying.”*

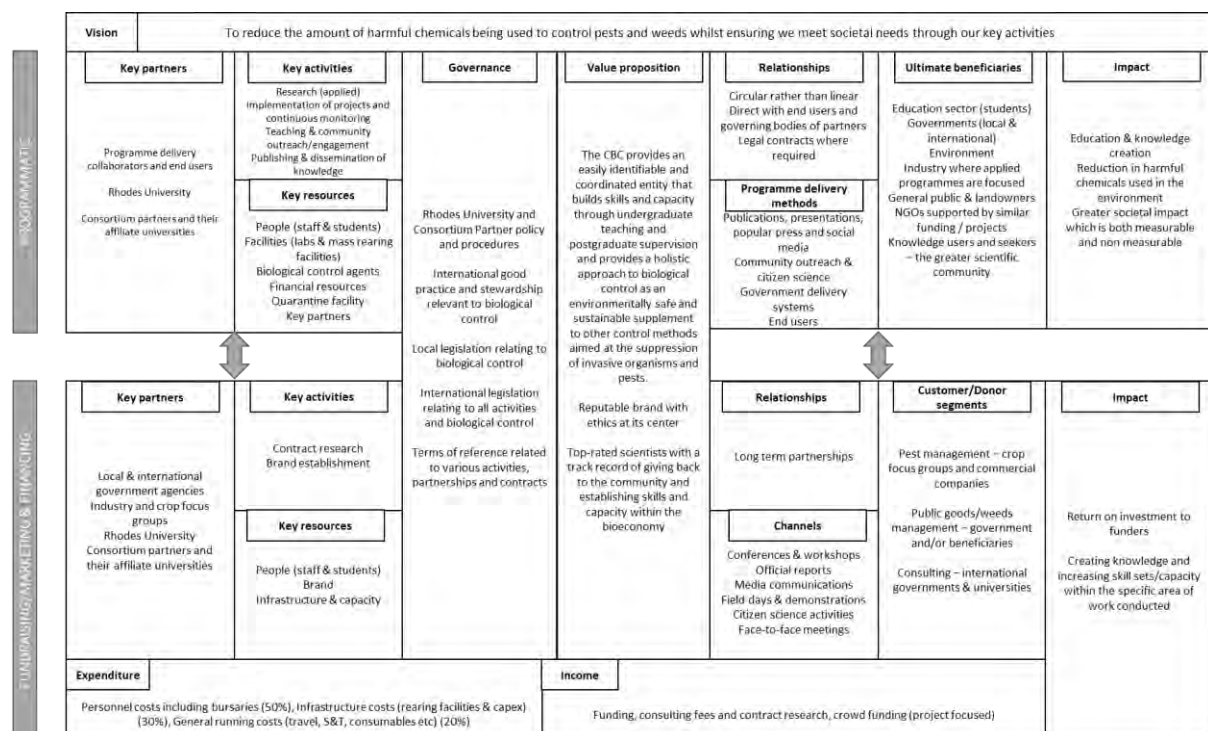


**Figure 9:** The Centre for Biological Control’s Business Model described using the Business model framework for NPOs with multiple income streams (Sanderse, 2014).

When questioned on whether anything was missing from the model:

*“This is wonderfully free from bureaucratic intervention. And that is something that I guess we need to always bear in our minds. When you're dealing with government monies, there are certain things you can do certain things you can't do. And not administrative interference, I think in the sense of interference is very easy to deal with. Bureaucratic intervention is harder to deal with. So, we are governed by policies that might be HR policies, financial policies, policies on releasing agents policies.... and that's something that's not embedded in here.”*

Governance is clearly an important part of the business model of the CBC. The ethics of the organisation is an important part of the brand and contributes to the value proposition of the CBC. It was proposed that like the value proposition block, which is cross cutting in the framework, in both programmatic and fundraising and financing sections, that governance should be added in a similar manner. Figure 10 is a slight adaptation of the *Business model framework for NPOs with multiple income streams* (Sanderse, 2014) now including a governance block defined as *the local and international legislation, internal and partners' policies and procedures, and sector best practices which govern the business model.*



**Figure 10:** The Centre for Biological Control’s Business Model described using a modified version of the *Business model framework for NPOs with multiple income streams* (Sanderse, 2014).

Based on the findings presented and feedback from the protagonist, the original model tested was suitable for describing the CBC's business model, however, the addition of the governance block improved the use of the model and provided a more accurate reflection of the CBC's business model. Potential uses identified for the final framework included planning activities, helping staff understand how the CBC works as well as communicating with funders and broader stakeholders. The suggestion was also made that whilst this framework was used for the CBC as an organisation, this could also be used for each programme or focus area within the CBC to allow staff to understand how the portion of the CBC that they work with or are part of operates.

#### **4.4 Objective 3: Explore how business model concept could relate to resource based theory.**

##### *4.4.1 Question 4: Does the business model framework assist in resource management activities?*

The CBC Director did feel that the framework discussed would be able to be used as a tool to understand, or test, how potential income streams could be established through completing the framework and focusing on resources and skills the CBC has access to but are not currently organised to deliver the potential income streams. The example used was that many South African commercial companies within the biocontrol sector rely on international laboratories to offer product development or regulatory related studies due to the lack of commercial laboratories offering these services locally. The CBC has the resources and skill set available for it to offer these services and establish a new form of income. However, it would need to organise its' resources in a way to undertake these sorts of activities. The business model framework would assist in testing how the business model could look should the CBC pursue this activity to generate income and help communicate how this could work to key stakeholders to the CBC. Therefore, using the business model framework as a tool to organise their resources and plan the business model for this type of income.

