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A FRAMEWORK FOR ASSESSING VIRTUAL BUSINESS INCUBATOR OUTCOMES: THE CASE OF THE RURAL WOMAN

A Dissertation submitted by

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Abstract

Business incubators are entrepreneurial support mechanisms developed to serve multiple purposes and have distinct services that cater to their specific cohorts. Consequently, there is no consensus about measures, metrics and methodologies appropriate for assessing their outcomes. Given the evolution of the internet and web technologies, and in a COVID environment, business incubators are emerging as fully virtual with programs delivered entirely online, making the evaluation of outcomes even more complex. This is because processes are less bounded and incubatees tend to be geographically dispersed. To date, research on the effectiveness of virtual incubation programs is sparse and therefore the contribution of virtual business incubators (VBIs) to small business development still remains unclear.

This research proposes a framework to evaluate outcomes of VBIs. The framework is informed by THE Rural Woman virtual business incubator and community of practice (TRW-VBI-CoP) in conjunction with the literature and comprises: i) properties of the digital technology, ii) trust, iii) characteristics of virtual organisations and iv) success factors of virtual communities. TRW-VBI-CoP is used as a case study to examine its service provision processes and how these relate to program outcomes. Program outcomes are evaluated at individual level, from incubatees' perspective and comprise knowledge acquisition and self-efficacy enhancement, both critical to the survival, growth and success of their new business ventures.

Importantly, the proposed framework, can be adapted and applied to a wide range of VBIs, regardless of their orientation/speciality (e.g., general vs specialised), characteristics of target group (e.g., rural vs metropolitan and female vs mixed gender) and stage of business development. The context influences incubatees' perceptions, needs and wants, and therefore affect service provision processes, management practices and services provided by the VBI, which directly impact the outcomes achieved.

The research findings reveal that TRW-VBI-CoP has successfully created an online environment for learning and networking governed by trust mechanisms where incubatees acquire entrepreneurial knowledge and enhance their self-efficacy. Culture, alignment of objectives between TRW-VBI-CoP and incubatees and the high degree of

homophily, all foster the development of trust. The learning and network management platform (L&MNP) employed, complemented with other digital tools, confer TRW-VBI-CoP with the flexibility to quickly respond and adapt to the needs of incubatees. Moreover, as a community of practice, support and resources do not stem exclusively from the management team, but from the dynamic collection of incubatees, established businesses and affiliated partners. This research contributes to the literature of VBIs by deriving and validating an outcome evaluation framework that includes key variables for the provision of business programs and support online linked to entrepreneurial knowledge and self-efficacy obtained by the incubatees.

Keywords: virtual business incubator, digital technology, trust, virtual organisation, virtual community, entrepreneurial knowledge, entrepreneurial self-efficacy, online learning, networking.

Certification of Dissertation

I certify that the ideas, experimental work, results, analyses, software and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledge.

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List of Abbreviations

ABS: Australian Bureau of Statistics

ANZABI: Australian and New Zealand Association of Business Incubators

ASIC: Australian Security and Investment Commission

AUSINDUSTRY: Australian Government's specialist business program delivery division in the Department of Industry, Innovation and Science

BECs: Business Enterprise Centres

BIIA: Business Innovation and Incubation Australia

BICs: Business Innovation Centres

CEO: Chief Executive Officer

GEM: Global Entrepreneurship Monitor

GROEI: Growth Education Institute

GST: Goods and Services Tax

ICT: Information and Communication Technologies

L&NMP: Learning and Networking Management Platform

NBIA: National Business Incubation Association

OECD: Organisation for Economic Co-operation and Development

R&D: Research and Development

RTO: Registered Training Organisation

SMEs: Small and Medium Size Enterprises

TRW-VBI-CoP: THE Rural Woman virtual business incubator and community of practice

UK: United Kingdom

UNE: University of New England

US: United States of America

VBI: Virtual Business Incubator

Chapter I: Introduction

This research is the result of industry–university collaboration between the University of New England (UNE) and THE Rural Woman virtual business incubator (hereinafter referred to as TRW-VBI-CoP). In 2018, the founder of TRW-VBI-CoP approached Professor Kotey for an independent assessment of her business incubator's performance. Professor Kotey allowed me to undertake the project towards my research degree.

1.1. Background

Small and medium size enterprises (SMEs) are recognised as major contributors to national, regional and local economies. In developed countries, SMEs account for 99% of all firms and are the main source of employment (around 70% of jobs on average). They contribute to value creation, economic diversification, resilience building, and are the driving force behind major innovations (Organisation for Economic Co-operation and Development [OECD], 2017). However, they also face high risk of failure in the first few years of establishment (Aerts et al., 2007; Allen & Rahman, 1985), often associated with deficiencies in the market, lack of access to capital and lack of business and management skills and experience (Bruneel et al., 2012; Allen & Rahman, 1985).

In recognition of the economic contributions from the SME sector, various federal, state and local Government have introduced and supported programs to facilitate the creation and growth of start-ups (Sherman & Chappell, 1998). A common program to counteract the high failure rate of small firms has been business incubation, which involves providing an environment especially designed to nurture small enterprises (Aerts et al., 2007). Business incubators provide a wide range of support services, including training in management skills, access to capital and networking opportunities, as well as access to specialised professional services (Bruneel et al., 2012; Sherman & Chappell, 1998; Allen & Rahman, 1985).

The importance of evaluating the effectiveness of incubator programs is emphasised in the business incubation literature (Vanderstraeten & Matthyssens, 2010; McMullan et al., 2001; Sherman & Chappell, 1998). Since these programs can be expensive, evaluation of their outcomes is necessary to justify continuing government support (Vanderstraeten & Matthyssens, 2010; McMullan et al., 2001). However, there is no clear

consensus on appropriate measures, metrics and methodologies for such evaluations (Vanderstraeten & Matthyssens, 2010; Phan et al., 2005). One of the reasons for this is that business incubators have economic and social programs that serve multiple purposes (Al-Mubaraki & Busler, 2013) and have distinct services that cater to specific cohort of clients (Sherman & Chappell, 1998). Therefore, program outcomes are diverse and tend to be complex, requiring evaluation to be tailored to their individual missions (McMullan et al., 2001; Sherman & Chappell, 1998). Evaluating business incubator programs and outcomes is even more complex when the incubator is fully virtual, and/or when its programs are delivered entirely online.

Currently, there are no frameworks or methodologies for assessing the outcomes of virtual business incubators (VBIs), and existing frameworks for evaluating traditional incubator programs are not appropriate in the virtual context. This research proposes a framework for carrying out such evaluations. The framework is evaluated using a case study with outcomes based on incubatees' attributions of the impact of support from the incubator to overcoming their liability of newness (e.g., lack of competencies and forms of capital, trust relationships, legitimacy and uncertainty) as well as their subjective satisfaction with the incubation programs. This approach is based on the implicit assumption that survival, growth and business success cannot occur without the development of incubatees' entrepreneurial knowledge and entrepreneurial self-efficacy. The key premise of this investigation is therefore, that an appropriate approach to evaluating VBI programs and outcomes is the direct assessment of the association between service provision processes and program outcomes at the individual level, considering the demographic characteristics and identity of the incubatees, and the context in which they live and work.

TRW-VBI-CoP provided the opportunity to develop a framework for the evaluation of VBIs' outcomes, which given their positive contribution to regional and rural development, was the impetus for carrying out this study. Details of the research purpose, objectives and questions are presented next.

1.2. Research Purpose, Objectives and Research Questions

The primary purpose of this research is to develop a framework for assessing VBI outcomes and to use TRW-VBI-CoP as a case study to conduct such evaluations. This

will involve identifying and describing the service provision process variables needed to effectively deliver business programs online and linking them to the desired incubation outcomes. In this study, the outcomes are examined at the individual level, that is, from the incubatees' perspective, reflected in the knowledge and self-efficacy gained. An added layer of investigation is the context of the incubation services, that is rural Australia, and the specific cohort of incubatees serviced, that is rural women. These additional considerations directly affect the service provision processes, services provided and outcomes achieved. The specific objectives addressed are therefore to:

1. Develop a framework that identifies the key service provision process variables relevant to VBIs.
2. Assess the links between the key service provision process variables and individual-level outcomes (i.e., entrepreneurial knowledge and self-efficacy).
3. Identify gaps in TWR-VBI-CoP service delivery processes and recommend actions to improve them.

The research objectives, will be addressed by the following research questions:

1. What are the key service provision process variables of TRW-VBI-CoP to effectively deliver business programs and support online?
2. How do TRW-VBI-CoP's service provision influence individual-level outcomes of its incubatees?
3. What are the gaps in TRW-VBI-CoP service provision that need to be addressed to improve individual-level outcomes?

Given its central role to the study, TRW-VBI-CoP is described next.

1.3. TRW-VBI-CoP

TRW-VBI-CoP is a virtual business incubator and a community of practice with a digital strategy as central to its business model. It was established in 2015 with the purpose of building capacity and community resilience in regional and rural Australia by increasing the participation of women in entrepreneurship. To this end, TRW-VBI-CoP as an incubator, provides support and resources to equip aspiring and nascent female entrepreneurs with the necessary knowledge and skills to launch, manage and grow their

business ventures. As a community of practice, TRW-VBI-CoP provides more established entrepreneurs with a virtual community mechanism where they can meet regularly to discuss common interests or issues and share their expertise and practices.

TRW-VBI-CoP has effectively employed a digital platform and other digital tools to create a virtual community where incubatees and members of the community of practice connect and interact by exchanging information and resources relevant to their entrepreneurial pursuits. The central role of networking ensures business support is multi-directional, flowing in all directions among community members. In other words, more experienced women provide support to the less experienced in the virtual community of the incubator. Learning programs and resources are embedded into the virtual community for easy access, generating a social network that combines formal and informal learning. The business model employed by TRW-VBI-CoP has given rise to important questions at the intersection of entrepreneurship, business incubators and digital technologies. The importance of digital technologies to the value propositions of incubators are explained next, elucidating the digital context of the study.

1.4. Digital Technologies, COVID-19 and Virtual Incubators

Over the past 10 to 15 years digital technologies have transformed entrepreneurship in significant ways with implications at both policy and organisational levels (Nambisan et al., 2019). Digitisation has forced governments to rethink the laws, regulations and policies for a wide range of issues including incubator/accelerator programs, worker skills and training, and regional/local economic development (Nambisan et al., 2019). Digital technologies can fuel new forms of incubators and/or transform current business incubation practices. For example, business incubators can innovate their business models, add new programs and services, provide new types of learning experiences, and can emerge as fully virtual using digital infrastructures and digital platforms. Digital platforms implied virtuality, which in the context of the VBI, can be viewed as a technology-facilitated phenomenon or as a strategic tool (Shekhar, 2006). Only when the outcomes are analysed to see whether virtuality has resulted in the intended organizational objectives do they provide insights into whether virtuality has indeed been used by the VBI as a strategic tool, rather than as a mere technological necessity (Shekhar, 2006).

The recent COVID-19, a global public health crisis, is negatively affecting several industries with severe impact in local, regional and national economies. Many businesses were forced to close due to strict Government containment and prevention programs. Other businesses are currently experiencing significant decrease in revenue due to lack of customers or broken supply chains. The impact is more pronounced for rural and regional start-ups as they face a higher degree of uncertainty, have more barriers to accessing resources and in many cases, have not fully recovered from previous catastrophic events in their environments (e.g., floods, droughts and bushfires). As an urgent response, business incubators are reinventing themselves, adopting available digital platforms and rethinking their strategies to continue the provision of business support services online. With an increasing number of VBIs, questions related to the effectiveness of their online programs and their contribution to venture success must be addressed.

The increasing reliance on digital technologies, however, is shedding light on organisational weaknesses and operational deficiencies that adversely affect the service delivery processes of incubators and thereby the outcomes expected for incubatees. This is because digitisation is changing the nature of work. Organisational processes, management practices and resources established by physical incubators to operate efficiently may inadvertently constrain their operational efficiency in the digital world. Consequently, to operate effectively in the digital world, new organisational processes, management practices and resources are required, which are yet to be clearly identified, especially for business incubators. From my perspective, this gap is attributable to the fact that VBIs are considered an extension of traditional physical incubators, impeding further inquiries into success factors or best practices appropriate to operating in digital environments.

Advancement in internet technology, especially emerging features of Web 3.0 and Web 4.0, opens immense opportunities for VBIs to enhance their value propositions or even create new value propositions for all stakeholders. For example, using the computational capabilities of Web 3.0, the VBI can be turned into an incubatee-investor matching platform where investors can identify potential investment opportunities based on their preferences (e.g., industry sector, growth potential and social impact). Similarly, computational capabilities of Web 4.0 can assist in identifying the right support for

incubatees at the right time, by analysing various aspects of their engagement and interactions with resources and communication with others (e.g., sentiment and nuances of written text). However, these opportunities are yet to be captured by incubators to expand their value propositions.

1.5. Significance of this Study

The significance of this study is argued on three grounds. The first is support for all new firms with potential to survive. The second relates to the role of business incubators in reducing the liability of newness faced by new firms, thereby increasing their chances of survival and growth, and finally the role of VBIs in this arena, especially their contribution to the socioeconomic development of rural Australia.

1.5.1. The Case for Supporting all Small Firms with Potential to Survive

National Governments, nongovernmental organisations and private organisations consider small businesses as vital to reducing unemployment and poverty (Valdez & Richardson, 2013; Le, 1999) and means for economic development (Valdez & Richardson, 2013; Wennekers et al., 2002; Drucker, 2002). Despite their socio-economic relevance, there is controversy within the literature as to which small businesses should be supported and how they should be supported. For example, Shane (2009) professed that governments should stop subsidising the formation of typical start-ups because the majority do not enhance economic growth. Similarly, Fritsch and Schindele (2011) argued that policies promoting enterprise development should focus on selected quality businesses with growth potential. Following from this, the ability of a country to create an environment that favours and nurtures the growth of such businesses have been argued as critical to enterprise development (Mason & Brown, 2014; Fritsch & Schindele, 2011).

However, a narrow perspective of what firms to support obscures a multiplicity of perspectives, hinders our ability to observe small business development and impedes the development of theory in ways that provide insight and value (Welter et al., 2017). Consequently, an inclusive definition of small business is used in this research to encompass growth-oriented enterprises that generate employment, as well as small businesses and microenterprises that provide self-employment, but not employment growth (Hayton et al., 2002). This definition tacitly suggests that the primary motives of

venture creation do not always match the functionalistic economic objectives of wealth accumulation and job creation. Further, it highlights that the motivations for venture creation are heterogeneous (Welter et al., 2017). Consequently, the definition embraces a myriad of motives (e.g., follow a dream, better lifestyle and family goals) and societal contributions such as reduction of social inequality, diversifying rural economies to reverse de-population, redistribution wealth and opportunity for greater equity, and influence in social policy and civil society (Kemp, 2013).

1.5.2. The Role of Business Incubators in Small Business Survival and Growth

For the small business sector to have positive impact on the economy, a large percentage needs to survive and grow (Bakhtiari, 2017; Fritsch & Schindele, 2011). In Australia, the survival rate of small businesses gradually decreases with age and increases with employment growth. For example, the survival rate fell from 84.7% in June 2015 to 59.6% in June 2018 for non-employing businesses. In contrast, during the same period, the survival rate of employing businesses fell from 92.75% to 73.45% (ABS, 2020).

Small businesses face common problems that impair both their performance and survival rate. The majority of these problems are internal to the firm, such as skills, knowledge, experience of managers and employees, while others are external and relate to the barriers and inefficiencies in the business and policy environments (Schaper & Weber, 2014; Fritsch & Schindele, 2011). In Australia, government assistance to SMEs has tended to focus on the founder or manager and the industry within which their business operates (Mazzarol & Reboud, 2017). Programs targeting the manager include those that provide training and financial assistance to start-ups, advisory and counselling services for all small businesses and business incubators (Mazzarol & Reboud, 2017).

These programs address knowledge acquisition and skills development, using a one-size fits all approach, and are not tailored to the specific needs of the diverse small business groups and their contexts. Contemporary research provides convincing evidence that small business is a contextualised phenomenon and that it unfolds differently in different contexts (Wigren-Kristofersen et al., 2019). In this regard, certain small business activities are enabled and constrained by the context in which they occur (Korsgaard et al., 2015). For example, the needs and business characteristics of women entrepreneurs differ from their male counterparts (de Bruin et al., 2007) and vary across regions, with

their success influenced by their experiences, backgrounds, family support and involvement, and community attitudes toward traditional female roles (Cabrera & Mauricio, 2017; Kermond et al., 1991). Moreover, although knowledge is important for start-up success, government programs fail to provide networking opportunities that enable collaboration and the development of strategic partnerships.

Because of the failure to contextualise support services to SME groups, the number of SMEs that use government advisory services is often low (Mazzarol & Reboud, 2017; Jay & Schaper, 2003). Business incubators address these gaps in government support programs to small businesses by tailoring their programs to specific industry sectors (e.g., agriculture, health and education), locations (e.g., rural and urban) and incubatee characteristics (e.g., males and females). Research indicates that this tailoring of support services enhances outcomes from training (Simpson et al., 2002). Despite their potential to enhance success of small businesses, the survival rate of business incubators is low because of their dependence on government and donor funding. Advancements in Web technologies present an opportunity for business incubators to enhance value to incubatees while reducing costs and staying viable.

1.5.3. VBIs and Small Business Development

Business incubators that embrace digital technologies are likely to adopt innovative practices, programs and services. Regardless of how a business incubator chooses to use digital technologies, regular performance reviews should constitute an important component of its service provision processes and an evaluation of their outcomes is crucial to this process. Nonetheless, information on how to effectively function in digital environments and deliver business incubation programs and services over the internet is sparse. Moreover, how these virtually delivered programs contribute to achieving the outcomes pursued by incubatees is unclear. The findings from this study will directly benefit business incubators adopting digital technologies for various components of their business model, including those that operate entirely online. The proposed outcome evaluation framework identifies key factors required to effectively function as a virtual organisation and as a virtual community, highlighting the role that digital technologies and management competences play in this regard.

By applying the outcome evaluation framework, VBIs can demonstrate numerous ways in which their service provision processes, in combination with tailored programs and services, build several dimensions of entrepreneurial capabilities, especially with respect to entrepreneurial knowledge and entrepreneurial self-efficacy. By demonstrating the outcomes achieved by VBIs, their credibility and reputation are enhanced and strengthened. VBIs with strong positive reputations are likely to attract good strategic partners, sponsors and quality incubatees. These will allow VBIs to compete effectively against other programs that foster enterprise development and attract public funding.

Positive outcomes and enhanced value propositions will help VBIs to justify premium pricing for their services, thereby contributing to their financial self-sustainability. Moreover, VBIs that evaluate their outcomes are likely to implement continuous improvement practices in their service provision (Gerlach & Brem, 2015), further enhancing value to their incubatees and affiliated partners. Moreover, this study highlights the importance of the context, demographic characteristics and identity of incubatees to assessing the outcomes of VBI programs.

The study also addresses a gap in the literature by linking virtual incubation programs and resources with the development of entrepreneurial capabilities of incubatees, an area not yet explored empirically. This gap has arisen from the popularity of using financial measures to evaluate economic outcomes for incubatees. When analysing the economic outcomes of a business incubation program, the validity of any financial metric can be debated since these outcomes typically have multiple origins, of which only few can be traced to direct intervention of business incubators (McMullan et al., 2001). In addition, returns from start-ups may take a long time to materialise, making financial measures inadequate for evaluating incubatee outcomes. For this reason, an incubator–incubatee approach that connects service provision processes with incubatee outcomes is pursued in this study.

In summary, the outcome evaluation framework proposed in this study should enhance the service delivery of VBIs, thus allowing VBIs to evaluate their programs' effectiveness. This can lead to ongoing improvements such as the development of more tailored programs and strategies to better manage interorganisational relationships. In so doing, VBIs can become more effective in reducing the liability of newness faced by

small firms. Importantly, successful new firms are essential for the socioeconomic development of regions.

1.6. Structure of the Thesis

The study is organised into six chapters. Chapter 2 is a literature review of previous studies on business incubators and covers the origin of business incubators, the rationale behind business incubators, the different ways in which business incubators are conceptualised and the evolution of business incubators' value proposition. The outcome evaluation framework for VBIs is explained in chapter 3 and chapter 4 sets the scene for application of the framework to TRW-VBI-CoP by describing TRW-VBI-CoP. The description covers its strategic position, management structure and governance, target market, services provided and operations.

The methodological considerations used in this research are described in Chapter 5. It includes a description of the research process, philosophical assumptions and steps followed to develop the outcome evaluation framework and collect the data. The criteria followed to ensure validity and reliability of the single case study conclude this chapter. The results and findings are presented in Chapter 6 where the research questions are revisited and discussed with respect to the findings from analysing the data collected. The contributions to literature and implications for practice follow and the limitations of the study and future research directions conclude the chapter.

1.7. Summary and Conclusions

This introductory chapter presented a background to this study and defined the research purpose, objectives and questions. These were followed by a brief description of TRW-VBI-CoP as the single case for the study. The role of digital technologies and effect of COVID-19 in enhancing the value propositions of incubators were then explained, leading to justification for the study. The study was justified on the grounds of providing support for all small businesses with potential to survive and not just high growth businesses, premised on their diverse contributions to socio-economic development. The survival rate of small businesses was highlighted as a key area of concern and the role of business incubators in addressing this key concern explained. The importance of knowing the outcomes of VBIs was discussed, justifying the outcome evaluation

framework proposed in the study. The importance of context, demographic characteristics and identity of incubatees when assessing programs outcomes was also highlighted. The chapter ended with brief descriptions of the content of subsequent chapters. The next chapter presents a review of the literature on business incubators.

Chapter 2: The Business Incubator – Evolution, Typologies and Assessment

2.1. Introduction

This chapter presents an extensive review of the business incubator literature. It starts by explaining the origin of business incubators and their rationale as catalysts for entrepreneurship, followed by the evolution of their value proposition and classification. This is followed by the business incubators in Australia, where the benefits of business incubators to various stakeholders are outlined. The chapter ends describing the traditional methods used to assess business incubators' performance and outcomes.

2.2. Background Information on Business Incubators

2.2.1. The Origin of Business Incubators

The Batavia Industrial Centre, in Batavia, New York is often referred to as the first business incubator in history (Kilcrease, 2012; Aerts et al., 2007; Aernoudt, 2004). In a climate of adverse economic conditions and agricultural recession, the closure of the Massey Ferguson Company, a large tractor manufacturing plant, left 2,000 employees jobless. In August 1959, Charles Mancuso & Sons purchased the building that housed the manufacturing plant to generate a return on investment by leasing the space to a large manufacturer. The purpose was to revitalise the neighbourhood. After the unsuccessful attempt, Joseph Mancuso parcelled the plant into smaller spaces to attract numerous small firms. On realising the fragility of small firms, he subsequently provided services to enhance their survival rate and economic contributions (Kilcrease, 2012).

Similarly, during the 1970s in the United Kingdom (UK), pressures of modernisation and privatisation of the steel industry resulted in the loss of 180,000 jobs. Following this, in 1975, British Steel (Industry) Ltd, a subsidiary of British Steel, used expendable buildings to assist retrenched workers to create work in steel related areas (OECD, 1999). Many of the workers were skilled and, with the support from the incubator, were able to develop successful enterprises (Small Business Council, 1989). Incubators in the UK were then referred to as business innovation centres (BICs) and were part of a holistic national strategy for business creation and growth (OECD, 1999).

Business incubation received widespread attention during the 1980s due to the collapse of traditional and established industry sectors such as automobiles and heavy engineering in Western industrialised countries (European Commission, 2002; Reich, 1991), followed by rising unemployment, requiring a strategy to stimulate crisis sectors, communities and regions (European Commission, 2002). A movement to revitalise inner cities through 'grow your own business' programs was underway in the US and economic development officers and county governments began to establish business incubators. Likewise, community-based organisations, chambers of commerce and industrial development associations began to sponsor incubators, usually using abandoned factory buildings to house new businesses (Leblebici & Shah, 2004). In 1985, the National Business Incubator Association (NBIA) was formed in the US, with forty founding members, aimed at professionalising the incubator industry (Leblebici & Shah, 2004).

The business incubator industry also drew the attention of private corporations which, assuming leadership roles in community development, became involved in the development of incubators. An example was the City Venture Corp, which provided facilities and services to fledgling companies. By 1984, they had 17 centres and were earning a profit from their business incubation services (Leblebici & Shah, 2004). Incubators were also present at universities during their early years of development. For example, The University City and Science Center in Philadelphia, considered the first university incubator in the country, was initially established to promote private research and provide support to fledgling companies (Leblebici & Shah, 2004).

Rural regions were also interested in the establishment of incubators for economic development. This is reflected in the Rural Partnership Act in the US, a federal program to provide funding for incubators in rural regions. The Act led to an increase in the number of rural incubators from 34 to 143 by 1998 (Leblebici & Shah, 2004). During the 1980s and early 1990s, government agencies increased expenditure on the physical infrastructure for incubators but not management. This left many state governments with deficits and forced them to reduce funding to incubators (Leblebici & Shah, 2004).

The number of incubators grew as a result of public and private efforts, but many performed poorly. Noticeably, the credibility of the incubation industry declined, and many business incubators scaled back or closed down (Leblebici & Shah, 2004). Nonetheless, during the 1995-2000 period, new incubators began to emerge following

the success of the high-tech industries. These were different in form and function from the earlier incubators. The so-called new economy, dot.com or internet incubators were forming at an outstanding rate, primarily in the US (ANZABI, 2004; Halkides, 2001). They were for-profit, privately funded by venture capital firms and large multi-disciplinary consultancies and provided tech-based start-ups with facilities and financing, usually in exchange for equity interest in the new firms (Leblebici & Shah, 2004).

These for-profit incubators were created to accelerate the development of new technology-based enterprises (Bruneel et al., 2012; Aerts et al., 2007; Aernoudt, 2004; European Commission, 2002) in clusters such as biotechnology, information technology, environmental technology and speech technology (Aernoudt, 2004). According to the NBIA, business incubators in the US increased from 12 in 1980 to 800 by June in 2000 (Halkides, 2001), of which 100 were for-profit, high-tech incubators, mostly located in California (Leblebici & Shah, 2004). This exponential growth was attributed to developments in high-tech (particularly information technology), investors willing to invest at any valuation in dot companies, success stories around IT start-ups and IT incubators and, more importantly, the internet revolution (Halkides, 2001).

2.2.2. The Changes in Value Proposition of Business Incubators Over time

The history of incubator development above shows that, in the 1980s, infrastructure, in the form of affordable office space and shared resources, was the core service pursued by the first generation of business incubators (Bruneel et al., 2012; Aerts et al., 2007). Tenants worked under one roof and enjoyed complementary business and administrative services that would otherwise be expensive to access in the early stages of their operations. These services enabled tenants to focus on their core business activities.

During the 1990s, when technology and innovation became the cornerstone of economic growth, business incubators were used to promote the creation of tech-based enterprises (Bruneel et al., 2012). The lack of business knowledge and experience of prospective entrepreneurs became evident as a major barrier to success. Therefore, business incubators expanded their offerings to include support services such as coaching and training in business (Aerts et al., 2007) aimed at accelerating the learning process for incubatees. This allowed incubatees to improve the speed and quality of their decisions and strategies, and consequently their firm performance.

The third generation of business incubators continued to focus on tech-based enterprises around specific industrial and technological clusters (Aerts et al., 2007; Aernoudt, 2004), providing access to sophisticated services and specialised expertise, and using external networks to accomplish these purposes. Incubatees were able to access potential customers, suppliers, technology partners and investors through the networks enabled by incubators. This allowed them to create new business opportunities, acquire new resources and build legitimacy in the market at a fast pace (Bruneel et al., 2012). Table 1 shows how the services of incubators have evolved over time, based on types of incubators in each generation, and linked to their areas of focus.

Table 1. Evolution of the business incubator model

Source: European Commission, 2002. Benchmarking of business incubators, Brussels, p. 3. & Bruneel et al., 2012 in the Evolution of Business Incubators: Comparing demand and supply of business incubation across different incubator generations.

Scholars agree that networking is an important factor in business incubation programs (Hansen et al., 2000). In fact, empirical evidence suggests that access to networks is an essential success factor for start-ups (Aerts et al., 2007) and critical to their development (Bøllingtoft & Ulhøi, 2005). This is because social capital from networks allows entrepreneurs to access knowledge, resources, and relevant experience from key others (Davidsson & Honig, 2003) that would not otherwise be available to them. Indeed, the strength of networks is considered an important instrument for resource acquisition and eventual success (Drori et al., 2009). Accordingly, the VBI model facilitates start-up

success through online network formation, beyond national boundaries, based on information and communication technology (ICT) developments and the internet (Nowak & Grantham, 2000).

This study is situated within the third-generation business incubators or, more specifically, the emerging virtual incubators. Noticeably, VBIs have several advantages over their counterparts such as supporting a large number of entrepreneurs, providing tailored programs that adapt to the different needs of entrepreneurs, lower operating costs and the potential to become virtual innovation centres. The next section explains the rationale for business incubators.

2.2.3. The Rationale for Business Incubators

It is evident from the above sections that the rationale behind business incubators has varied over time, reflecting aspects of national and regional priorities, industry clusters, local resources and sponsors' intentions. Important drivers are the increasing importance of technology and innovation to economic progress and growth, and the need for new strategies to revitalise economies (Bruneel et al., 2012; Fonseca, 2002). Policy makers see business incubators as a strategic tool for nurturing new firms that would eventually create jobs; revitalise cities and regions; commercialise new products, services and technologies; and transfer technology from universities and major corporations, thereby strengthening local and national economies (Harper-Anderson & Lewis, 2018; Tavoletti, 2013). Business incubators are therefore, seen as catalysts for entrepreneurship, fostering and supporting new ventures (Mas-Verdú et al., 2015; Schwartz & Göthner, 2009).

It is recognised that business incubators help counteract the high failure rate of small firms by providing them a nurturing environment (Aerts et al., 2007). Harper-Anderson and Lewis (2018) suggest that incubators provide several support mechanisms for fragile businesses to improve their chances of survival. In fact, positive environments favouring growth may lead to new business opportunities (Allen & Rahman, 1985). Business incubators have therefore, transitioned from property-based initiatives (Phan et al., 2005) to mechanisms that support the development of small business, particularly during the early stages of their lifecycle (OECD, 2019; Aernoudt, 2004).

2.2.4. Classification of Business Incubators

Business incubators have been classified and differentiated according to their physical or virtual existence (Lewis et al., 2011); ownership structure (e.g., publicly and privately sponsored) (Allen & Rahman, 1985); strategic objective (e.g., profit and not-for-profit) (Carayannis & von Zedtwitz, 2005); purpose and mission (e.g., create and develop firms, support local development, strengthen the entrepreneurial ecosystem, social inclusion and community building) (OECD, 2019; Aerts et al., 2007); objectives and functions (e.g., pre-incubators, academic incubators, general purpose incubators, sector-specific incubators and corporate incubators) (OECD, 2019); and business model (e.g., nascent incubation model and seed incubation model) (Mrkajic, 2017).

A distinctive form of business incubator, namely accelerators, has emerged recently, mainly as a means of speeding up the business development process and preparing entrepreneurs for an influx of capital (OECD, 2019). Accelerators are usually more selective in their in-takes, support only clients with high growth potential and provide seed funding in exchange for a small proportion of equity (Cohen, et al., 2019). While there is lack of consensus in the literature as to what an accelerator is, it can be defined as "A fixed term, cohort-based program for startups, including mentorship and/or educational components, that culminate in a graduation event" (Cohen, et al., 2019, p. 1782).

Despite the wide spectrum of definitions and typologies, there is a consensus that the ultimate goal of business incubators is to provide firms with the necessary resources to better prepare them for the challenges of competitive marketplaces (Harper-Anderson & Lewis, 2018). In this way, business incubators ensure entrepreneurial stability and enhance the chances of a firm's survival, particularly during the formative years (Schwartz & Göthner, 2009; Allen & Rahman, 1985).

2.3. Business Incubation in Australia

In the early 1980s, policy makers and business development advocates recognised the potential of the business incubator for Australia's economic development (Schaper & Lewer, 2009). Business incubators appeared in Australia around the mid-1980s as a response to the problems of unemployment, industry restructuring (Australian and New

Zealand Association of Business Incubators [ANZABI], 2004) and as a means of assisting the commercialisation of new or existing technologies (Small Business Council, 1989). Business incubators were funded by state and territory Governments (Schaper & Lewer, 2009; ANZABI, 2004; Small Business Council, 1989) and usually managed by a local council, regional development organisation or a business group (Schaper & Lewer, 2009). In 1991, the Commonwealth Government provided $46 million to fund the development of small business incubators. This was carried out under a program hosted by AusIndustry (ANZABI, 2004). By April 2005, around 75 business incubators were being funded by the Australian Government (Schaper & Lewer, 2009), although Government support was not intended to be for on-going operations (Schaper & Lewer, 2009). Financing ongoing operations is still challenging for business incubators, not only in Australia but around the world. Despite numerous efforts, however, no business models or strategies has been shown to guarantee long-term financial sustainability for business incubators. Table 2 shows the current common business models employed by business incubators around the globe to generate revenue streams.

Table 2. Business models for revenue stream

Business Model	Description
Public or Government Grants	In most cases public grants are provided directly to the incubator, usually to set up the incubator (ANZABI, 2004), but not to cover operating and ongoing associated costs (Schaper & Lewer, 2009).
Rent	A fee is charge to tenants to access the incubator's facility and various services. Rent currently constitute the main source of income for business incubators globally (up to 40%) and sustain incubators if large enough. However, rent income alone constrains business incubators from providing support services to incubatees.
Equity	Incubators can take minority stakes (2–6%) in incubated businesses, often in return for free and low rent periods, enabling future income from dividend payments. An additional equity (e.g., 1–2%) may be added for additional periods spent in the incubators. Australia introduced an ambitious version of this model whereby incubators took up to 45% equity in their tenant companies. These incubators focused on ICT companies.
Royalty	According to this model, revenues earned by the client will legitimate a royalty payment for the incubator. Usually, the royalty is at around 5% of the revenue and is limited in time (on average 5 years). As the royalty can undermine the financial position of clients in their start-up phase, incubators could agree to postpone payments to when companies can afford them. This type of model requires trust and effective communication between the parties.
Deferred debt	In this model the value of services provided to the client are ascertained, along with incubator overheads, and then charged as incubation fee to the client. The

	client has up to 10 years to pay back the debt to the incubator. Once the client leaves the incubator and/or when it reaches an agreed financial target, the total debt due to the incubator is determined and repayment starts. The amount can be repaid in a lump sum or by instalments.

Source: Adapted from Global Good Practice in Incubation Policy Development and Implementation (Information for Development Program, 2010).

As seen in the previous section, there are many types and definitions of business incubator. To describe and explain the evolution and development of business incubators in Australia, it is necessary to ascertain how it is understood. The Commonwealth Government defines business incubators as facilities especially designed to assist new and growing businesses through advice, services and support, so they can become established and profitable (ANZABI, 2004)

Expanding on this definition, it is acknowledged that business incubators reduce the failure rate of new start-up businesses, so that these businesses can create jobs and assist local economic development. Tenants of business incubator are provided with a space for operation and a supportive environment that facilitates the growth of their businesses. It is also noted that the incubation period is normally from one to three years, during which time the fledging business is established, eventually graduating into the wider business community (ANZABI, 2004).

In 2004, ANZABI identified three broad types of business incubators: general purpose incubators focused on employment creation through helping new, emerging and growing businesses; high-technology incubators aimed at wealth creation through commercialisation of technology and R&D; and other special purpose incubators such as food-related industries or incubators attached to a particular university or R&D organisation (ANZABI, 2004). In addition, networked incubators comprised one body that runs multiple incubators. These were particularly helpful in rural areas where potential economies of scale and recruitment of entrepreneurs were limited (ANZABI, 2004).