#### **4.4 Conclusion**

This chapter has addressed the research questions and provided results obtained conducting content analysis from various sources (Table 6). The transcripts used in the analysis were confirmed for their accuracy by the participants. The results obtained for each of the research questions are highly integrated showing high levels of congruence when considering data triangulation and pattern matching. This adds to both construct and internal validity of the study

which improves the reliability of the results presented. Existing theory was used to guide the thematic framework which has contributed to the external validity as this is a single case study.

## **Chapter 5: Discussion**

### **5.1 Introduction**

This chapter aims to discuss the results presented in Chapter 4 in three parts. Firstly, an overview of the CBC's contextual environment is related to similar studies focusing on NPOs and the extant literature. Secondly, the suitability of the NPO Business model framework for NPOs with multiple income streams (Sanderse, 2014) for the CBC and suggested improvements are considered. Lastly, the role of business model frameworks in resource management considering this study and the theoretical framework presented in Chapter 1 is discussed.

### **5.2 The CBCs contextual environment**

The CBC faces similar challenges to other NPOs in relation to organisational sustainability when considering funding over the long-term. A key differentiator for the CBC as a NPO is that they have almost no donor support and derive over 90% of its funding from sources external to Rhodes University. This income is obtained through both private and government contracts related to providing a form of service within the scope of their key activities. Banks et al., (2014), illustrated that NPOs participating in trading activities show an increased likelihood of organisational sustainability. Key challenges for the CBC's organisational sustainability include the reliability of tender payments as per the agreed contract terms realising on time, and large portions of income being derived from short-term projects from government funding which are becoming increasingly unreliable due to changes in funding allocations for various reasons. This corresponds with observations made regarding financial resources in NPOs by Hobbs, (2012), Universalialia, (2013) and Sanderse, (2014). The CBC benefits from operating within a greater university structure through the minimisation of fixed costs that the CBC would need to incur if it operated as a stand-alone organisation. Mission-driven NPOs within a similar environment rely on donor funding to cover both fixed costs and programmatic activities. However, this core donor funding is becoming increasingly scarce and alternative sources of core funding are being considered (Universalialia, 2013). Over and above the contribution to minimising fixed costs incurred by the CBC, existing within a university environment allows for a continuous supply of students from within its' direct university department and other departments on campus as a resource for the CBC, which plays a major role in its ability to create value for both direct and indirect beneficiaries. Whilst this is beneficial for the CBC, it may create difficulty for the management of the CBC to understand

the true cost of its operating activities or projects and this may result in incorrect pricing of services aimed at generating additional income or diversifying income streams in the endeavour to improve organisational sustainability.

To create additional opportunities for income the CBC's consortium partners have allowed for the hub and spoke approach to establish increased capacity through skills, infrastructural resources, and human resources. These forms of alliances are a common feature within a university environment and the sharing of resources allows for scalability and flexibility to meet funding opportunity requirements (Minshall, 2003). The hub and spoke approach speaks to the CBC's dynamic capabilities to undertake resource structuring and bundling activities described by Sirmon et al., (2007). Considering this, the CBC as an organisational structure plays the role of leveraging (Sirmon et al., 2011) consortium members' resources to provide value-creating activities which improve their ability to seek a diversified income stream outside of their historic beneficiaries.

The brand of a NPO is seen as a critical aspect to validate organisational legitimacy with all stakeholders (Tuckman, 1998; Panda, 2008; Gulbrandsen, 2011; Universalia, 2013), as well as a differentiation factor in crowded markets (Panda, 2008) and a key part of a NPOs value proposition (Sanderse, 2014; Sanderse et al., 2020). The CBC's brand has played a major role in contributing to income diversification over the past few years. A key supporting component in the brand establishment is the ethical operations of the CBC. These include compliance with various legislation governing its activities, partners' policies and procedures, and industry best practices. This forms part of the CBCs value proposition and assists with organisational sustainability as being a key reinforcing driver in their business model. Panda, (2008) found that recognition, transparency, resources, and collaboration all increased the likelihood of grant acquisition in Indian NPOs when evaluating positioning strategies for funding. The CBC's brand drives increased funding opportunities, which increases both the viability and opportunities for consortium partners, further increasing their resource base which likely further increases funding opportunities.

The CBC Director was not able to provide a definition for the business model concept and the organisation does not have an explicit business model. This correlates with many studies (Kaplan, 2012; Universalia, 2013; Sanherse et al. 2020; Peric, Derlic and Stanic, 2020) which found that the organisations under review had implicit business models but may have not considered them as business models, more the way which their organisations operate.