By 2005, there were approximately one hundred incubators throughout the country, operating in a variety of formats and business models (Schaper & Lewer, 2009). The majority operated as incorporated not-for-profit organisations (ANZABI, 2004) and focused on providing support to the general small business community and to nascent entrepreneurs rather than commercialising technology from research bodies. Low

emphasis on commercialising technology was due to low levels of involvement by universities and the research sector (Schaper & Lewer, 2009). The most common incubator models then were: i) independent incubators (stand-alone model), which were capable of being self-sufficient in the short-term but a challenge to maintain in the longer term, and ii) embedded incubators where the incubator could only be self-sufficient as part of a large organisation (Schaper & Lewer, 2009; ANZABI, 2004). The majority adopted an embedded incubator model and were co-located within Business Enterprise Centres (BECs) (Schaper & Lewer, 2009).

BECs are incorporated not-for-profit organisations, funded by state and territory Governments. Their aim is to provide information, advice and support to prospective as well as existing business owners. Some of the services currently provided include one-to-one advice, help with business planning, management skills development, coaching, mentoring, business referrals, help with applications for grant and other Government assistance programs, business networking, and access to finance providers (Business Enterprise Centres Australia, 2020). Some BECs are registered training organisations (RTOs) and offer accredited and non-accredited courses to help business owners run their businesses successfully.

Australia has a large number of small to medium size enterprises (SMEs) as well as high levels of business entries and exits (Schaper & Lewer, 2009). The profile of small businesses has not changed significantly over the last decade. According to the Australian Bureau of Statistics (ABS), small business is defined as a business employing less than twenty people and include the following categories:

- Non-employing business: sole proprietorships and partnerships without employees.
- Micro businesses: businesses employing less than five people, including non-employing businesses.
- Other small businesses: businesses employing five or more people, but less than twenty people.

Data from the ABS show that in 2019 there were 2.3 million active businesses, of which 2.25 million were considered small businesses (97.45%). In the same year, 353,478 new small businesses commenced trading whilst another 291,399 businesses exited or ceased to operate (ABS, 2019). Table 3 shows the number of businesses in 2019 with the number

of entries and exits in that year. Exit provides an indication of failure, although not all exiting firms fail. From the table, the firms most vulnerable to exit are non-employing, and exit decreases with firm size. A better indication of the survival rate of business over time is provided in Table 4, which clearly demonstrates that small businesses are most vulnerable during the formative years. This is because firms are able to access more resources as they grow. While all SMEs will benefit from some level of business support, the non-employing businesses, some of which are at seed stage, are the most vulnerable to failure and require incubator support.

Table 3. Business size measured by employment with entries and exits in 2019

Employees	Firm count	%	Entries	Exits
Non-employing	1,435,547	62.06%	263,479	223,371 (15.6%)
1–4 employees	611,093	26.42%	82,668	57,087 (9.3%)
5–19 employees	207,810	8.98%	8,331	10,941 (5.3%)
20–199 employees	54,765	2.37%	1,163	1,763 (3.2%)
200+ employees	4,076	0.18%	81	98 (2.40%)
Total	2,313,291	100%	355,722	293,260

Source: ABS (2020). Counts of Australian Businesses 8165. Table 13.

Table 4. Survival of entries by employment size from June 2014 to June 2018

Employees	Entries in 2014–15	Survived to June 2016	Survived to June 2017	Survived to June 2018	Survival rate
Non-employing	191,503	144,575	115,423	96,842	50.6%
1–4 employees	79,982	66,863	56,336	48,632	60.8%
5–19 employees	8,758	7,678	6,709	5,916	67.5%
20–199 employees	1,218	1,047	927	844	69.3%
200+ employees	92	82	71	68	73.9%
Total	281,553	220,245	179,466	152,302	54.1%

Source: ABS (2020). Counts of Australian Businesses 8165. Table 16.

A longitudinal study carried out by the Australian Centre for Business Growth at the University of South Australia (2018), reveal the main reasons why Australian SMEs fail. Table 5 lists the top reasons for SME failure.

Table 5. Reasons for SME failure

Source: Data collected by the Australian Centre for Business Growth at the University of South Australia's Business School (2014-2018).

The reasons for failure demonstrate that a wide range of business support services is required by small businesses at different stages of their development especially, the early stages. However, there is contradictory empirical evidence about the contribution of business incubators to supporting venture creation and their impact in regional economies. Lalkaka, (2001) notes that the benefits of well-managed business incubators extend beyond small enterprises to the communities in which they operate. Ayatse et al. (2017) also reports positive outcomes for incubatees. In contrast, Tamásy (2007) reviews the findings from several studies on business incubators and concludes that outcomes are marginal, making them costly public instruments. She suggests that technology-oriented business incubators, in particular, should not be supported by public funding but should be run as private organisations.

Despite the mixed reports in the literature, business incubators in Australia appear to positively contribute to the development of many small firms (Schaper & Lewer, 2009). In Australia, as in many other developed countries, business incubators constitute one policy instrument for supporting small business development among a myriad of enterprise development programs (Allen & Rahman, 1985). The Small Business Council (1989) supports this approach, noting that incubation support services need to be

complementary to other mall business programs and schemes. Table 6 lists the benefits of well-managed incubators to a variety of stakeholders.

Table 6. Incubator benefits

Source: Best Practices in Business Incubation: Lessons (yet to be) Learned (Lalkaka, 2001).

In the next section, traditional assessment of business incubators' performance and outcomes is explained.

2.4. Traditional Assessment of Business Incubators

Schwartz and Göthner (2009) classified performance measures for business incubators into two broad categories: success of the incubator as an organisation (measured by effectiveness of internal operations and contribution to regional development objectives) and the success of incubated ventures (especially after graduation). As Bearse (1998) noted, developing and utilising a common set of measures should be an industry priority. However, there are contradictory views on what constitutes success for a business incubator and what should be evaluated (Torun et al., 2018). Some authors argue that incubator success should be based on growth of the incubatee business (Hackett & Dilts, 2004), while others advocate for meeting the incubatees' objectives (Bergek & Norrman,

2008). Regarding the evaluation focus, many authors posit that for a successful performance evaluation, the focus should be on the incubation process (Bergek & Norman, 2008**)** as opposed to outcomes and impacts (Sherman & Chappell, 1998). Given the multiplicity of underlying dimensions and measures of what constitute a successful business incubator, undertaking an evaluation of incubator operations and outcomes are challenging tasks.

Regarding evaluation methodologies, three main approaches are identified in the business incubation literature: the control group concept, the benchmarking concept and in-situ assessments (Torun et al., 2018; Dee, et al., 2011). The control group concept entails a comparison between firms located within the incubator with firms located outside the incubator on a series of performance measures (Dee et al., 2011). The benchmarking process involves the comparison of performance indicators from a specific business incubator against standardised performance indicators from established business incubators' best practices. In-situ assessments provide an internal perspective from either the incubator or the incubatee (Dee et al., 2011).

Understandably, the evaluation approach is chosen based on convenience at the discretion of the assessor (e.g., availability of data within the incubator and from incubatees) and on what is important for the incubator's stakeholders. Several obstacles are also identified for each approach. For example, for the control group approach, it is difficult to differentiate between firm growth that would occur in the absence of the incubator and growth as a result of incubation (Dee et al., 2011). It is also difficult to collect data from non-incubated firms (Torun et al., 2018). Similarly, for the in-situ approach, obstacles include data availability, since the outcomes or impact of incubation may take years to become apparent (Dee et al., 2011), regional differences, variety of incubator typologies and limited generalisability (Torun et al., 2018). Finally, in the case of the benchmarking approach, performance measurements differ for each assessment and few assessors present benchmarks for these measures (Torun et al., 2018).

Hackett and Dilts (2004) propose a model to assess performance of business incubators that draws from real options theory. The aim of their model is to explain and predict the likelihood of new ventures surviving the early stages of development. Traditionally, five mutually exclusive outcomes are described at the completion of the incubation process:

1. The incubatee is surviving and growing profitably.
2. The incubatee is surviving and growing and is on a path toward profitability.
3. The incubatee is surviving but is not growing and is not profitable or is only marginally profitable.
4. Incubatee operations are terminated while still in the incubator, but losses are minimised.
5. Incubatee operations are terminated while still in the incubator and losses are large.

The literature on business incubation suggests the first three outcomes as indicative of success. However, according to the options theory, the fourth outcome also denotes success because the incubatee ceased operations rapidly and in a cost-effective way as it became apparent that further investment would not lead to venture success (Hackett & Dilts, 2004), minimising the cost of failure. Helping incubatees to cease operations quickly and cheaply provides opportunities for entrepreneurial learning and allows the temporarily failing firms to rethink their business ideas as well as increased efficiency in allocation of incubation–incubatee resources (Hackett & Dilts, 2004). Under the real options theory, the third outcome is regarded as a failure as the new venture is stagnated (Hackett & Dilts, 2004).

Harper-Anderson & Lewis (2018) caution that when conducting impact assessments of business incubators, care must be taken to not overlook the influence of regional factors on producing viable innovative firms. Renovating a building for multi-tenant use, setting up affordable rental rates and providing business assistance will not necessarily bring new enterprises into existence (Allen & Rahman, 1985). In a study conducted by Allen and Rahman in 1985, 87% of the entrepreneurs involved said they would have started their business without the incubator. This highlights the influence of the entrepreneurial culture and supportive ecosystems, outside incubators, in the venture creation process (Information for Development Program, 2010). Harper-Anderson and Lewis (2018) point out that, to maximise return on investment, it is paramount to differentiate between the effects of incubator programs and the broader regional factors (e.g., size and growth of the local economy, human and financial capital and economic geography) that facilitate venture creation. In so doing, decision makers could better allocate resources to the factors that matter most (Harper-Anderson & Lewis, 2018). Nonetheless, in a study funded by the US Department of Commerce, Economic Development Administration,

Lewis et al. (2011) report that business incubation practices matter more than the host region's capacity for innovation and entrepreneurship when it comes to incubator success. In their study, incubator program quality variables predicted 72.9% of the outcomes correctly, compared with 56.3% predicted by regional capacity variables. Furthermore, when considering regional factors, availability and quality of local workforce, and the degree of urbanisation are the most important regional characteristics to assess (Harper-Anderson & Lewis, 2018).

Despite the difficulties and obstacles of using benchmarking to measure performance of business incubators, it is one of the most adopted methods (Dee et al., 2011; European Commission, 2002). Benchmarking involves comparing performance indicators from a specific business incubator against standardised performance indicators developed from established business incubator best practices. It is a continuous learning and self-correcting process, with quantitative comparisons of performance at participating incubators, best undertaken within a region (Lalkaka, 2001). Furthermore, benchmarking helps incubator managers to better understand best practices and think differently as they become exposed to new models and processes from the best performing incubators (Miller & Dalziel, 2018). In addition, business incubators' best practices are considered the most important determinants of their success (Ayatse et al., 2017), and they matter more than incubator age and size (Lewis et al., 2011). Business incubation practices associated with high-achieving incubation programs include the following:

a) clear mission statement
b) tenant selection criteria based on cultural fit and potential for success
c) expertise and level of commitment of the incubator's managers and staff
d) right mix of services
e) regular monitoring and record keeping.

(European Commission, 2002).

If best practices are the most important determinant of incubation success, incubator specialisation is the best strategy (Aerts et al., 2007). Focus on a few industry sectors increases the expertise of incubator personnel and resources are developed in a more tailored fashion, allowing tenants to extract even more value from the incubator services. The challenge is to define and determine best practice standards for a particular typology of business incubator. The European Commission (2002) developed standard criteria to

assess the performance of various programs and schemes that can be contextualised for defining best incubator practices. The standard criteria are described in Table 7.

Table 7. Definition of best practices

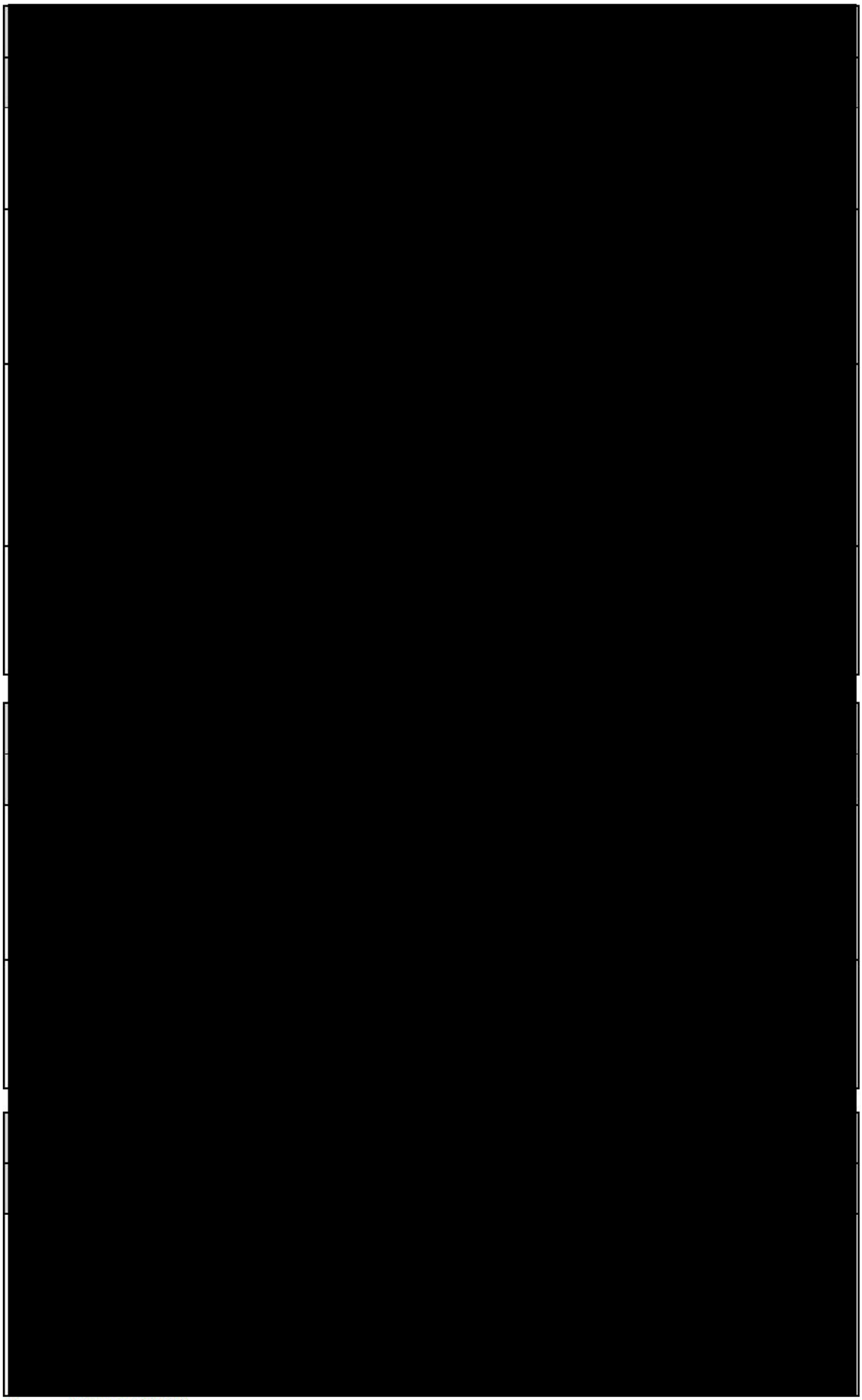
Source: European Commission, 2002. Benchmarking of business incubation.

The post-incubation dimension is also very much neglected in existing performance assessment methods (European Commission, 2002). Long-term performance evaluations are rather limited because of lack of data or data collection problems (Schwartz & Göthner, 2009). Monitoring companies when they are in the incubator and after they graduate are considered best practice and necessary complements to the incubator assessment process (World Bank, 2010). In addition, Singh and Jain (2003) claim that cluster development and facilitation of social network building activities, relevant to a given region, are often ignored when evaluating a business incubator's performance. Other subjective indicators of performance, such as creation of a positive entrepreneurial climate, new role models for community youth and greater support from local services, are long-term in nature and difficult to measure (Small Business Council, 1989).

Even though most incubators are publicly funded (Ayatse et al., 2017), the World Bank's Information for Development Program (2010) argues that they should operate as private organisations with a financial self-sustainability goal. They should also be driven by productivity and quality goals and be accountable for their performance, including their operations and outcomes. Regular monitoring of a business incubator's activities is necessary for continuous improvement of the programs and practices in a given context. For this purpose, it is critical to anticipate problems and to identify where further improvements can be made when designing a monitoring and appraisal system (Information for Development Program, 2010). Furthermore, according to the OECD (2019), in-depth evaluations should be carried out regularly by an external auditor to ensure objectivity and high-quality standards throughout the value chain.

In the Australian context, best practices in small business incubation are assessed through an initiative carried out by ANZABI, aimed at developing operational standards for Australian small business incubators (ANZABI, 2004). It was funded by the Department of Employment, Education, Training and Youth Affairs. The core activities for successful business incubation practices in the areas of incubator establishment, management, service provision, and performance were identified from in-depth interviews with practising incubator managers and boards across Australia and are listed in Table 8, where each best practice standard is described.

Table 8. Best practices in small business incubation in Australia



Source: ANZABI (2004).

Additional considerations for successful establishment and management of business incubators include proximity to a university or other higher education institution, and development of selection criteria for tenants with flexible entry/exit arrangements and incentives to ultimately leave the incubator environment (Small Business Council, 1989).

As explained earlier, several evaluation methods exist for measuring performance and outcomes of traditional business incubators. Nonetheless, it is argued in this study that these approaches are not entirely applicable to VBIs, because VBIs are platform firms characterised by complex actor-technology interdependencies. Consequently, an outcome evaluation framework for measuring VBIs outcomes is proposed. It is expected that this novel framework will help us better understand the service provision processes of VBIs, the programs and services they offer and how they contribute to the success of new business ventures.