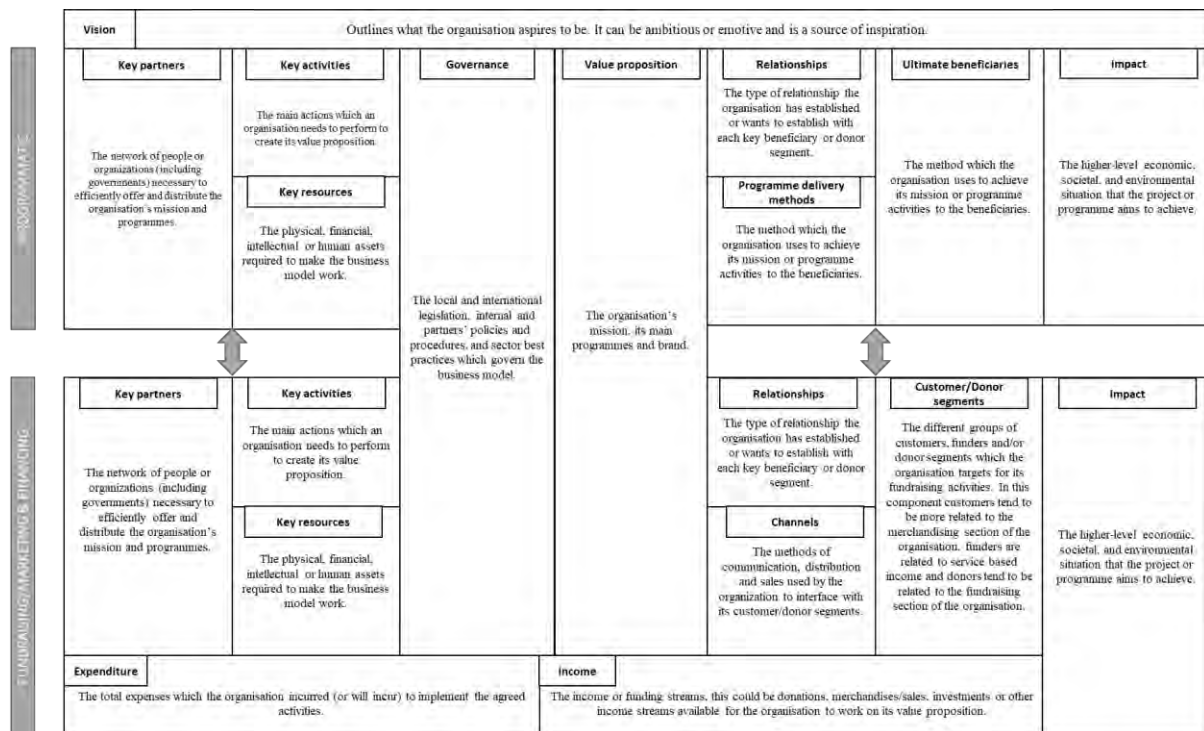
Whilst there were no objections to adopting business-like practices and strategies to increase the organisational sustainability of the CBC, there is a clear ethical dilemma in monetising certain resources for the generation of financial reserves. This is not dissimilar to examples in the literature of the objections by NPO management teams to adopting more commercial stances, such as concerns around mission drift (Moore, 2002; Dohrmann, Raith and Siebold, 2015; Davies and Chambers, 2018) or misalignment with key donors' objectives or mission (Helmig, Jegers and Lapsley, 2004; Universalialia, 2013). This illustrates that the entrepreneurial stance of NPOs' management has implications on their ability to generate income from certain activities, even if the opportunity presents itself.

### **5.3 A revised Business Model Framework for NPOs**

Objectives two and three of this research were to build on the work done by Sanderse, (2014) and Sanderse et al. (2020) by evaluating the appropriateness of the NPO Business model framework for NPOs with multiple income streams to a research-based, mission-driven organisation, in this case being the CBC. Key findings were that the definitions of the building blocks were generally accepted in most parts and the inclusion of a governance block made the framework more suitable for communicating the CBCs business model. However, there were some suggestions made to the definitions of building blocks within the initial framework which improved the overall acceptance by the protagonist of this study. The need for minor adjustments is expected and corresponds with findings in similar studies. Individuals charged with NPO governance often do not have the traditional knowledge around commercial business activities and management tools (Helmig et al., 2004) and tools designed for for-profit use may need to be adapted to be more applicable for use in the NPO sector (Laurett and Derreira, 2018). Hvenmark, (2013) suggests adjustments of for-profit business tools' terminology to improve their acceptance to NPOs and this is illustrated by Universalialia, (2013) where NPO executives did not agree with definitions proposed within the BMC (Osterwalder and Pigneur, 2010). Similarly, Sanderse, (2014) proposed revised definitions based on literature reviews to align building block definitions to the NPO sector. However, it was found that these definitions needed further revision based on interviews with NPO management staff and experts within the NPO sector. The limited changes to definitions required in this study suggest that those proposed by Sanderse, (2014) are closer to what an NPO requires but needed further refinement in this case. A key challenge limiting the development of business model theory is the divergent definitions of what a business model is (Teece, 2010) and what are the definitions of the blocks within different business model frameworks. In the for-profit business model literature, there

are numerous examples of varying definitions found for the business model concept alone (Zott, Amit and Massa, 2011) and a large array of definitions for definitions of the building blocks within business model frameworks (Sanderse, 2014). Considering this it may be worthwhile moving towards a general definition which is more broad sweeping than restrictive. An example of this is the required change in the definition of key partners through removing “agreement” from the definition, as this suggested a binding legal agreement rather than a more informal partnership which the protagonist preferred in this case.

Figure 10 was found to be suitable as a framework to describe the business model of the CBC and could potentially be used at a business unit or programme level. Illustrating the possible applicability of this framework being suitable to describe a range of different NPO business models. Figure 10 was also found to be a useful tool for planning activities, testing new ideas as well as stakeholder communication, both internal and external. These findings are congruent with Sanderse, (2014) and are in line with other identified uses for business model frameworks (Sleurink, 2002; Universalialia, 2013; Sanderse, 2014; Peric, Derlic and Stanic, 2020). Whilst the CBC provides another test for the business model framework for NPOs with multiple income streams and some changes were made, Sanderse, (2014) suggested further work needs to be done in applying the model to NPOs which fall into quadrants three and four of Collins, (2005) quadrants of the economic engine in social sectors. The CBC falls into quadrant four which depends on a high level of income from business revenue and has low dependence on charitable donations.



**Figure 11:**The revised Business model framework for NPOs with multiple income streams based on Sanderse, (2014) and Sanderse et al., (2020).

The inclusion of governance as a business model component has been expressed by Casadesus-Masanell and Ricart, (2010) as well as Micheline and Fiorentino, (2012). Sanderse, (2014) initially felt that governance was represented within the business model framework for NPOs with multiple income streams and was suitably covered in the blocks of mission and relationships. However, two of the interviewees in their study suggested that governance was a component missing in the canvas. Sanderse, (2014) further noted that no literature has provided how this could be visualised within a business model canvas. This study has incorporated governance as a block like the value proposition in that it is cross-cutting through both programmatic and fund-raising activities (Figure 11). The governance block was placed before the value proposition block as it was felt that due to the role of ethics and governance in the CBC's brand, and the brand being an important part of the CBC's value proposition, governance should appear first in the framework.

NPOs who derive income for multiple sources may be viewed as hybrid organisations in that they likely have a large variety of stakeholders, often pursue multiple and conflicting goals and engage in divergent activities (Anheier and Krlev, 2014; Besharov and Smith, 2014). These hybrid organisations often do not fall neatly into a single institutional logic and may face institutional plurality (Kraatz and Block, 2008; Besharov and Smith, 2014). NPOs need to

maintain their legitimacy with stakeholders and institutional plurality may put this legitimacy at risk (Ebrahim et al., 2014). When considering the role of governance within an organisation it can be broadly defined as the mechanisms by which the organisation determines how its resources are used to move the organisation forward and maintain relationships with various stakeholders (Daily, Dalton and Cannella, 2003). Governance is important in the context of institutional plurality as it is a mechanism which reduces the risk of an organisation participating in activities which may put its legitimacy in the eyes of various stakeholders at risk (Mair, Mayer and Lutz, 2015). Therefore, including governance as an explicit building block within a business model framework may illustrate how governance components influence the inputs to other components of the business model as well as provide a deeper understanding as to why NPO business models vary considering their institutional logic. For example, the CBC chooses not to participate in deriving income from its resources that may be linked to or derived from public goods. This is a decision that has been made based on ethical considerations and governance-related matters but has an impact on the overall business model and subsequently each component within the business model framework.

#### **5.4 The role of Business Model Frameworks in Resource Management**

Business models need to change over time for organisations to achieve sustained value creation and organisational sustainability (Achtenhagen, Melin and Naldi, 2013). However, for business models to change, resources may need to be used in different manners compared to their traditional use in the existing business model. The theory around resource management within resource base theory has been developed by Barney, (1991) who created the VRIO framework, which proposed that a resource can only be used towards implementing a competitive strategy if the resource was organised. Later, Sirmon et al., (2007) illustrated how resources available to an organisation could be managed through their Dynamic Resource Management model (structuring, bundling, and leveraging resources) which was followed by D’Oria et al., (2021) who showed that organisations benefit the most when synchronisation occurs, when structuring, bundling and leveraging activities occur at the same time.

Business model frameworks have been described as a tool for planning, testing ideas and communicating an organisation’s business model to stakeholders. In the light of a business model framework being a tool for planning and testing ideas, a business model framework which allows an organisation to suitably express its business model in a holistic and explicit manner may use this tool in a way to improve its dynamic capabilities as well as manage its resources more effectively. Figure 5 (Section 2.5) represents the theoretical framework

illustrating the potential relationship between the business model concept, business model framework and the various components of RBT.

The current study sought to explore whether the developed business model framework was able to assist the CBC with resource management activities. The findings illustrate that the framework (Figure 11) was able to be used as a reflective tool whereby new income streams could be hypothesised and then key resources to support these income activities could be proposed. If the organisation has access to the required resources, the next steps would be to organise them in a way that would enable the pursuit of the remainder of the required business model components. However, if the organisation did not have access to the required resources the framework would identify this, and it may lead to the organisation undertaking structuring or bundling activities to pursue the hypothesised income streams. This observation is congruent with Teece, (2018) who suggested an organisation's dynamic capabilities shape its' ability to design business models, while simultaneously, an organisation's business model will influence that organisation's dynamic capabilities. Considering this study, this statement could be reworded to an organisation's resources and the management thereof will influence the business model, whilst simultaneously, an organisation's business model will influence the organisation's resources.

## Chapter 6: Conclusion

### 6.1 Introduction

This study set out to achieve three objectives through four research questions using the single case study method. The goal of this chapter is to communicate the key findings for each research objectives and how this contributes to theory development. The limitations of this study will be highlighted as well as potential areas of future research in relation to further theory development.

### 6.2 Key findings, theoretical contributions, and future research

*6.2.1 Objective 1: Evaluate the contemporary context of the CBC's operating environment and what should be considered in the development of a business model.*

The focal organisation's contemporary context and the challenges that are faced in organisational sustainability are not unique when compared to similar NPO contexts prevalent in the literature. Ethics and consortium partners contribute significantly to the brand of the CBC, and this has had a major impact on the diversification of income streams from different activities which the CBC undertakes. Like other studies which have evaluated the applicability of business models to NPOs, the CBC did not have an explicit business model and neither did they have a sound understanding of the business model concept. The CBC did not have a problem with adopting business-like practices to increase organisational sustainability in terms of generating cash reserves. However, the organisational logic of the CBC with regards to governance issues and the personal ethics of the protagonist may be a major challenge in leveraging opportunities to generate income when the use of public goods or government funding was involved in generating knowledge, resources or products which are the focus of these income opportunities.