Given the high level of uncertainty and unexpected circumstances that may negatively affect the venture creation process, the fundamental criteria that underlie success in this study rest on the certainty that incubatees either develop or improve their entrepreneurial capabilities (e.g., knowledge and self-efficacy) by being virtually embedded in the VBI. The VBI offer unparalleled connectivity and through tailored programs and various support services improve decision-making and actions of incubatees. Incubatees may not achieve venture success in the short-term, but success is expected to materialise in the future, due to an increased entrepreneurial knowledge and self-efficacy resulting from (virtual) business incubation services.

2.4. Summary and Conclusion

This chapter explained how business incubators have been conceptualised, classified and evolved, with the value propositions they provide to clients expanding over time. Various types of incubators are identified each targeting specific clientele. The VBI is considered a type of business incubator, although there is limited information on their service provision process variables required to effectively deliver programs and support online. Best practices for business incubators are identified and discussed, culminating in a review of measures proposed by scholars and practitioners for assessing their performance and outcomes achieved by their clients. The next chapter describes the

framework proposed in this study for evaluating outcomes of VBIs from the incubatees' perspectives.

Chapter 3: The Outcome Evaluation Framework for VBIs

3.1. Introduction

This chapter begins by describing and explaining what VBIs are and how they differ from traditional brick and mortar business incubators. Various types of VBIs are described, and their strengths compared to physical business incubators. This is followed by the descriptions of the key service provision process variables for VBIs, the outcomes assessed in this study, summary and conclusion.

3.2. Virtual Business Incubators

VBIs emerged during the 1990s as part of the third generation of business incubators (Bruneel et al., 2012) described above. VBIs are defined as integrated online support systems that aim to generate new ventures with greater possibilities for growth and success (van Tilburg et al., 2002; Nowak & Grantham, 2000). The provision of online resources and support is facilitated using a digital platform for communication, information exchange and collaboration. They focus on building strategic alliance (Barbero et al., 2012) to fulfill various functions and create value (Ritter & Gemünden, 2003). For example, with a broader network of providers, a greater number and variety of resources would be available for the benefit of nascent entrepreneurs (Hertel et al., 2021), and for the benefit of the VBI, as these could be mobilised to address specific needs within the community (Carayannis & von Zedtwitz, 2005).

There are several classifications of VBIs. van Tilburg et al. (2002) identified three classes of VBIs, each based on their service provision. The first is a stand-alone virtual incubator where all functions and activities are fully virtual. The second is a virtual incubator as a network partner, where a virtual incubator is linked to one or more physical incubators, forming a cooperative network. The capacity of VBIs to operate alone or to complement or extend traditional incubation services via virtual tools constitutes one of their most important attributes. The third is a virtual service where a physical incubator provides part of its services virtually. This study focuses on the first category of VBIs, namely stand-alone VBIs, to fully capture their key service provision process variables without being distracted by physical location or the operation of other incubators.

In an industry report prepared for the World Bank's Information for Development Program in 2011, three types of VBIs were also identified based on the focus and intensity of their service concepts: i) The 'hand-holder' VBI focuses on providing business development services; ii) network boosters aim to bring incubatees, investors, volunteers and service providers together; and iii) seed capital providers focus on providing seed investment capital and mentoring for incubatees. Some researchers argue that the main objective of the VBI should be to support start-ups and increase the success rate of new businesses (van Tilburg et al., 2002), as in the case of traditional business incubators. Others point out that VBIs should be pooling technical and business talent across all frontiers to focus on strategy development and wealth creation through the business opportunity at hand (Nowak & Grantham, 2000).

The use of the internet allows the VBI to extend its service provision beyond the confines of a physical space, allowing a greater number of startups to benefit. Also, VBIs tend to be less expensive to operate than traditional business incubators because VBIs do not involve additional capital expenses (e.g., management of the physical infrastructure) (Lewis et al., 2011). Consequently, VBIs are more adequate and feasible alternatives to physically located business incubators in regional and rural areas, where the client base is often spread over large geographical areas (Lewis et al., 2011).

Furthermore, services delivered in a physical space may not equally suit the needs of all startup clients. Given the flexibility of digital platforms for the creation of online business programs, virtual business incubation programs can be adapted to the diverse needs of incubatees at various stages of the startup process. This position is supported by van Tilburg, et al., (2002, p. 288) who state that: '*A virtual incubator naturally evolves into a virtual innovation centre and can support (better and in a different way) companies in their growth and maturity phase'*. This represents a shift from the traditional focus of business incubators on nascent entrepreneurs in the early stages of their business lifecycle. According to van Tilburg et al. (2002), a physical incubator needs to focus only on the startup phase and cannot and should not support ventures at other development stages. In contrast, VBIs have the potential to support emergent as well as more established ventures. Table 9 compares VBIs to traditional business incubators.

Table 9. Differences between business incubators and VBIs

Incubator type/Differences	Business Incubator	VBI.
Geography and infrastructure	Limited geographical coverage and constrained by the characteristics of the physical working area.	Extended geographical coverage (location independent) not constrained by the physical infrastructure.
Communication	Social functions and networking activities naturally enabled.	Communication is the most important function and activity. Special attention is given to providing information about the context, teambuilding, responsibilities and personal feedback.
Advantages	Physical proximity and personal contacts with other entrepreneurs, professionals, suppliers and potential customers. Feeling of being listened to and understood.	Saves incubatees' time and travel costs, facility costs, enables economies of scale, access to a wide range of superior external providers, easy access to virtual incubation services and flexibility.
Focus on development stage	Prospecting only (start-up phase).	Prospecting (start-up phase), developing (maturity phase) and exploiting (growing phase).

Source: Adapted from van Tilburg et al., (2002).

Although VBIs were initially characterised as for-profit entities (Nowak & Grantham, 2000) providing support to mainly tech-based entrepreneurs (European Commission, 2002), they can also be established as not-for profit entities and/or support different groups in entrepreneurship (e.g., women, youth, migrants, seniors and people with disabilities) or be oriented to boost specific industry sectors (e.g., agriculture, health and education). A successful example of a not-for-profit inclusive VBI is the Virtual Women's Business Centre in Croatia, which provides free business education and training to women entrepreneurs. The centre facilitates the exchange of knowledge and experience between established businesswomen and prospective entrepreneurs through mentoring. The for-profit VBI generates most of its income from members, although income is supplemented with donations and grants from government and other sources. Figure 1 differentiates common types of not-for-profit from for-profit VBIs.

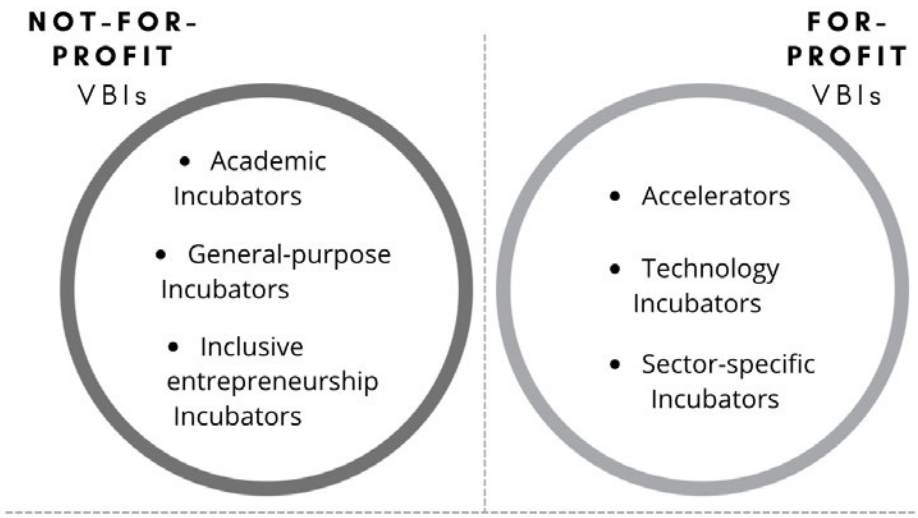


Figure 1. Classification of VBIs into not-for-profit and for-profit with the common types under each category. *Source:* Adapted from Policy Brief on Incubators and Accelerators that Support Inclusive Entrepreneurship (OECD, 2019).

3.3. Key Service Provision Process Variables of VBIs

Business incubation is a problematic concept which, given the broad spectrum of its definition and continuous evolution, requires a framework for reference. This is also the case for VBIs whose conceptualisation has been overlooked and are still considered an extension of traditional business incubators. Consequently, this study proposes a novel conceptualisation of VBIs based on the virtual organisation and virtual community literatures, in conjunction with digital technologies. In this vein, the VBI is conceived as a type of virtual organisation that by virtue of a digital platform functions as a virtual community in which incubatees learn and interact online for economic and social purposes, and for these to occur, a certain level of trust is required. This conceptualisation provides a deeper understanding of the requirements for the effective delivery of business programs and support online. From the conceptualisation, the service provision process variables were identified. These service provision process variables (explained below) form practices for effective incubatees' outcomes (Figure 2). It is anticipated that these practices, in combination with tailored programs and services, should enhance various entrepreneurial capabilities of incubatees such as knowledge and self-efficacy, equipping them with the knowledge and skills to overcome business, personal and contextual challenges (Figure 3).

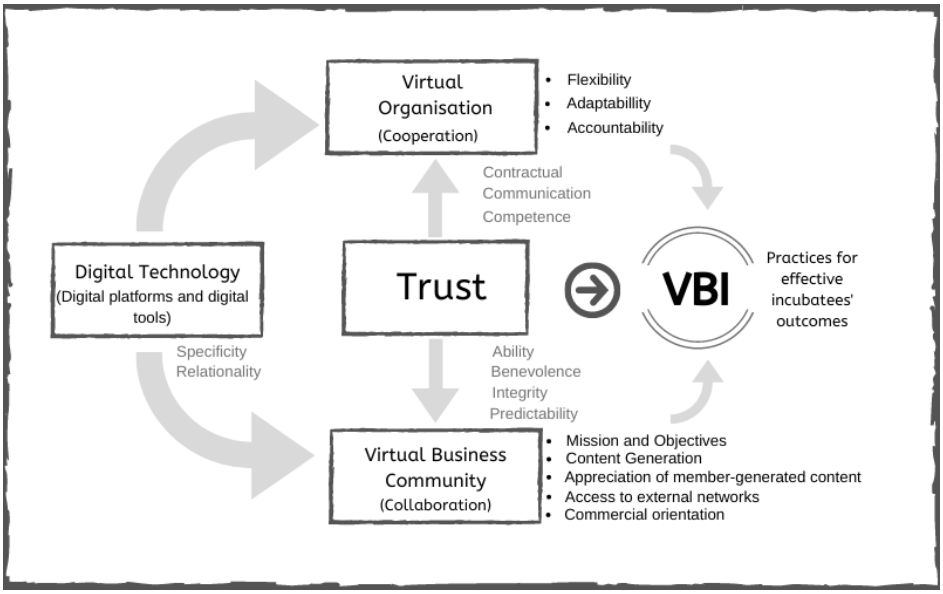


Figure 2. Service Provision Process Variables for VBIs.

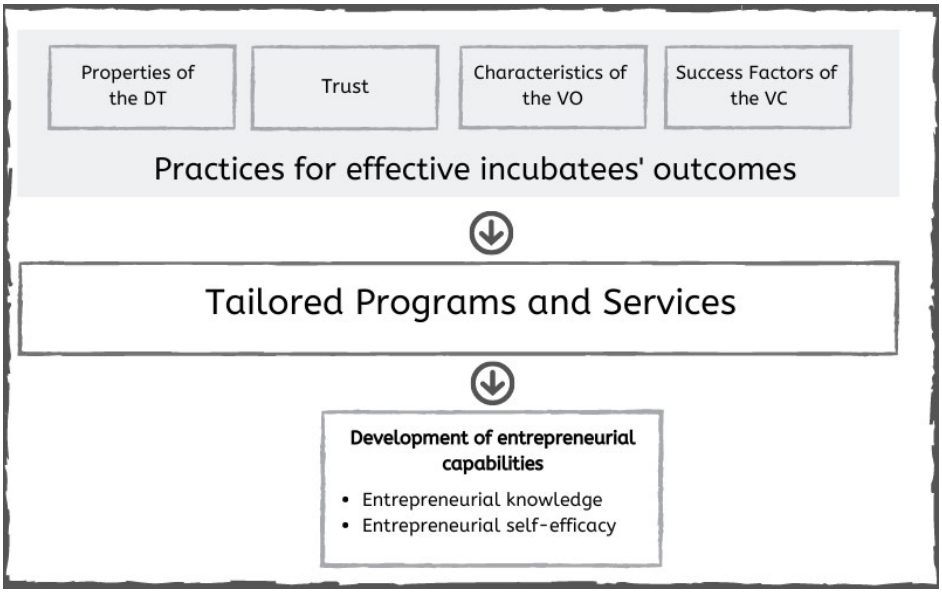


Figure 3. Association between service provision process variables for VBIs and incubatees' outcomes

The model in Figure 3 can be used by governments and incubator managers to assess the effectiveness of business support programs delivered partially or fully online and in so doing, create awareness about how these programs contribute to the acquisition or enhancement of entrepreneurial capabilities. The model can also be used to assess other dimensions of entrepreneurial capabilities such as creativity, risk taking, motivation or intention, and sense making. These service provision process variables are described next.

3.3.1. Digital Technology

Digital technologies fuel new forms of entrepreneurial activities and accelerate the inception, scaling and evolution of new ventures (Nambisan et al., 2019; Srinivasan & Venkatraman, 2018), including VBIs. Online learning and networking are at the heart of the VBI. Therefore, digital platforms for VBIs must enable both online learning and networking as they both facilitate the acquisition of knowledge and social capital, essential for the success of startups (Aerts et al., 2007; Bøllingtoft & Ulhøi, 2005). There are many platforms that enable online learning while others enable online communities, but few enable both online learning and networking simultaneously. The networking dimension motivate incubatees to learn, in line with Meinel and Schweiger's (2016) position that human interactions comprise an important motivational factor for learning in digital environments. Examples of platforms that simultaneously enable online learning and networking are Mighty Networks, GroupApp and Higher Logic. The presence of these platforms decreases the range of critical resources, such as human capital, physical capital and social capital that are required to initiate the creation of a VBI (von Briel et al. 2018; Davidsson & Honig, 2003).

These current digital platforms, however, were not developed for business incubation purposes and are not taking advantage of recent web developments (i.e., Web 3.0 and Web 4.0). For example, digital platforms for business incubation purposes can be enhanced with machine learning algorithms that can predict the level of knowledge, confidence and other entrepreneurial capabilities and suggest appropriate resources accordingly. Also, these algorithms can recommend to entrepreneurs what groups to join and individuals to connect with based on specified criteria such as stage of business development, industry sector, goals and objectives, interests, location, challenges and so on. Given the diversity of actors (e.g., investors, researchers, local Government and private organisation representatives) that can join the virtual community, the variety of relationships that can be formed are limitless. For example, investors can be matched with entrepreneurs or entrepreneurial teams based on industry sector, stage of product/service development and team/firm capabilities; entrepreneurs can search and connect with researchers and establish collaborative relationships for product development; and local Government and private organisations can participate within the virtual community by posting innovation challenges or promoting grants. Finally, virtual

communities can use digital humans as coaches or mentors that are available 24/7 and that can be programmed to answer questions in multiple languages. This feature could be useful for example to provide support to migrant entrepreneurs with English as a second language. Also, digital humans are emotionally responsive and can be programmed with compassionate sensitive personality that could potentially assist entrepreneurs in building their entrepreneurial self-efficacy.

VBI platforms are demand driven, that is, if incubatees do not benefit from the digital platform, it is highly likely that they will discontinue their membership and also reduce the likelihood of other incubatees joining the VBI (Song, 2019). These, in turn, would discourage existing and potential affiliated partners of the VBI, and as a result, limit the availability of resources and complementary services, affecting negatively incubatees' perception of the VBI value (Figure 4). This effect, referred to as the indirect network effect, demonstrates the interdependence of the platform value from both supply and the demand perspectives (Song, 2019) as shown in Figure 4. Overall, the attractiveness, usefulness and perceive value of digital platforms lie in their ability to attract and retain a multitude of network stakeholders (Kapoor et al., 2021; Cennamo & Santalo, 2013), which for VBIs are management, incubatees, mentors, trainers and affiliated partners.

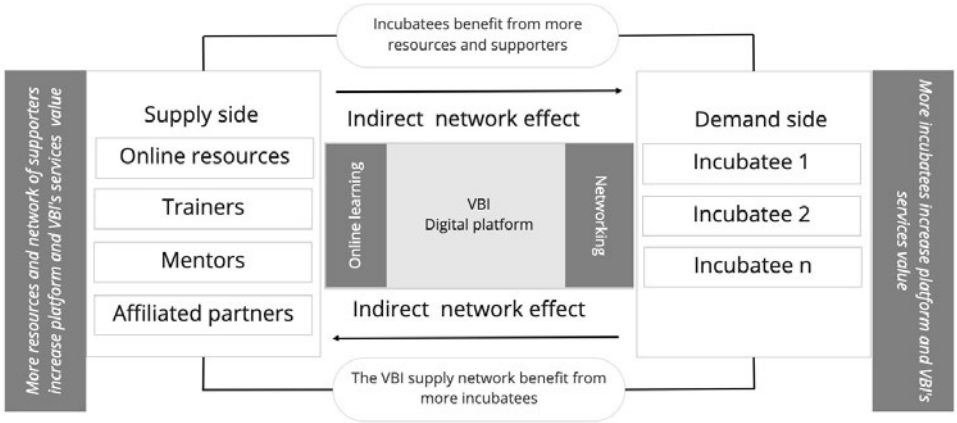


Figure 4. The VBI Platform Model. *Source:* Adapted from Kapoor et al. (2021).

Two properties enable or constrain the communication and interaction processes: specificity and relationality (von Briel et al., 2018). Specificity refers to the set of actions that can be performed given the specific functionalities of the digital technology, whereas relationality refers to the variety of relationships that can be formed given the types and number of participating members in the network. In addition, relationality refers to the

capacity of the platform to connect to other platforms, allowing the platform to extend its current functionality (von Briel et al., 2018). Therefore, digital platforms that enable multiple forms of interaction, enable members to engage with various forms of content, participate and contribute, and connect to other members and affiliated partners.