Future research questions which may assist in further understanding how management ethics and/or governance plays a role in NPO organisational sustainability are:

- How does the management team's ethics of a NPO influence their income-generating activities?
- How do governance structures influence income-generating activities of NPOs?

### *6.2.2 Objective 2: Evaluate a business model framework based on NPO business model literature and findings from the first objective.*

The definitions presented by Sanderse, (2014) for the blocks within the *Business model framework for NPOs with multiple income streams* were mostly found to be suitable for the protagonist, barring some minor changes. The framework was found to be suitable to allow for displaying the CBC's business model, however, governance was a missing component. Once included in the framework as an overarching block cutting across both programmatic and fund-raising portions of the framework, the protagonist felt that this was an improvement to the initial model. A challenge to the continuous development and of business model theory is the lack of a standardised framework in which different organisations business models can be compared and evaluated (Teece, 2010). This is applicable to both for-profit and not-for-profit organisations. This study has contributed to theory development in business model theory in two ways. Firstly, the results demonstrated that the *Business model framework for NPOs with multiple income streams* can be used as a tool to illustrate NPO business models indicating that it could be used as a method of comparing business models of different NPOs with multiple income streams. Secondly, governance was deemed to be an important component in business models of NPOs. Incorporating governance into the *Business model framework for NPOs with multiple income streams* assists in providing context to the overall business model framework for NPOs.

Further research which may benefit theory development in this area:

- Confirm whether governance adds value to being part of the revised framework in NPOs, in both similar and different contexts to the focal organisation in this study.
- Confirm the position/visualisation of the governance component within the business model framework.
- Evaluate the proposed business model frameworks' (Figure 11) suitability to NPOs which can be placed in quadrant one and three of Collins, (2005).

### *6.3.3 Objective 3: Explore how business model concepts could relate to RBT.*

The framework presented in figure 5 (Section 2.5) suggests how a business model framework could assist with linking the business model concept with resource management and dynamic capabilities as part of RBT. The results obtained in this study show that there is potential for the business model framework to assist in resource management in planning activities and

testing potential opportunities to diversify income streams. The theoretical contribution of this finding is the proposition that an organisation's resources and the management thereof will influence the business model, whilst simultaneously, an organisation's business model will influence the organisation's resources.

Future research which may benefit theory development in this area:

- Can the use of a business model framework contribute to the organisation of resources in relation to the VRIO framework (Barney, 1991)?
- Does the use of a business model framework by NPOs to develop an explicit business model improve leveraging or synchronisation of resources?

### **6.3 Limitations of this research**

The main limitations of this research were that it focused on a single organisation and only a single individual was used for the sample of the interviews. This limited sample size may erode the construct validity of the study, although multiple sources of evidence were used in the data collection process additional interviewees would have likely improved the data set and allowed for more in-depth analysis. The internal validity of the study may have been improved through further inclusion of rival explanations to answer research questions (Yin, 2002). However, as this is an exploratory case study and limited literature explicitly addresses the topics at hand this was not possible. External validity was obtained using a literature review, a theoretical framework and presenting a detailed research design. Although the limited sample size and the single case study method may limit the reliability of the results obtained (Stake, 1995), the use of a case study protocol and a case study database provides the necessary means for other researchers to evaluate the reliability of this study should the need arise (Yin, 2002).

This research and the results presented should be viewed in line with the methodology used. The case study method allows a holistic, in-depth investigation (Feagin, Orum and Sjoberg, 1991), and contributes uniquely to the knowledge of the focal case and allows the investigation to retain the holistic and meaningful characteristics of real-life events (Yin, 1984). Considering this, the presented study should be used as further evidence towards the use of business model concepts by NPOs and provides an example of the contextual environment of a mission-driven NPO which could be incorporated into other studies for further theory development.

## **6.4 Conclusion**

Study findings were presented along with the relevant contributions to theory development and further research questions were proposed within the context of the research findings. Whilst there are limitations to the study and the potential reliability and validity of the results, the necessary steps were taken as suggested by the literature to improve the quality of the case study method used in this research.

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## Appendix 1: Interview 1 Guide

<b><i>DURATION IN MINUTES</i></b>	<b><i>ITEM</i></b>
<b>5</b>	<b>CANDIDATE CONSENT</b>
	Completed individual consent form
<b>15</b>	<b>INTRODUCTIONS</b>
	Welcome participant and give a short overview of the research and aims  Provide a description of the topic and some further information on Business Models in relation to NPOs
	Explain the interview process.
<b>90</b>	<b>INTERVIEW QUESTIONS</b>
7 Questions	Introductory questions around the contemporary context for their operating environment with respect to business models
	<ol style="list-style-type: none"> <li>1. Could you please provide me with some background regarding the establishment of your organization?</li> </ol> <p>Follow up questions:</p> <ol style="list-style-type: none"> <li>a. How long has the organization been established</li> <li>b. What are some of the key changes/developments in your organisation's value creation activities since its establishment?</li> </ol> <ol style="list-style-type: none"> <li>2. Could you please describe what you understand to be the definition of a business model?</li> <li>3. What would you define as a good business model?</li> <li>4. In your opinion, are business models applicable to nonprofit organisations?</li> </ol>

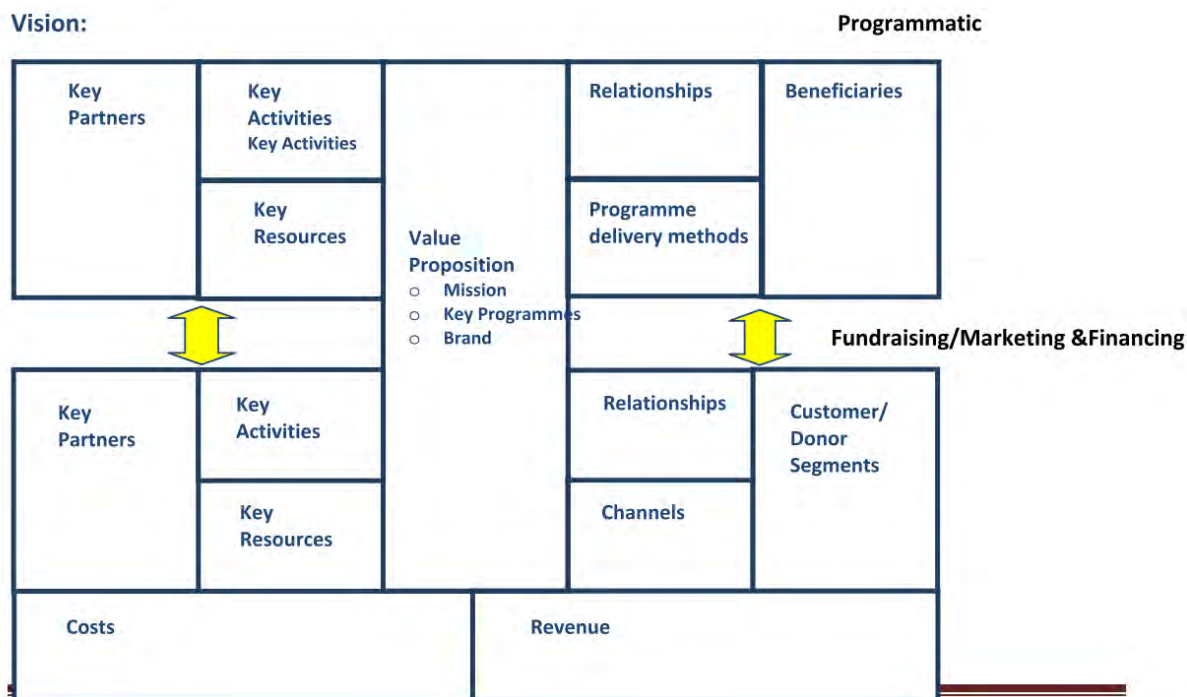
	<p>5. Are you able to describe your business model?</p> <p>6. Have you ever used a framework to describe and define your business model?</p> <p>Follow-up questions:</p> <p style="padding-left: 40px;">Did you find this useful? If not, why not? If yes, highlight your key learnings.</p> <p>7. Is the business model concept ever discussed amongst senior management or other directors of the institution?</p>
8 Questions	What are the key challenges and opportunities that should be considered in the development of a business model for a mission-driven research institute?
	<p>1. How could the external environment impact the formulation of a business model for your organization?</p> <p>2. How could the internal environment impact the formulation of a business model for your organization?</p> <p>3. What are the key challenges that you feel need to be addressed in a business model framework for your organization?</p> <p>Follow-up questions:</p> <p style="padding-left: 40px;">Are these challenges similar throughout the various departments within your organization, please elaborate?</p> <p>4. What are the key opportunities that you feel need to be addressed in a business model framework for your organization?</p> <p>Follow-up questions:</p> <p style="padding-left: 40px;">Are these opportunities similar throughout the various departments within your organization, please elaborate?</p>

	<ol style="list-style-type: none"> <li>5. Considering the various types of value creation activities your organization undertakes, what are the most important components to include in a business model for your organization?</li> <li>6. Should a business model link value creation activity to resources?</li> <li>7. Should a business model framework assist in developing new resources and additional areas of potential value creation with current resources?</li> <li>8. From your understanding of business models and business model frameworks, do you think that a single framework would be applicable to your organization, or would each section/department require different components, please elaborate?</li> </ol>
<b>15</b>	<b>CONCLUSION</b>
	<ol style="list-style-type: none"> <li>1. Are there any items that we have not discussed that you feel would be critical to consider or account for when developing a business model framework for your institute?</li> </ol> <p>Provide contact information should the applicant have further questions.</p>
	Thank the applicant for their time.
	<b>EVALUATION: Code and theme observations and discussion outcomes</b>
<b>TOTAL TIME IN MINUTES</b>	
<b>100-150</b>	

## Appendix 2: Interview 2 Guide

Research Objective: Construct and evaluate a business model framework based on NPO business model literature and findings from the first objective.

Business model canvas under review



### Key definitions

Item	Definition	Agree with definition	Disagree with definition
Canvas component	<i>Business model framework for NPOs with multiple income streams (Sanderse, 2011 p. 47-48)</i>		
Vision	Outlines what the organization wants to be. It can be emotive and is a source of inspiration.		
Key partners	The network of cooperative agreements with other people or organizations (including governments) necessary to efficiently offer		

	and distribute the organisation's mission and programmes.		
Key activities	The main actions which an organisation needs to perform to create its value proposition		
Key resources	The physical, financial, intellectual or human assets required to make the business model work		
Value proposition	The organisation's mission, its main programmes and brand		
Mission	Defines the fundamental purpose of an organization, succinctly describing why it exists and what it does to achieve its vision.		
Relationships	The type of relationship the organisation has established or wants to establish with each key beneficiary or donor segment.		
Programme delivery methods	The method which the organisation uses to achieve its mission or programme activities to the beneficiaries.		
Ultimate beneficiaries	The target group who the organisation principally aims to reach and serve to achieve its vision/mission.		
Channels	The methods of communication, distribution and sales used by the organization to interface with its customer/donor segments.		
Customer/Donor segments	The different groups of customers and/or donor segments which the organisation targets for its fundraising activities.		
Income	The income or funding streams, this could be donations, merchandises/sales, investments or other income streams available for the organisation to work on its value proposition.		