3.3.2. Trust

Trust, from the point of view of the virtual organisation is the cornerstone for building long-term business relationships and partnerships (Wu et al., 2010). Trust means confidence in someone's competence, commitment to a goal and ability to deliver. For effective operation of the VBI as a virtual organisation, three types of trust are relevant: contractual trust (the trust of character), communication trust (the trust of disclosure) and competence trust (the trust of capability) (Reina & Reina, 2015). Contractual trust encompasses managing expectations, establishing clear boundaries, delegating appropriately, honouring agreements and being consistent in words and actions. Communication trust is about honesty and disclosures such as informing difficult truths, admitting mistakes, providing honest feedback and maintaining confidentiality. Competence trust is about recognising and allocating tasks and activities according to the knowledge, abilities and skills of actors in the organisation (Reina & Reina, 2015).

From the viewpoint of a virtual community, trust is the catalyst for making the virtual community vibrant (Wu et al., 2010). In this respect, trust comprises ability, benevolence, integrity and predictability. Ability is domain-specific and relates to the perceived level of competence an organisation or an individual has, to perform intended activities (Wu et al., 2010; McKnight & Chervany 2002). For instance, a VBI that demonstrates knowledge and skills in supporting incubatees and is capable of identifying member needs can readily gain their trust. Benevolence voices kindness and altruism (Wu et al., 2010; McKnight & Chervany 2002). For instance, a VBI actively responding to incubatee concerns and proactively adding value to incubatees is seen as benevolent. Integrity implies compliance with commonly accepted values, principles and rules. This is often achieved by having a code of conduct. Predictability refers to the belief that all community members will respect policies, adhere to behavioural guidelines, and maintain consistency in their words and actions. In this way, predictability reduces uncertainty and risk in future interactions (Wu et al., 2010; McKnight & Chervany 2002). Therefore, trust in a VBI rests primarily on trust between people. Finally, Leimeister et

al. (2006) pointed out that the security of the digital technology is paramount to developing trust within the virtual community. Previous studies referred to this trust as system trust (Hsu et al., 2011) or digital trust (Song, 2019).

3.3.3. The VBI as a Virtual Organisation

The virtual organisation is a company without walls that acts as a collaborative network of people who are dispersed from one another (DeSanctis & Monge, 1998; Clancy, 1994). As such, it involves interrelationships among various actors (individuals and organisations) geographically distributed, who work cooperatively combining their knowledge, skills and expertise to jointly achieve a common goal (Esposito & Evangelista, 2014). These actors are embedded in a virtual environment with lack of hierarchies and processes supported by complex electronic communication systems (Corvello & Migliarese, 2007). Not having a vertical organisational hierarchy implies an integration of interpersonal relationships between the actors, which despite the distance, can be built on mutual trust. Decision making is distributed, and goals negotiated among the actors (Corvello & Migliarese, 2005). Moreover, virtual organisations are characterised by having a flexible organisational structure that can be reconfigured according to changes in the environment.

The managers of the virtual organisation, when managing a VBI, are responsible for making decisions about the functionalities of the digital platform such as the interface and network control mechanisms, degree of openness and confidentiality, conflict resolution policies and pricing (Kapoor et al., 2021). They also decide who enters the virtual organisation as a partner after carefully evaluating them (Corvello & Migliarese, 2005). In this way, shaping the platform environment in a way that the functions of the VBI are fulfilled and value is created for the members (Ritter & Gemünden, 2003). Importantly, the inclusion of diverse actors fosters creativity but may also increase conflict and misunderstandings (Corvello & Migliarese, 2005). The fulfilment of the functions of the VBI implies coordination of various management activities and inter-firm relationships for which flexibility, adaptability and accountability are required.

Growing uncertainty in the business environment has led to continued evolution of VBIs, as new practices or changes to existing practices are required in response to external changes. Therefore, it is important for VBIs to have a flexible organisational structure to

change quickly. I argue that when operating in an uncertain environment, it is not process efficiency but process flexibility that matters most. Adaptability requires data gathering tools to regularly monitor the internal and external environment of the VBI and allow it to respond to changes and add value to its existing services. An example of this is a VBI that added resources for mental health and wellbeing to its business support services in response to member needs, identified through survey of its members. Finally, accountability enhances efficiencies while mitigates risks (Grabowski & Roberts, 1998), and involves having clearly defined tasks and activities and allocating these tasks and activities according to the knowledge and skills of the actors. These enable actors to know exactly what is required of them, to perform according to expectations, and to become accountable for their performance. In this way, fostering the development of trust among them.

3.3.4. The VBI as a Virtual Community

Multiple models have been developed for virtual communities in various fields including psychology, administrative science and computer science, adding complexity to understanding of what constitutes a virtual community (Leimeister et al., 2006). For this reason, virtual communities are multidimensional, and their definitions vary according to the scientific knowledge and perspectives of the discipline within which they are studied (Leimeister et al., 2006). Despite the different perspectives, there is common consensus that virtual communities refer to social aggregation or groups of people with common interests or needs who come together online with the potential to form relationships. The definition of virtual communities by Leimeister et al. (2006, p. 281) is adopted for this study:

> *A virtual community consists of people who interact together socially on a technical platform. The community is built on a common interest, a common problem or a common task of its members that is pursued on the basis of implicit and explicit codes of behaviour. The technical platform enables and supports the community's interaction and helps to build trust and a common feeling among the members.*

In addition to multiple definitions, multiple dimensions are used to categorise virtual communities (Leimeister et al., 2006). For example, virtual communities can be classified in terms of location (geographical communities), gender, life stage or lifestyle (demographic communities) and topics of interest (topical or theme-centred

communities) (Leimeister et al., 2006; Hagel III & Armstrong, 1997). Not surprisingly, these categories overlap, making the classification of virtual communities ambiguous (Leimeister et al., 2006). Moreover, virtual communities can be classified based on diverse criteria such as social, professional or commercial orientation (Porter, 2006). Kannan et al. (2000) proposes four categories based on the relationship orientation of the community:

1. transaction oriented communities focus on bringing sellers and buyers together
2. interest-oriented communities focus on gathering users around a common theme
3. relationship-oriented communities tend to focus on real-life relationships such as business relations
4. fantasy-oriented communities focus on virtual worlds.

In the context of the VBI, knowing what type of virtual community relationships are required clarifies the relevant social contracts. This is important because social contracts dictate what practices are acceptable and what are not. However, a thorough list of all social contracts for each category of community is impossible (Spaulding, 2010). Following the classification by Kannan et al. (2000), it is argued that VBIs can create interest-oriented and relationship-oriented communities simultaneously. The themes can be organised around the different stages of business development, while relationships are built or nurtured among members and other strategic partners. The possible types of communities that VBIs can create are summarised in Table 10. As the pressure for incubators to reduce their dependence on public funding increases, it is important to assess how financially sustainable models are enabled by digital technologies. For this reason, this study focuses on a VBI operating as a commercially oriented virtual community. Every virtual community is subject to social contracts which may encompass explicit or implicit rules enforced through the actions, interactions and reactions of community members (Spaulding, 2010). In this regard, incubatees are abide by the civic norms of the digital space and are discouraged from undertaken any non-acceptable activities online (Song, 2019).

Table 10. Types of communities created by VBIs

Community	Social Contracts	Trust Issues
Interest-oriented	• Accurate information. • Information must be on topic. • Social pressure and moderators are used to reduce negative or irrelevant contributions.	• Biased information can negatively affect the credibility and reputation of the VBI. • If advice is given showing financial motives or lack of integrity or the source is not reliable, the advice can be ignored.
Relationship-oriented	• Use of information for community purposes. • Rely on real information to build real relationships. • Accurate information and authenticity of contributions are vital because users act on the information.	• Misuse of information can negatively affect the reputation of the VBI • Users feel vulnerable or betrayed when their information is used for purposes beyond the scope of the community.

Source: Adapted from Kannan et al. (2000) and Spaulding (2010).

Virtual communities have the potential to aggregate resources (e.g., people and information), facilitate interaction and create financially sustainable virtual business incubation models. Virtual communities can leverage the capabilities of the network to connect people with each other and to fulfil their specific economic and social needs (Song, 2019). Entrepreneurs are drawn to virtual communities because they provide an engaging environment in which they can build new and deeper relationships with each other and with other agents in the network, thus co-creating an environment of trust and real insight (Hagel III & Armstrong, 1997).

Knowing the value provided by virtual communities is crucial and for the purpose of the VBI, networking is the most important. The following recommendations for building and managing virtual communities are adapted from Hagel III & Armstrong (1997) and Leimeister et al., (2006). They are:

- Distinctive focus. Virtual communities are built around a specific focus aligned to the VBI's mission and objectives. This helps potential members to understand the resources they are likely to find in the community. This also assists the VBI manager to identify the full range of resources likely to be required to meet members' needs.
- Capacity to integrate high quality content and communication. Virtual communities provide a wide range of published content consistent with their distinctive focus Content must be of high quality and up-to-date to sustain the virtual community.

Members must have the ability to access and interact with the content by posting messages to all members or communicating with selected members, enabling messages to focus on the validity and usefulness of their content.

- Appreciation of member-generated content. In addition to published content, virtual communities provide environments for the generation and dissemination of member content. Members can share their knowledge and experience, creating a full range of rich information for the benefit of all.
- Access to external networks. Virtual communities aggregate external actors for their members in such a way that they can access specific high-quality expertise with ease and convenience.
- Commercial orientation. Virtual communities are increasingly organised as commercial enterprises with the objective of earning attractive financial returns.
- Performance and security of platform. High stability of the platform and technical security are key success factors for virtual communities. Member data should also be handled sensitively, selling data to third parties could be counterproductive.
- Avoid unnecessary technology features. Community builders should focus on performance and reliability of the platform rather than on innovative features (e.g., automated personalised offerings) that do not meet their goals per se. It is important to allow members to participate in the modification of the design and scope of the services, before changing the layout or certain functions of the technology.
- Manage the community discretely and expediently. Managers of the virtual communities should be able to react quickly to problems and limit intervening in the community life.
- Support member contact and interaction. This is particularly important for female virtual communities as they are more interested in social interaction than their male counterparts. This could be achieved through the provision of partner matching services or member profile pages.

In summary, VBIs operating as virtual communities can build membership audiences and use these to capitalise on knowledge and generate revenue in innovative ways, thus presenting a powerful vehicle for value co-creation. Learning how to master the digital world for effective engagement and revenue generation from the virtual community are perhaps the most challenging tasks for the manager of the VBI. Therefore, VBI managers

need to rethink their notions of where value can be created and how they can capture that value for commercial purposes.

3.4 Outcomes of Virtual Incubation: Entrepreneurial Capabilities

Several entrepreneurial capabilities are developed by VBIs that strengthen the personal characteristics of incubatees, helping them to deal with uncertainties, manage risks and recover from past failures. This study focuses on two entrepreneurial capabilities developed from the incubation process, that is, entrepreneurial knowledge and entrepreneurial self-efficacy.

3.4.1. Entrepreneurial Knowledge

Entrepreneurial knowledge is a major manifestation of human capital (Mamun et al., 2017) used by entrepreneurs to pursue entrepreneurial activities. Entrepreneurs who constantly nurture their knowledge are more likely to show superior profitability and growth than entrepreneurs who lack such attributes (Mamun et al., 2017). It is argued that various entrepreneurial capabilities are required to identify, create and exploit opportunities, and entrepreneurial knowledge is a necessary capability. Although entrepreneurial knowledge is generally acquired through experience, it can be enhanced through education and training. Entrepreneurial education and training require programs that must be regularly updated for optimal outcomes. Recent studies have recognised the positive results from experiential learning approaches that emphasise problem-solving, critical thinking, risk taking, creativity and collaborative skills (Cooney, 2012). Given that there are no prevalent measures of entrepreneurial knowledge (Mamun et al., 2017), this research will investigate how incubatees acquire entrepreneurial knowledge from others and how they learn as part of a virtual community in which they share and discuss their experiences (Kalum et al., 2021).

3.4.2. Entrepreneurial Self-Efficacy

Entrepreneurial self-efficacy is a key psychological construct in entrepreneurship research (Miao et al., 2017). It refers to an individual's belief in his/her capacity to engage in entrepreneurial behaviour (Newman et al., 2019), performing tasks and roles aimed at entrepreneurial outcomes (Chen et al., 1998). Moreover, entrepreneurial self-efficacy has been found to influence entrepreneurial motivation, intention, behaviour and

performance (Newman et al., 2019) and is a strong predictor of entrepreneurial action (McGee et al., 2009). Entrepreneurial self-efficacy is a critical target outcome of entrepreneurship training and education (Newman et al., 2019). In fact, Newman et al. (2019) suggest that entrepreneurial education can lead to high levels of entrepreneurial activity by elevating an individual's confidence in launching a new venture.

Entrepreneurial self-efficacy has been investigated in terms of antecedents at the individual level, covering work experience, education and training, presence of role models and mentors and counterfactual thinking, and at the firm-level where antecedents include firm characteristics, and variables in the cultural and institutional environment. Social cognitive theory and the theory of planned behaviour are used to link these antecedents to entrepreneurial intentions and actions (Newman et al., 2019). Entrepreneurial self-efficacy has also been investigated in terms of outcomes at the individual level such as entrepreneurial intentions, emotions, behaviour and actions, as well as the firm level covering venture objective and subjective performance, growth and innovation (Newman et al., 2019). For reasons explained before (see Section 1.5.3.), this research will investigate the antecedents and outcomes of entrepreneurial self-efficacy at the individual level.

3.5. Summary and Conclusion

This chapter described and explained what VBIs are and contrasted them with their physical counterparts. A conceptual framework for examining VBIs' key service provision process variables and outcomes at the individual level was proposed. These key variables are: the digital platform used and its properties (i.e., specificity and relationality), characteristics of virtual organisations (flexibility, adaptability and accountability) and the success factors of virtual communities (e.g., distinctive focus, capacity to integrate content and communication, appreciation of member-generated content, access to external networks and commercial orientation). Outcomes at the individual level include entrepreneurial knowledge and entrepreneurial self-efficacy. Added to these, trust was identified as central to operating as a virtual organisation and as a virtual community. To set the scene for this investigation, TRW-VBI-CoP is described in the next chapter.

Chapter 4: Setting the Scene: TRW-VBI-CoP

4.1. Introduction

TRW-VBI-CoP provides business services and support via the internet to both aspiring and nascent female entrepreneurs located in rural Australia. The headquarters is located in the opal mining town of Lightning Ridge in New South Wales. At the time of the research, it had 160 members across a wide geographical area, stretching from Darwin in the Northern Territory to Horsham and Mirboo North in Victoria and to Myaree in Western Australia. TRW-VBI-CoP registered its business name with the Australian Security and Investment Commission (ASIC) in 2015. It was owned by THE RW COLLECTION PTY LTD, a body corporate registered in Australia under the Corporations Act, although it is currently arranging to change its legal structure to a cooperative. TRW-VBI-CoP is a for-profit organisation and a member of Business Innovation and Incubation Australia (BIIA). This section describes TRW-VBI-CoP from information sourced from its website, other websites referring to TRW-VBI-CoP, online surveys of the founder and other members of the management team, and from four semi-structured interviews with the founder at the start and end of this study. The description is organised in four sections namely strategic position, management structure and governance, services and operations, and target market.

4.2. Strategic Position

TRW-VBI-CoP strives to lead the virtual business incubation industry by providing not only business services but also services relevant to the health and wellbeing of its members living in rural Australia. The latter is an area important to rural populations generally and women entrepreneurs specifically but is often overlooked by organisations that provide business support services. The major components of TRW-VBI-CoP's business support services are networking and online education and training. Its vision is that:

> *By 2041 we will have directly contributed to an increase of 25% in rural population … and will witness a significant improvement in the quality of life, social and economic resilience, recognition of and contribution by rural women … Every rural woman around the world can confidently proclaim, 'I am blooming where I am'. She can define what that means for her, and she is living it to the best of her ability.*
>
> *(TRW-VBI-CoP founder, March 2020)*

TRW-VBI-CoP's mission is to reverse de-population and build resilience in rural Australia by increasing the participation of rural women in entrepreneurship. Consistent with the ethos that *"When a rural woman blooms all those around her bloom too. It's a powerful and deeply felt ripple"* (Founder, March 2020), TRW-VBI-CoP plays a key role in supporting and strengthening opportunities for rural female entrepreneurs in their local rural entrepreneurial ecosystems. The focus of TRW-VBI-CoP is twofold. First, to connect and support rural female entrepreneurs and in so doing, mitigate the feeling of social isolation commonly experience by rural populations Australia. Second, to equip its members with the confidence and business knowledge necessary for entrepreneurial action and ultimately, empower women to embrace opportunities to develop innovative business ideas. The expectation is that these might lead to the creation of profitable enterprises that generate employment opportunities in the rural Australia. Consequently, TRW-VBI-CoP directly contributes to building community capacity and resilience by supporting rural women with their entrepreneurial pursuits.

4.3. Management Structure and Governance

TRW-VBI-CoP has an organic management structure characterised by a geographically dispersed management team where each team member has control and authority for operational decisions in their delegated functional area. There are four members of TRW-VBI-CoP management team: the Chief Executive Officer (CEO), responsible for major organisational decisions, strategy development and general management; the Project Manager, who oversees the planning, coordination and management of the different programs and schemes (e.g., the Seed Scheme program); the Business Developer, responsible for finding new revenue streams, (e.g., through the development of new services or identification of new markets); and the Financial Manager, who is responsible for the financial health of the organisation. It is worth mentioning that the management team members are also female entrepreneurs running their own businesses.

The CEO is the sole founder and owner of the company and the rest of the management team do not have ownership of the organisation. Meetings are usually held on a weekly basis through Zoom, the video conferencing platform of choice, where progress of activities is reported, and new initiatives and problems encountered are discussed. The management team has a high degree of autonomy in decision-making and the CEO only intervenes in decisions with significant financial implications or when significant

financial investment is required. Lateral communication lines, decentralised decision-making, knowledge sharing, and teamwork allow task and process flexibility and enable speedy response to members' needs. This management structure has enabled TRW-VBI-CoP to work effectively toward its mission and propelled it forward, strengthening the management team's commitment to its goals. According to Cosh et al. (2012), decentralised decision-making, supported by a formal structure and written plans, maximises commitment to organisational goals and enhances an organisation's ability to innovate.