Expenditure	The total expenses which the organisation incurred (or will incur) to implement the agreed activities		
Impact	The higher-level situation that the project or programme aims to achieve		

<b><i>DURATION IN MINUTES</i></b>	<b><i>ITEM</i></b>
<b>5</b>	<b>CANDIDATE CONSENT</b>
	Completed individual consent form
<b>15</b>	<b>INTRODUCTIONS</b>
	Welcome participant and give a short overview of the research and aims for this specific interview
	Provide a description of the topic and some further information on Business Models in relation to NPOs
	Explain the interview process.
<b>90</b>	<b>INTERVIEW QUESTIONS</b>
30 Questions	Introductory questions around the contemporary context for their operating environment with respect to business models
	<p>8. What is the vision of your organization?</p> <p>9. Would you agree with the statement that the value proposition is the heart of the organization?</p> <p>10. What is the mission of your NPO?</p> <p>11. In your estimation, how many people know the organisations mission?</p> <p>12. Do they know the main objective of the organization, but not the exact mission?</p>

13. What are the main programme activities of your NPO
14. How important is the NPO brand for your organization?
15. Who are the principle beneficiaries which your organization aims to reach?
16. Which methods of programme delivery does your organization use to reach its principle beneficiaries?
17. What kind of relationship does the NPO have, or want to have with its principle beneficiaries?
18. Which are the key partners for programme delivery that your NGO has identified?
19. What are the key activities which your NPO needs to perform to be able to create the NPOs value?
20. What are the key resources, hence the key assests that your NPO requires to make its business model work?
21. Which are the major customer/and/or donor segments which your organization aims to reach for its fundraising activities?
22. Which channels does your organization use for its communication, distribution and/or selling to your defined customer/donor segments?
23. And are there any other segments which are not mentioned here for which the organization needs to communicate?
24. What king of relationship does the NPO have or aims to have with its customer and/or donor segments?
25. Which are the key partners that your NPO has identified for its marketing/fundraising activities?
26. What are the key resources, hence the key assets that your NPO requires for its major marketing/fundraising activities?

27. What are the major cost items which your organization incurs to implement its major programme and marketing/fund raising activities and achieve its' mission?
28. What in your opinion, would be the best wording for this business model component: revenue stream, income stream, funding stream or other?
29. What were the major different income or funding streams of the organization in 2018-2022? Did these vary by year?
30. Where these the same streams as 2016-2018?

**Break to complete canvas**

31. Now, looking at your organisations business model canvas based on this interview, does this represent the business model of the NPO you are representing?
32. If not, what's missing?
33. If impact is defined as "the higher level situation that the project will contribute towards achieving", do you think it should be added to the business model canvas? Or is it already addressed in the organisations vision/mission? Or would it be more applicable in the organisations strategic or operational plan instead of a high level business model framework?
34. Do you think this is a useful tool that your organization could use?
35. If yes, what could your organization use this for?
36. If not, what would be the reason(s) that it would not be useful?
37. Do you think that the BMC could help your organisation with resource orchestration?
38. Could you provide a potential example? (potentially use an junk resource or potential income stream as the starting point)
39. Do you have any questions or comments which were not discussed during the interview?

<b>15</b>	<b>CONCLUSION</b>
	<p>2. Are there any items that we have not discussed that you feel would be critical to consider or account for when developing a business model framework for your institute?</p> <p>Provide contact information should the applicant have further questions.</p>
	Thank the applicant for their time.
	<b>EVALUATION: Code and theme observations and discussion outcomes</b>
<b>TOTAL TIME IN MINUTES</b>	
<b>100-150</b>	

## Appendix 3: Ethics Documents



**RHODES UNIVERSITY**  
*Where leaders learn*

**Rhodes University Human Research Ethics Committee**  
PO Box 94, Makhanda, 6140, South Africa  
t: +27 (0) 46 603 7727  
f: +27 (0) 46 603 8822  
e: [ethics-committee@ru.ac.za](mailto:ethics-committee@ru.ac.za)  
NHREC Registration number: RC-241114-045

<https://www.ru.ac.za/researchgateway/ethics/>

11 May 2022

Mr Sean Thackeray

Email: [g09T1046@campus.ru.ac.za](mailto:g09T1046@campus.ru.ac.za)

Review Reference: 2022-4926-6725

Dear Mr Thackeray

**Title:** A business model framework for a mission driven research institute

**Researcher:** Mr Sean Thackeray,

**Supervisors:** Prof Owen Skae,

This letter confirms that the above research proposal has been reviewed and **APPROVED** by the Rhodes University Human Research Ethics Committee (RU-HREC). Your Approval number is: 2022-4926-6725

Approval has been granted for 1 year. An annual progress report will be required in order to renew approval for an additional period. You will receive an email notifying you when the annual report is due.