4.4. Services

TRW-VBI-CoP provides a variety of business services and support through its virtual community, including educational and training resources designed for startups. Its two major programs are the Seed Scheme and the Bloom Program. It also trialled a third program, the CEO school which provided training in leadership and management for more established businesses, but this was short lived since only few members were interested in or qualified to undertake the program.

The Seed Scheme provides members with business, technology, and leadership training for twelve months, with weekly mentoring sessions. It has an 8 to 12-week activation component that can be accessed off and online by members. During the activation, training sessions are provided for members to develop their entrepreneurial mindset and learn to be creative, adaptable, tolerant of ambiguity and risk, and accept failure as part of the process to succeed. Members also get to know one another and learn networking skills. Further details of the Seed Scheme are in Appendix 2.

TRW-VBI-CoP's Bloom Program supports isolated women to regain their connection to freedom, happiness, and success. The program aims to provide holistic education and ongoing support to engage and nurture all aspects of the individual, including mind, body, and spirit. The aim is to develop and strengthen members' skills and knowledge for a more fulfilling and satisfying life. This is reflected in TRW-VBI-CoP's motto, "Bloom where you are". At the time of the research the Bloom Program comprised 11 courses. These are outlined in Appendix 2.

TRW-VBI-CoP has a continuous improvement program that allows it to regularly monitor, review and make improvements to its programs, services and resources. In all programs, members are required to complete a pre-commencement survey, a mid-program survey and a completion survey. Survey data are summarised, and then reports are prepared and used to improve the quality of programs, tailor services, and for strategic planning. Following the surveys, a number of actions are taken, including improving delivery of existing content, incorporating new relevant content, adding new interactive and engaging activities, or even customising the program to the individual needs of members. Similarly, interactions within the virtual community are monitored and reviewed. The digital infrastructure used has a comprehensive analytic dashboard that allows TRW-VBI-CoP's management team to review data on members.

4.5. Target Market

TRW-VBI-CoP's target market comprises women in rural Australia, interested in: i) exploring new business opportunities, ii) seeking business support for their new ventures, or iii) looking to expand of their networks to sustain or grow their business ventures. Interestingly, with their services delivered within a virtual community and networking as a major value proposition, TRW-VBI-CoP's membership also includes more established rural female entrepreneurs willing to mentor others with their wisdom, knowledge and experiences developed over the years. This market niche, although small, has the potential to add value to members and the organisation, as it will position TRW-VBI-CoP as a channel for matching experienced with less experienced members for mentoring or coaching without the need for external mentors. Figure 5 illustrates TRW-VBI-CoP's target market. Nascent entrepreneurs are the largest market niche, followed by established entrepreneurs and lastly, potential mentors. The figure also emphasises networking as a major value proposition.

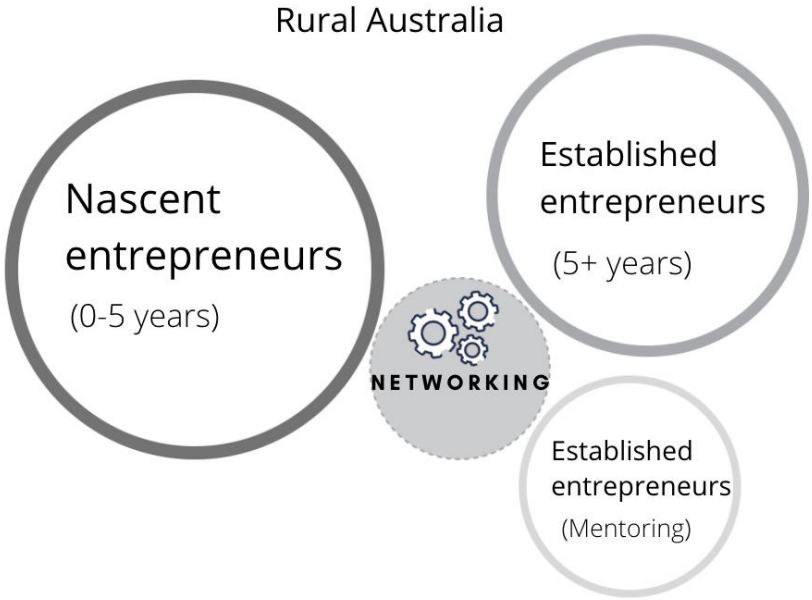


Figure 5. Target market. Compiled by the author from survey of THE Rural Women CEO

At the time of data collection, TRW-VBI-CoP had 50 free members and 110 paid members. From the paid members, 14 were lifetime members doing the Bloom Program and the remaining 96 were in the Seed Scheme. All members were actively interacting in their virtual space. The members were aged between 21 and 68 years and many were self-employed with no employees. The number of free members doubled within two years from 25 in 2017 to 50 in 2019, while the number of paid members increased from 30 in 2015 to 110 in 2019. Figure 5 (left) shows the increasing numbers of both free and paid members over the five years to 2019. While TRW-VBI-CoP does not target specific industry sectors, their clients operate within agriculture, manufacturing, information technology, professional services, retail trade, accommodation and food services, education and training, health care, tourism and hospitality, and arts and recreation services. Members are located throughout Australia's rural areas. Figure 5 (right) shows the distribution of all members across rural Australia.

A variety of marketing campaigns is used, covering traditional and social media, to promote services to the target audience and to recruit more members. Traditional media include newspaper, radio, and TV and social media channels cover Facebook, Instagram and LinkedIn. Facebook is the most popular social media platform used with 9,640 followers and next is Instagram with 1,794 followers. However, TRW-VBI-CoP's LinkedIn account does not receive much attention and had only 33 followers at the time of data collection. In addition, TRW-VBI-CoP has compiled a member database over

time, which is used for email marketing for personalised promotion of specific services to target members. Services are also promoted through affiliate partners such as local councils, the Regional Australian Bank and GROEI.

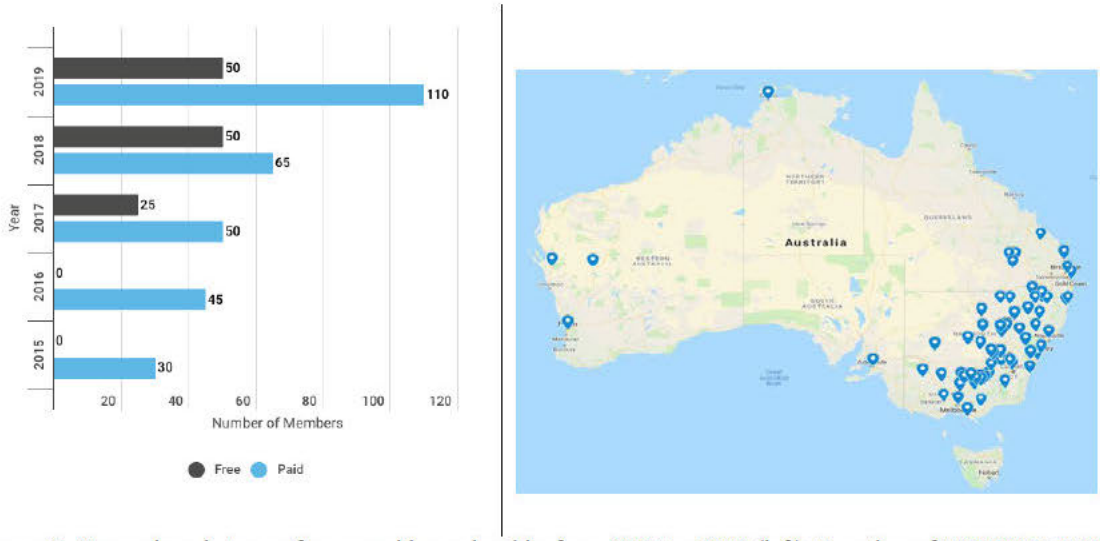


Figure 6. Comparison between free vs paid membership from 2015 to 2019 (left). Location of TRW-VBI-CoP members (right). Compiled by the author from survey of THE Rural Women CEO.

TRW-VBI-CoP uses a set of selection criteria to assess applications to its Seed Scheme. This is because appropriate selection criteria for new members are necessary for the effective functioning of business incubators (Bruneel et al., 2012; Aerts et al., 2007; Small Business Council, 1989), including VBIs. The selection criteria encompass potential of business idea, financial goals, time management skills, motivation, technical competence, access to a reliable internet connection, challenges faced, confidence, willingness to commit, and ability to pay membership fees. Prospective members complete an online application form, which covers the selection criteria, and submit a two- to three-minute video of their business ideas to either YouTube or Vimeo, and then enter the link in the application form.

4.6. Operations

Over the years and through experience, TRW-VBI-CoP has been able to attune its processes, procedures, and practices to effectively undertake, manage, and negotiate the diverse tasks and activities required for its effective functioning. One key activity is to communicate the vision, mission, and objectives clearly and convincingly to potential external strategic partners to extend its services and to support its core operations. Current strategic partners include the supplier of the digital platform Mighty Networks,

who provides technical support; the Regional Australia Bank and Narromine Shire Council, which provide sponsorships for the Seed Scheme; the University of New England provides research services; and Lightning Rod Agency and GROEI provides specialised training in leadership and management for well-established businesses.

Sponsorships are used primarily to lower the cost of participation to a minimum of AU$6.00 monthly per participant. Sponsors are people and organisations interested in the social and economic development of rural Australia. They include federal, state, and local Governments; corporate and local businesses; and philanthropists. For members seeking sponsorship in the Seed Scheme, the qualifying criteria include but are not limited to living in a rural area; wanting to start a business and being unemployed or underemployed. These members must also be over 55 years of age or classified as youth; experiencing isolation; from an Indigenous, migrant or refugee background; and must be willing to invest in themselves and seek off-farm income. TRW-VBI-CoP is continuously looking to attract sponsors to expand the reach of the Seed Scheme.

TRW-VBI-CoP has developed a three-tier sponsorship package for prospective sponsors. The first is set at AU$6,000 (+GST) and provides 80% seed-funding scholarship to a minimum of one POD[1] of ten founders. It is for sponsors interested in supporting founders in a specific geographic area or industry. The sponsor benefits by being promoted and recognised in their local area. The second tier is set at AU$30,000 (+GST) and provides 80% seed-funding scholarship to a minimum of five PODs of ten founders per POD. This is for sponsors wanting a broader reach and bigger impact within a specific state. Finally, the third tier is set up at AU$48,000 (+GST) and also provides 80% seed-funding scholarship, but to a minimum of eight PODs of ten founders per POD. It is aimed at sponsors wanting to support founders across Australia to enhance their profile nationally.

It was expected that the Seed Scheme would result in the development of 700 rural based and women-led enterprises within a year. However, finding sponsors has been challenging. Despite efforts in this area, only two sponsors have been secured for the Seed Scheme, namely the Narromine Shire Council and the Regional Australia Bank.

[1] A POD is a group of ten or more sponsored members in one geographic area who have received Seed-Funding support under the Seed Scheme.

These partners were part of TRW-VBI-CoP's founder network. Accessing new sponsors is critical to extending TRW-VBI-CoP's geographical reach to ultimately contribute to the economic diversification and development of their communities. The components of TRW-VBI-CoP's external network are shown in Figure 7.

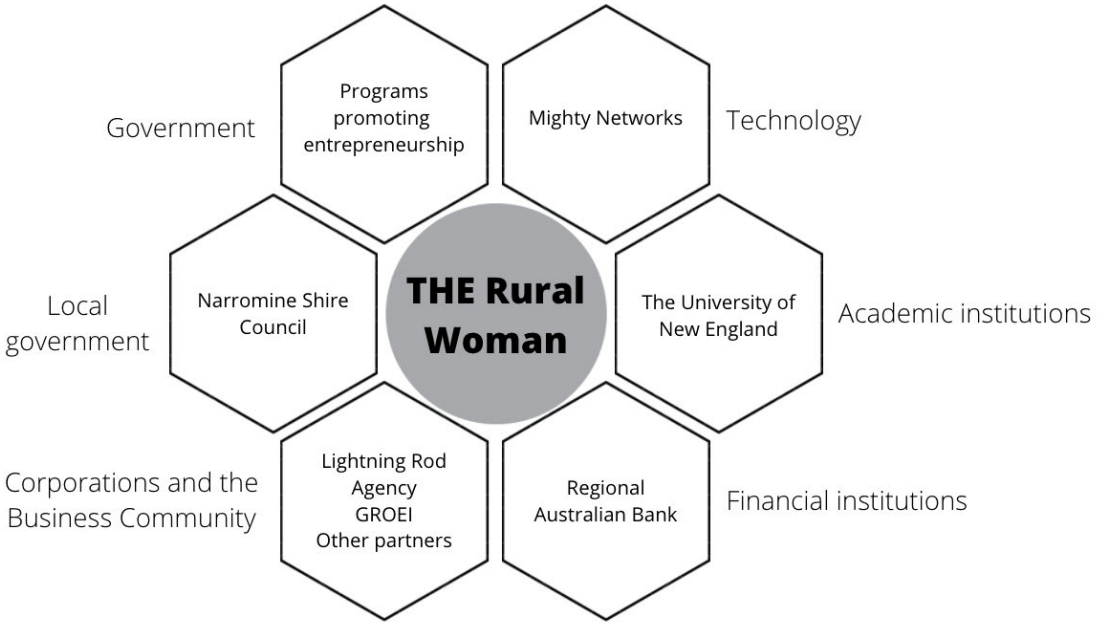


Figure 7. TRW-VBI-CoP's strategic partners. Compiled by the author.

One of the challenges of running a virtual community lies in finding ways to generate revenue and be self-sustaining. During the first three years of operation, TRW-VBI-CoP either operated at a loss or just covered its costs. In the fourth year, it used a service differentiation strategy to position itself as providing high value services to rural women. Without overlooking its cost structure and with the ability to charge high fees by its successful positioning in the business incubation arena, TRW-VBI-CoP was able to cover its operational costs (i.e., fixed and variable costs) and earn a profit in the fourth year. Figure 7 breaks down TRW-VBI-CoP's operating costs and sources of revenue as at March 2020.

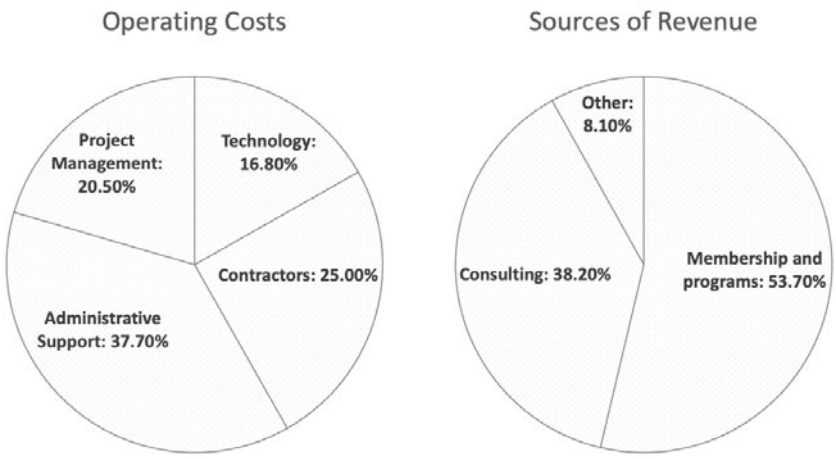


Figure 8. Financial position of TRW-VBI-CoP. **Left:** TRW-VBI-CoP's Operating Costs. **Right:** TRW-VBI-CoP's Sources of Revenue. Note: Other in Sources of Revenue include digital sales and commissions. Compiled by the author.

4.7. Conclusion

TRW-VBI-CoP management team is responsible for designing and developing programs and provide resources that meet the interests and expectations of its members. Members join TRW-VBI-CoP to access resources, and they are motivated to return if they perceive the resources are tailored to their needs. To tailor resources, topics of interest are identified from surveying members and from regular monitoring of their interactions within the virtual community, using data gathering tools available within the digital platform and other techniques.

As TRW-VBI-CoP continues to build its membership base, potential new sources of revenue may be possible, such as revenue from promoting the businesses of its affiliate organisations and strategic partners within the virtual community. The attractiveness of the virtual community as a platform for providing support could also be exploited through developing programs for experienced members interested in mentoring emerging members. With an increasing number of paid members in its virtual community, TRW-VBI-CoP has positioned itself as a self-sustaining VBI in Australia. However, its services and programs must continuously evolve with changes in members' needs to remain relevant and competitive.

Chapter 5: Methods and Methodological Considerations

5.1. Introduction

This chapter covers the important considerations associated with the research process. The research process encompasses a series of rational decision-making choices that guided the conceptualisation of VBIs, the identification of the key service provision process variables, the development of the outcome evaluation framework, the gathering of data and the analytical procedures used to assess the validity and applicability of the framework and address the research questions. I justify the decisions taken at each stage of the research and point out some controversies regarding the methods chosen.

5.2. Research Process

The research process encompasses all the activities undertaken to answer convincingly and satisfactorily the research questions. This process starts with the development of the research design. As seen in Figure 9, a visual representation of the research design and the research process with its components and explanation of the terminology used is provided. Although the research process is presented as linear, implying a sequential process, the stages are often revisited and modified several times in response to new ideas and changes that occur during the research process. This is in line with Creswell (1998) who pointed out that the qualitative research process is flexible rather than fixed and inductive rather than follows a strict sequence or derived from an initial decision. Presenting the research process in this way, serves as a detailed roadmap of the steps taken to plan and conduct this study.

The research process is divided into two distinctive stages. The first stage, referred to as the conceptual stage, includes the research questions, philosophical assumptions and the steps taken to develop the outcome evaluation framework. The second stage is the operational stage and covers all the steps involved in gathering, organising and analysing the necessary evidence to assess the outcomes of TRW-VBI-CoP. The rationale of using a case study as a research design is explained next.