Please ensure that the ethical standards committee is notified should any substantive change(s) be made, for whatever reason, during the research process. This includes changes in investigators. Please also ensure that a brief report is submitted to the ethics committee on the completion of the research. The purpose of this report is to indicate whether the research was conducted successfully, if any aspects could not be completed, or if any problems arose that the ethical standards committee should be aware of. If a thesis or dissertation arising from this research is submitted to the library's electronic theses and dissertations (ETD) repository, please notify the committee of the date of submission and/or any reference or cataloguing number allocated.

Sincerely,

**Prof Arthur Webb**

**Chair:** Rhodes University Human Research Ethics Committee, RU-HREC

cc: Ms Danielle de Vos - Ethics Coordinator



18 May 2022

Mr S Thackeray  
Rhodes Business School  
RHODES UNIVERSITY  
[sean@riverbio.com](mailto:sean@riverbio.com)

Dear Mr Thackeray

**REQUEST TO CONDUCT RESEARCH WITH RHODES UNIVERSITY STAFF ONLY**

This letter is to confirm that your request to conduct research on "*A business model framework for a mission driven research institute.*" topic has been approved by the Ethics Committee. In my capacity as Acting HR Director, I do not have any objection should you wish to follow a coordinated approach by surveying and/or interviewing staff.

Kindly note that this approval is for research with staff members only. For student-related research, approval must be sought with the office of the Registrar.

Yours sincerely

Mrs S Robertson  
Acting HR Director



## **PARTICIPANT INFORMED CONSENT DECLARATION** (To be signed by research participants)

Research Project Title: A business model framework for a mission driven research institute

Mr. Sean Thackeray from the Rhodes Business School at Rhodes University has requested my permission to participate in the above-mentioned research project.

The nature and the purpose of the research project and of this informed consent declaration have been explained to me in a language that I understand.

I am aware that:

1. The purpose of the research project is to focus on developing and evaluating the applicability of a mission driven Non-Profit Organisation (NPO) and evaluate its usefulness as a tool to provide sustainable value creation.
2. Rhodes University has given ethical clearance to this research project (*Ethics Approval Number – 2022-4926-6726*) and I have seen/may request to see the clearance certificate by contacting the Ethics Coordinator ([ethics-committee@ru.ac.za](mailto:ethics-committee@ru.ac.za)).
3. By participating in this research project, I will be contributing towards improving my understanding of how business models and associated frameworks may add value to my associated institute as well as developing an understanding of how business model frameworks can be tailored for mission driven NPOs with a research focus.
4. I will participate in the project by answering questions guided by a semi-structured interview for approximately 120 - 150 minutes. I will answer the questions to the best of my ability and indicate to the researcher where I do not feel comfortable answering a specific question. I will indicate this to the researcher.
5. My participation is entirely voluntary and should I at any stage wish to withdraw from participating further, I may do so without any negative consequences.
6. I will not be compensated for participating in the research, but my out-of-pocket expenses will be reimbursed.
7. The following risks are associated with my participation I am aware that in order to mitigate risk, details of participation will remain anonymous if I request so. Any identifiable information will therefore be removed from the research accordingly. Voice recorded interviews consented to will be available only to the researcher and supervisor. It will be kept on file for 5 years as per university policy and be deleted after

Rhodes University, Research Office, Ethics  
Ethics Coordinator, [ethics-committee@ru.ac.za](mailto:ethics-committee@ru.ac.za)  
t: +27 (0) 46 803 7727 f: +27 (0) 86 616 7707  
Room 204, Main Admin Building, Drostdy Road, Grahamstown, 6138

1194

the 5 years. Only the researcher and supervisor will have access to it. It will not be distributed and held in a password-protected location.

8. The Researcher intends to publish the research results in the form of mini thesis. However, confidentiality and anonymity of records will be maintained, and my name and identity will not be revealed to anyone who has not been involved in conducting the research, *unless I indicate to the contrary/recognise that as a public figure, my identity will inevitably be/become known in which case I agree to and accept the loss of confidentiality.*
9. In terms of the Protection of Personal Information Act, it remains my right to request the Researcher to provide me with a detailed explanation of exactly how confidentiality and anonymity will be achieved. I may request to know how my personal information will be stored securely, for how long it will be stored, and whether it is likely to be used again in further research.
10. In terms of the Protection of Personal Information Act, I possess the right to receive feedback about this research. This will take the form of a summary of the individual interview shown to me to confirm the accuracy of the captured discussion. I will receive feedback regarding the results obtained during the study in the form of the submitted mini thesis that will be submitted in fulfillment of the researchers degree, *unless I elect not to receive feedback.*
11. Any further questions that I might have regarding the research or my participation will be answered by the supervising Professor, Prof. Owen Skar: [oskar@ru.ac.za](mailto:oskar@ru.ac.za).
12. By signing this informed consent declaration, I am not waiving any legal claims, rights or remedies.
13. A copy of this informed consent declaration will be given to me, and the original will be kept on record.

I, HASTIN ALLI have read the above information / confirm that the above information has been explained to me in a language that I understand and I am aware of this document's contents. I have asked all the questions that I wished to ask and these have been answered to my satisfaction. I fully understand what is expected of me during the research.

I have not been pressurised in any way and I voluntarily agree to participate in the above-mentioned project.



I agree/disagree to the Researcher's request to voice record my comments and opinions during interviews, the purpose of which is to ensure the accurate recording of my views. Furthermore, I have the right to request a copy of interview transcriptions to confirm that my opinions are accurately recorded.

  
.....  
Participant's signature

01/06/2022  
.....  
Date

Rhodes University, Research Office, Ethics  
Ethics Coordinator: [ethics-committee@ru.ac.za](mailto:ethics-committee@ru.ac.za)  
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