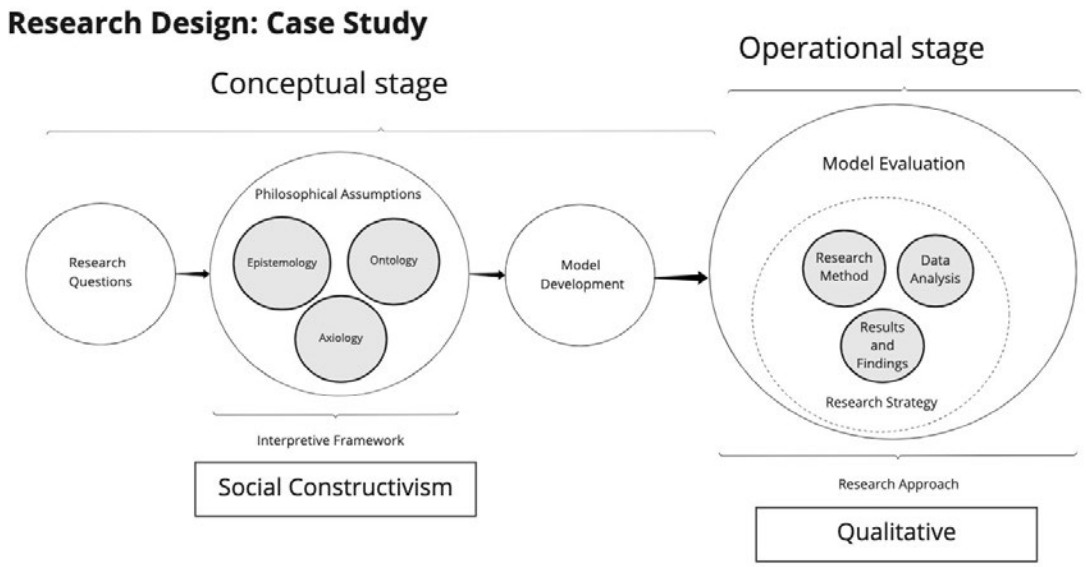


Figure 9. Stages of the research process showing the steps involved in each stage.

5.2.1. Research Design: Case Study

The case study approach has gained increased acceptance among the small business and entrepreneurship research community (Perren & Ram, 2004), and is advocated by several researchers for various kinds of business incubator investigations (Cooper et al., 2012; Kitagawa & Robertson, 2012; Patton & Marlow, 2011; Schwartz, 2011). This is because case studies provide the rich detail needed for insightful theory building in the field of entrepreneurship (Duxbury, 2012). The exploratory case study is the most prone to building knowledge in new areas and in new ways (Cooksey & McDonald, 2019; Sekaran 1992). Moreover, case studies open possibilities for understanding the dynamic events and processes of unique organisations (Mills et al., 2010).

Since TRW-VBI-CoP was the only organisation involved and given the limited academic literature on VBIs, an exploratory case study design was utilised. This allowed me to study intensely TRW-VBI-CoP as a virtual organisation created by aspiring and nascent rural female entrepreneurs interacting with each other in the co-evolution of a jointly constructed reality; allowing the framework to be evaluated in a real-world setting (Yin, 2012), even when the boundaries between phenomenon and context were not evident (Duxbury, 2012). Under the exploratory case study, a wide range of philosophical assumptions are possible, but often interpretivist/constructivist tends to be preferred (Mills et al., 2010). This is congruent with the social constructivism paradigm adopted in this research study.

Scholars propose five logical considerations for appropriate use of a single case study design (Yin, 2014; Blatter & Haverland, 2009), three of which were met in this study, confirming the suitability of the case study for the purpose of this investigation, as explained below:

1. The first consideration is whether a single case is appropriate for evaluating the framework. The use of TRW-VBI-CoP, as a single case study, to evaluate the framework is an appropriate design. This is because it simplifies the research process by enabling the complexities and peculiarities of a single organisation to be captured. This enabled the identification and influence of TRW-VBI-CoP's key service provision process variables on individual-level outcomes.
2. The second logic is when the case is extreme or unique. TRW-VBI-CoP is not a conventional organisation. Thus, the rationale for using a single case study methodology was to examine and gain understandings of TRW-VBI-CoP as a VBI with its complex and dynamic processes and practices. The uniqueness of TRW-VBI-CoP as a virtual organisation does not pose a setback, but rather presents an interesting contemporary social phenomenon worth exploring.
3. Contrary to the second logic, the third logic for a single case is the representative or typical case, which is not applicable to this research study.
4. The fourth rationale is the revelatory case. In this research, the service provision processes and outcomes from delivering business services and support over the internet were revealed. Detailed data from the single case study revealed rich information about the context in which TRW-VBI-CoP and its members were situated, types of business programs used, the ways in which these programs were delivered, member's perceptions of program quality and their entrepreneurial actions emanating from exposure to these programs.
5. The fifth rationale for a single case is the longitudinal study that occurs when the same case is studied at two or more different points in time, which does not apply to this study. Nevertheless, it was possible to extract accounts of events over various time periods from the interviewees, including the CEO.

Choosing and defining the unit of analysis is an important step in designing and conducting case studies (Yin, 2014; Blatter & Haverland, 2012). The unit of analysis is the actual object or entity being studied and depends on the research questions (Blatter

& Haverland, 2012). As such, current and past members of TRW-VBI-CoP were the unit of analysis used to answer the second research question. Notably, the case study focused on members of TRW-VBI-CoP, but the results and findings are explained and interpreted in the context of TRW-VBI-CoP as a VBI, which is in turn, embedded in the rural context. The resulting design is an embedded exploratory case study design (Blatter & Haverland, 2012). The criteria used to ensure robustness of the research design are explained in Appendix 1.

5.2.2. Research Questions

The research questions need to be unambiguously defined. Clear and concise research questions assist to determine the most suitable type of design for the study and help researchers to maintain focus during the investigation (Bryman & Bell, 2003). In this study, the research questions originated from TRW-VBI-CoP founder's interest in evaluating the outcomes of her virtual incubation services. More specifically, she was interested in knowing whether the resources and support services available in the VBI were equipping women in rural, regional and remote Australia (rural from here on) with the necessary entrepreneurial capabilities to effectively deal with uncertainty and risks; identify and embrace opportunities; and skilfully overcome challenges and perceived disadvantages (e.g., personal, business and contextual). In this regard, three research questions were formulated:

i) What are the key service provision process variables of TRW-VBI-CoP to effectively deliver business programs and support online?
ii) How do TRW-VBI-CoP's service provision influence individual-level outcomes of its incubatees?
iii) What are the gaps in TRW-VBI-CoP service provision that need to be addressed to improve individual-level outcomes?

The research questions were at the heart of the research process as they elicited and connected all parts of the research process. These research questions were also the main drivers to choose an interpretive paradigm. This paradigm influenced the methodological choices, including the process of gathering and analysing the data as well as the presentation of the results and findings. This is consistent with Cooksey and McDonald (2011, p. 188) who advise that "it is good practice to let the problem inform the choice

of the most suitable and feasible paradigm assumptions, practices and methodological choices". The research assumptions that underlie both phases are described next.

5.2.3. Philosophical Assumptions

Either consciously or unconsciously, researchers always bring certain philosophical assumptions to their research (Creswell & Poth, 2016). Philosophical assumptions are beliefs based on the researchers' personal experiences embedded in context (Creswell & Poth, 2016) that shape how the world is viewed and how human experience is understood (Hathaway, 1995). Consequently, I identify the philosophical assumptions that underlie this research, and include my personal view of reality (ontology), my beliefs on how reality is shaped (epistemology) and personal core values (axiology) that predisposed me to follow a qualitative approach.

5.2.3.1. Ontological Assumptions

In business research, ontological assumptions are concerned with the nature of social entities (Bryman & Bell, 2003). A central issue is whether social entities should be regarded as objective with a reality that is external to social actors or be considered as social constructions built from the perceptions and actions of the actors (Bryman & Bell, 2003).

In this study, I embrace the idea that multiple realities can be constructed from the individuals being studied, as well as from my own reality as a researcher. I focus on the rural women who are members of TRW-VBI-CoP. I am interested in whether their entrepreneurial knowledge and entrepreneurial self-efficacy are enhanced because of their exposure to TRW-VBI-CoP business incubation services. Each member perceives themselves and their context in specific ways that comprise their individual reality. My intent then is to ascertain the multiple realities of the members and to analyse these realities for patterns and commonalities. These patterns and commonalities relate to the setting in which the members receive support services and their perceptions of the extent to which the support services contribute to their individual entrepreneurial outcomes. Given their embeddedness in the rural context and within the virtual incubator, their perceptions of the context and of TRW-VBI-CoP as a virtual business incubator cannot be ignored in the evaluation of the outcomes achieved by the members. This process then

enables me to infer success of the virtual incubator from how the members link TRW-VBI-CoP operations and support services to the outcomes they achieve as entrepreneurs.

I report individual realities from the actual words the members use in their narratives or stories to make sense of their lived experiences of starting and/or growing their ventures as women living in rural areas with support from TRW-VBI-CoP virtual incubator. These narratives enable dominant interpretive repertoires of common experiences to be identified. Importantly, other repertoires of experiences may also exist among rural female entrepreneurs whose narratives differ from the participants of this study.

5.2.3.2. Epistemological Assumptions

Epistemological assumptions are related to the nature of human knowledge (Antwi & Kasim, 2015). A central concern is whether the social world should be studied by the principles, procedures and ethos of the natural sciences (Bryman & Bell, 2003). My position is that social phenomena should not all be investigated using the principles and procedures that apply to the natural sciences. This position is based on two main characteristics of human beings: freedom of action and freedom of choice. Freedom of action relates to the independence with which individuals can act whereas freedom of choice refers to the fact that individuals make their own choices based on their personal situations and constrained by other individuals. These individual freedoms lead to idiosyncrasies that cannot be effectively captured by the principles and procedures associated with the natural sciences.

Following this position, I adopted an interpretivist paradigm in order to understand, from the members' perspectives, how the service provision of TRW-VBI-CoP and its services influence outcomes achieved by members. To do this, I took steps to create an environment where members would freely divulge information about their perceptions and experiences. First, I built rapport with TRW-VBI-CoP's founder through formal and informal conversations. Also, I created a positive environment for the interviews with members by planning and preparing for the interviews, with background knowledge from the founder. At the start of each interview with the members, I explained that they information they provide was private and will be handled confidentially. I conducted the interview in a friendly manner, through Zoom or by phone, so that the interviewees could discuss issues in the comfort of their homes or workplace. I showed interest in the

members' expressions and actively listened to their stories. These preparations and interview processes enabled me to minimise the distance or objective separations between myself and the interviewees and to get closer to them (Guba & Lincoln, 1998), encouraging them to freely divulge information. The narratives of the members collected through these processes constituted the empirical evidence for this investigation and therefore, how knowledge was gathered (Creswell & Poth, 2016).

5.2.3.3. Axiological Assumptions

Every social phenomenon under investigation is influenced by the researcher's values (Creswell & Poth, 2016). Having reflected on my own beliefs and values, it became evident that a qualitative research was the best approach to understand TRW-VBI-CoP's service provision processes, support services and the outcomes achieved by the members. I believe that the reality of TRW-VBI-CoP, although perceived through members' senses, can only be captured by the way they experience and interpret it, as captured through the narratives and stories that define who they have become from exposure to TRW-VBI-CoP. Their narratives are therefore, ascribed to TRW-VBI-CoP setting (social context) and influenced by it. These narratives provided a rich understanding of how TRW-VBI-CoP influenced their entrepreneurial knowledge and entrepreneurial self-efficacy.

To me, acts of service is another fundamental value. I understand it as transcending yourself for the welfare of others (including organisations). In this regard, I am committed to producing knowledge that benefits TRW-VBI-CoP as a virtual business incubator. Simply put, my commitment is for TRW-VBI-CoP to know the outcomes from their online services and resources and to be more aware of the narratives of its members, so they can improve its modus operandi, services and resources and become more effective in delivering support services to its members. In this way, TRW-VBI-CoP will be able to expand its outreach with more effective online support programs for rural women throughout Australia.

I also reflected on my social position and personal attributes such as gender, age, ethnicity and professional status, in the interview context which are explained in the Interview sub section of the Research Design section. My position on the various assumptions is summarised in Table 11.

Table 11. Philosophical assumptions and their implications for this study

Assumption	Questions	Characteristics	Implication for practice
Ontological	What is the nature of reality?	Reality is multiple as seen through the views of the members who participated in this study.	The different perspectives reported by the interviewees were analysed for themes that summarise how the interviewees made sense of their lived experiences with THR Rural Woman. The themes became the building blocks used to assess the outcome evaluation framework.
Epistemological	What counts as knowledge? How are knowledge claims justified? What is the relationship between the researcher and TRW-VBI-CoP (including its members)?	Member's narratives constitute the subjective evidence in this study; I strived to be closely involved and to lessen the distance between myself and the researched (i.e., TRW-VBI-CoP's founder and members).	Quotations from the members are used as evidence. My close involvement with TRW-VBI-CoP positioned me as an insider.
Axiological	What is the role of values?	I acknowledge that this research is value-laden, and that there is bias in relation to my role in this study context.	My values and beliefs are recognised and openly disclosed. The findings reflect the members' as well as my own interpretation of their social realities.

Source: Adapted from Philosophical Assumptions and Interpretive Frameworks (Creswell & Poth, 2016).

The next section presents the interpretive framework and explains how I applied my philosophical positions described in this section to the study.

5.2.3.4. Interpretive Framework

Based on the philosophical assumptions that characterise this study, a social constructivism paradigm is followed. Social constructivism, often referred to as interpretivism (Denzin & Lincoln, 2017), is a worldview in which individuals understand their reality through subjective meanings of their experience (Creswell & Poth, 2016). Fundamental to this paradigm is the belief that the world is not external but built up and

constituted in and through social interactions (Bryman & Bell, 2003) and that knowledge comes from human experience (Hathaway, 1995).

Under the social constructivism paradigm, my intent was to interpret participants' reality from their perspectives. Importantly, I considered participants' self-perceptions and the perception of the context in which they live and work in order to better understand the historical and cultural settings in which they are embedded (Creswell & Poth, 2016). This was accomplished by becoming immersed in their experiences (expressed through their narratives); and by documenting their understanding of the situation in which they are engaged (Hathaway, 1995). Undoubtedly, the complexity of varied views was acknowledged, although the interpretations were influenced to an extent by my own background. In this research, the members' trust in the goals of this research, the time they gave to participation, and their honesty and openness when sharing their experiences are honoured.

Moreover, under the social constructivism paradigm, rather than starting with a theory, I developed a pattern of meanings (Creswell & Poth, 2016). Based on preliminary data gathering (e.g., semi-structured interviews with TRW-VBI-CoP's founder, observations from TRW-VBI-CoP's digital platform and review of literature on business incubators, virtual organisations and virtual communities), and through a process of inductive reasoning, I developed an empirical framework that explained the service provision processes of VBIs. In this research, VBIs are conceptualised as both virtual organisations and virtual communities that provide incubation services and learning resources online, which are, to an extent, enabled or constrained by the properties of the digital technology used (i.e., specificity and relationality). This conceptualisation led to identification of the key service provision process variables for VBIs, allowing the development of the outcome evaluation framework.

TRW-VBI-CoP came into being because of its members. With no members, TRW-VBI-CoP would not exist. TRW-VBI-CoP forms its members, but it is also formed by its members, as members express their needs and wants and interact with one another. TRW-VBI-CoP management team and members act and interact with each other and with other agents (affiliated partners) in a socially constructed reality, from where they draw ideas and resources to create new knowledge and/or exploit new business opportunities. The social order in TRW-VBI-CoP is achieved through agreements and negotiations between

the parties involved (e.g., TRW-VBI-CoP management team, members and affiliated organisations). Moreover, this social order is continuously changing and evolving, reflecting everyday patterns of interaction among members. For example, as new members join, new needs, wants or conflicts emerge. As such, the organisational culture within TRW-VBI-CoP constitutes a socially constructed reality in the process of being formed and in constant flux.

Every member of TRW-VBI-CoP perceives their reality in different ways and therefore, multiple realities exist (Creswell & Poth, 2016). In-depth exploration of the meanings members attach to their experiences were possible through interviews. The interviews gave members the opportunity to express, through narratives, their perceptions, opinions and attitudes on being a female entrepreneur in a rural context and their experiences as members of TRW-VBI-CoP. Contextualising their narratives helped me to understand how they use the digital platform for communication, as well as for learning and social interaction; why they trust TRW-VBI-CoP services and other members; their perception of how well these business support services are managed and the quality of business support services provided; and finally, what they have learned and how their learnings are applied in practice (e.g., whether they enable or hinder their ability to start or grow their businesses). In this way, I was able to evaluate the validity and applicability of the outcome evaluation framework in TRW-VBI-CoP context.

By making explicit the epistemological, ontological and axiological assumptions of this research, the methodology used for the development and application of the framework in a real-world setting is enhanced.

5.2.4. Model Development and Model Evaluation

This research is characterised by two distinctive components: model development and model evaluation. They are both intimately related, yet distinct parts of the scientific process of knowledge acquisition (Hofer & Bygrave, 1992). Although the steps involved in developing each component are presented in a predetermined order, they occurred more or less simultaneously, each influencing all the others. This is because in qualitative research, there is no distinctive order in which the different components must be arranged, nor a linear relationship among them (Creswell & Poth, 2016; Creswell, 1998). However, this linear approach creates a coherent and workable process to present the

information, so it can be easily and clearly understood. Figure 9 shows the steps in each component, which are explained next.

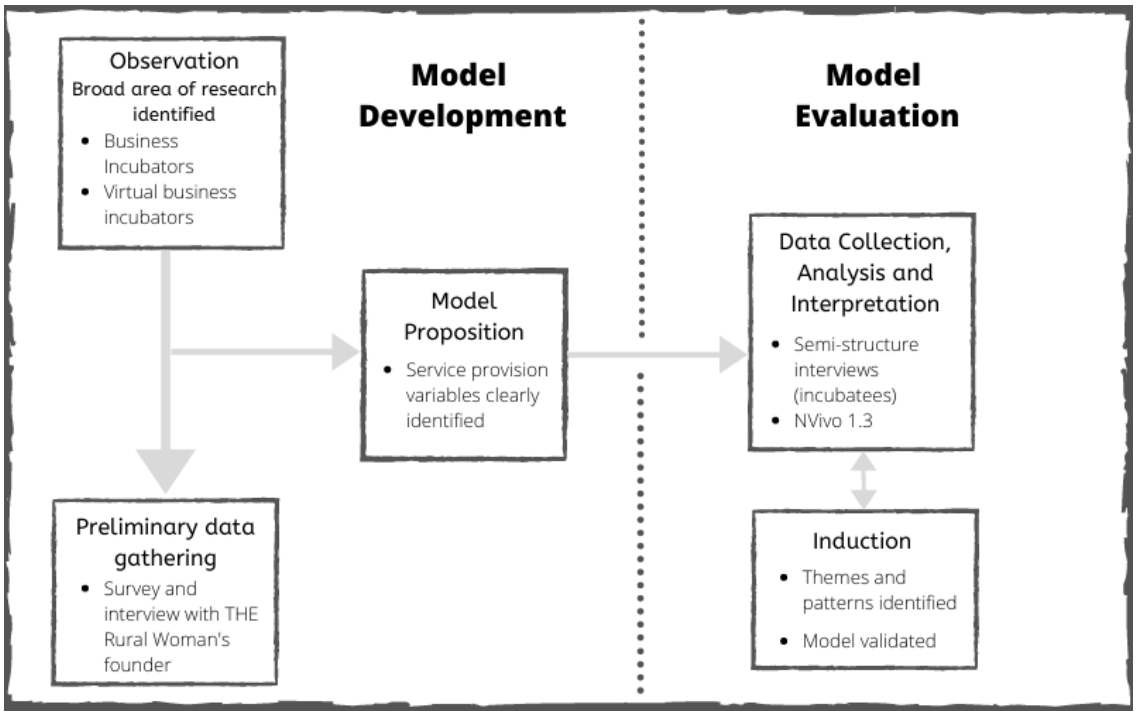


Figure 10. Steps involved in model development and model evaluation.

5.2.4.1. Model Development

The purpose of building a model is to develop a conceptual framework or a visual model (Cooksey & McDonald, 2019), with the potential to describe TRW-VBI-CoP service provision processes and explain its outcomes (Hofer & Bygrave, 1992) accurately and precisely. In this research the conceptual framework describes the service provision process variables and the interrelationships that exist between them and explains their linkage to individual outcomes, that is entrepreneurial knowledge and entrepreneurial self-efficacy.

Like theory building, several approaches for model development exist. For example, the model, as a network of constructs, could be assembled prior to gathering data, where specific hypotheses are deduced and subsequently tested. Model development can also be emergent, where the relationships among the constructs are not established by theory but emerge from the data as patterns and meanings unfold (Cooksey & McDonald, 2019).

In this study, the conceptual framework emerged from an iteration between observations of the digital platform used by TRW-VBI-CoP and preliminary data gathering through a

survey and four interviews with the founder of TRW-VBI-CoP. This followed a process of induction from data gathering to a more general theoretical account based on the literature (e.g., VBIs conceptualised in terms of virtual organisations and virtual communities). Therefore, the model was developed based on data, not prior to the data (Cooksey & McDonald, 2019). Observation, preliminary data gathering and model proposition are discussed next.

A. Observation

During this step, I explored TRW-VBI-CoP as a virtual organisation and, more specifically, as a VBI. I joined the learning management platform as a free member and was able to see the layout, organisation of resources, courses available and how members interact. Additionally, I sought information from secondary sources including government websites (e.g., Australian Security and Investment Commission and the ABN lookup), professional bodies and business websites (e.g., Business Innovation and Incubation Australia, Regional Development Australia and Outback Initiatives), web articles (e.g., PhotoNews Weekender Dubbo, ABC News, startupdaily, The Weekly Times, Collective Hub and Regional PitchFest), social media platforms (e.g., Facebook, Instagram and YouTube) and news, articles and other media sources referring to TRW-VBI-CoP.

These sources provided background information and enhanced my initial understanding of TRW-VBI-CoP's service provision processes and services. I also conducted an extensive literature review on business incubators, where I found both similarities and differences with TRW-VBI-CoP business incubation practices. Despite the very limited research studies and developments around VBIs, this exploration provided an insight into the nature of the problem at hand. The realisation that TRW-VBI-CoP management team is a distributed network, most of its services are provided online and members interact socially on the digital platform, led me to explore the literature on virtual organisations and virtual communities. I started making sense of the virtual business incubation processes and identified how the virtual organisation and virtual community concepts relate to VBIs. Therefore, constructs and meanings started to emerge and evolve, bringing forth the novel conceptualisation of VBIs.

B. Preliminary data gathering

It is important to gather background information about the organisation before conducting the interviews with members of the institution (Sekaran, 1992). The founder or manager of the business incubator is usually the first point of contact for information, as demonstrated in previous studies (Schwartz, 2011; Tötterman & Sten, 2005; Hannon & Chaplin, 2003; Rice, 2002). Preliminary data gathering included Zoom meetings and an online survey, both involving the founder of TRW-VBI-CoP and her management team. Importantly, the founder read the information sheet for participants (Appendix 3) and gave prior consent to the interviews and survey (Appendix 4).

- **Zoom meetings**

  Four Zoom meetings with the founder of TRW-VBI-CoP were organised across the research process. Through the Zoom meetings, I obtained information on TRW-VBI-CoP's origin and history, values, managerial philosophy, mission and objectives. I also used the meetings to ask for clarifications and further information about services, workflows and the like. These meetings involved semi-structured interviews and lasted between one to two hours. All meetings were recorded with permission of the founder. These recordings were accessed at different points of the model development process and the general research process alike to corroborate thoughts, seek further information and confirm my interpretation of what has been said.

- **Survey**

  An online survey was developed to be completed by the founder of TRW-VBI-CoP and her management team. The survey questionnaire was created in Qualtrics recommended to researchers by the University of New England. Qualtrics offer many benefits such as user-friendly display in web browsers and mobile devices, convenient features for easy navigation, option to change answers and real time saving of responses. A unique web link was created, allowing the founder of TRW-VBI-CoP to complete the survey progressively, saving her answers and returning to complete various sections at her convenience. Figure 10 displays the questionnaire in preview mode for both web browsers (left) and mobile devices (right). The questionnaire for the founder (Appendix 5) comprises 46 questions and cover significant details of TRW-VBI-CoP as an

organisation. The questions were organised into four sections: i) Governance of TRW-VBI-CoP (nine questions), ii) Services and Target Market (13 questions), iii) Operations (14 questions) and iv) Financials (10 questions)

In addition to the information collected in the different sections, the survey revealed interesting aspects of TRW-VBI-CoP such as rate of membership growth (free and paid), strategic external relationships (e.g., Regional Australia Bank and Narromine Shire Council) and other sources of revenue.

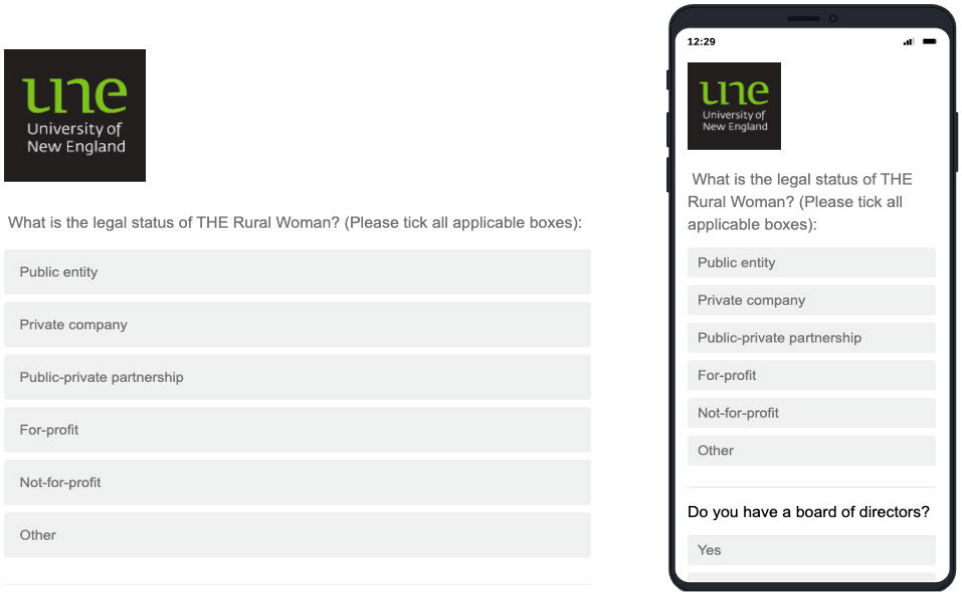


Figure 11. Questionnaire in preview mode showing how the survey is displayed in web browsers (left) and on mobile devices (right).

The insights from TRW-VBI-CoP's founder and the background information obtained through secondary sources, allowed me to set the scene and contextualise this research. Also, these insights and background information were useful for subsequent interviews with TRW-VBI-CoP's members, allowing me to raise issues relevant to the problem under investigation. The model proposition is explained next.

C. Model Proposition

The outcome evaluation framework comprises six building blocks, four pertaining to the service provision process of TRW-VBI-CoP (i.e., properties of the digital technology, trust, characteristics of the virtual organisations and success factors of virtual communities) and two pertaining to members supported by TRW-VBI-CoP (i.e., entrepreneurial knowledge and entrepreneurial self-efficacy). The model assumes that

the four service provision process variables form practices to effectively deliver business programs and support online, which in combination with tailored programs and services are expected to enhance incubatees' entrepreneurial knowledge and entrepreneurial self-efficacy (see Figure 3).

5.2.4.2. Model Evaluation

The purpose of the model evaluation was to develop an overall plan to efficiently and effectively evaluate whether the conceptual model adequately describes TRW-VBI-CoP service provision processes and the outcomes achieved by its incubatees (Hofer & Bygrave, 1992). At this point, I consider important to recall that TRW-VBI-CoP connects and supports aspiring and nascent female entrepreneurs dispersed across rural Australia virtually. This purpose calls for careful consideration of the digital technology used (e.g., digital platform and other digital tools) as the characteristics of the digital technologies shape the quality of programs, the delivery of services and the online interactions among incubatees (Nambisan, 2017). Understanding how digital technologies are used for aggregation, administration and facilitation of resources; business collaboration; and social networking, among others was of particular interest. It was clear that the aggregation, administration and facilitation of resources are tasks performed by TRW-VBI-CoP as a virtual organisation. Since TRW-VBI-CoP's management team is geographically dispersed, the accomplishment of these tasks requires effective cooperation. By contrast, the facilitation of networking and business collaboration opportunities are tasks carried out by TRW-VBI-CoP as a virtual community. It should be emphasised that for effective cooperation and collaboration in the digital world, trust must exist.

With TRW-VBI-CoP's virtualness in mind, it is possible to make sense of the building blocks of the outcome evaluation framework. The relationship among the building blocks can be initially substantiated vis-à-vis various logical standards before being evaluated with real data (Hofer & Bygrave, 1992). For TRW-VBI-CoP to exist and successfully operate as a VBI a number of a-prior interrelated conditions must be present:

[digital technology → trust → virtual organisation → virtual community], because:

- The virtual organisation is possible **only if** the digital technology is present.

- The virtual community is possible **only if** the digital technology is present.
- Running a virtual organisation is possible **only if** trust is present.
- Running a virtual community is possible **only if** trust is present.

As expected, these four building blocks must exist together for the VBI to exist. In this vein, we have that:

- The VBI is possible **only if** the digital technology is present.
- The VBI is possible **if** they operate as a virtual organisation and as a virtual community simultaneously, and trust is present.

Generally, VBIs are vehicles used to train, mentor and support nascent entrepreneurs online. Nascent entrepreneurs, on the other hand, are expected to learn and apply what has been learned to real-world situations. Entrepreneurs also expect to receive feedback so they can reflect and make better decisions and improve their entrepreneurial actions and results. Hence, it is assumed that:

- Entrepreneurial knowledge is acquired or improved **if** entrepreneurs are exposed to virtual business incubation services.
- Entrepreneurial self-efficacy is acquired or improved **if** entrepreneurs are exposed to virtual business incubation services.

The conceptual model once completed, was evaluated by interviewing members (active members and past members) of TRW-VBI-CoP. Next, the steps associated with the evaluation of the model are explained, starting with the specification of the data gathering methods, followed by the description of the techniques employed to analyse the data (Hofer & Bygrave, 1992).

5.2.4.2.1. Data Collection, Analysis and Interpretation

In this section, the approach to the collection, analysis and interpretation of the qualitative data is discussed.

A. Participants

Participants included the founder of TRW-VBI-CoP and 24 members, three of whom were past rather than current members. Past members included women who participated in one or more services from TRW-VBI-CoP but decided to discontinue their membership at some stage. Current members were either in the process of starting a business (aspiring female entrepreneurs) or wanting to grow their business (nascent female entrepreneurs). Relevantly, when a case study is used for exploration, as for this study, it is necessary to speak only to those who can provide rich knowledge (Minichiello et al., 2008). Also, qualitative research is labour-intensive and analysing large samples can be time consuming and often impractical (Walter, 2010; Mason, 2010; Minichiello et al., 2008).

Most of those entrepreneurs already in business operate as sole traders (n=15), with a few operating via a partnership (n=4), company (n=2), or trust (n=1) structure. Their businesses cover a wide range of industry sectors: agriculture, manufacturing, information technology, professional services, retail trade, accommodation and food services, education and training, health care, tourism and hospitality, and arts and recreation services. Participants are located in New South Wales (n=17), Queensland (n=1), Victoria (n=5), and Western Australia (n=1) and were aged between 21 and 68 at the time of the interviews. Table 12 below presents the demographic information of participants.

Table 12. Demographic information of participants

Female Entrepreneur	Age group	Education	Location	Industry sector	Business Structure	Membership
FE1	46–50	Bachelor	NSW	Agriculture	Partnership	Current member
FE2	46–50	Master	NSW	Health	Sole trader	Past member
FE3	46–50	Bachelor (Honours)	NSW	Information technology	Sole trader	Current member
FE4	66–70	Bachelor	NSW	Accommodation	Sole trader	Current member
FE5	51–55	Advanced Diploma	NSW	Education and training	Sole trader	Current member
FE6	51–55	Bachelor	NSW	Information technology	Sole trader	Current member
FE7	56–60	Master	NSW	Manufacturing (clothing)	Sole trader	Current member
FE8	46–50	Certificate IV	NSW	Transport	Partnership	Current member
FE9	46–50	Bachelor	NSW	Tourism	Trust	Past member

FE10	41–45	Bachelor	NSW	Professional services	Partnership	Current member
FE11	41–45	Bachelor	NSW	Food services	Sole trader	Current member
FE12	46–50	Bachelor	VIC	Retail	Company	Current member
FE13	56–60	Bachelor	VIC	Agriculture	Sole trader	Past member
FE14	46–50	PhD	NSW	Agriculture	Partnership	Current member
FE15	46–50	Diploma	QLD	Retail	Sole trader	Current member
FE16	51–55	PhD (in progress)	NSW	Information technology	Sole trader	Current member
FE17	36–40	Master	VIC	Health	Sole trader	Current member
FE18	46–50	Bachelor	VIC	Professional services	Company	Current member
FE19	21–25	Bachelor	NSW	Professional services	Sole trader	Current member
FE20	36–40	Associate degree	VIC	Manufacturing (upholstery)	Sole trader	Current member
FE21	56–60	Bachelor	NSW	Arts	Sole trader	Current member
FE22	46–50	Bachelor	NSW	Recreational services	Sole trader	Current member
FE23	36–40	Graduate Certificate	WA	Health	Sole trader	Current member
FE24	51–55	Bachelor	NSW	Retail	Sole trader	Current member

Legend: New South Wales (NSW), Queensland (QLD), Victoria (VIC), Western Australia (WA).

The guiding principle in this research was the concept of saturation as opposed to pre-meditated adoption of a specified number, which is not compatible with a qualitative approach (Mason, 2010). Saturation refers to identifying when no additional insights can be found that would add to the categories being developed and examined (Minichiello et al., 2008). For qualitative research, frequency is not the premise on which understanding is realised; rather, the infrequent lived experience is useful to extending understandings. Walter (2010) pointed out that it is possible to obtain interesting insights and valuable findings through conducting only a few interviews. The key issue is what is done with the interview data collected (Walter, 2010). Qualitative research is essentially devoted to meaning making, not generalisations (Crouch & McKenzie, 2006). As such, the findings from this research are specific and relevant to TRW-VBI-CoP and its members.

Pseudonyms were assigned to participants to guarantee their anonymity. Ethical approval was obtained from the University of New England Human Research Ethics Committee (approval number HE20-079).

B. Interviews

Interviews are the most widely used data collection method within the social sciences (Bradford & Cullen, 2012), particularly by qualitative researchers to gather in-depth accounts of people's experiences (Evans, 2017), and to understand the life experiences of others (Charmaz, 2006). In this research, semi-structured interviews were used primarily to explore participants' views of TRW-VBI-CoP's service provision processes, programs and services. The areas explored were guided by the proposed outcome evaluation framework. Additional questions invited the interviewees to reflect on the relevancy and quality of programs and services, and the benefits received or developed from them. Participants also reflected on how the services have influenced their actions and helped them overcome personal, business and contextual barriers imposed by the regional context in which they operated. I was particularly interested in how these services led to new knowledge acquisition and/or improvement in their self-confidence. Consequently, the questions asked accomplished two main purposes: i) they validated the relationships among the service provision process variables that comprise the outcome evaluation framework, and ii) confirmed the usefulness of the outcome evaluation framework for assessing the effectiveness of virtual incubation services for building entrepreneurial knowledge and self-efficacy.

An interview guide was prepared (see Appendix 6), starting with the more general and easier questions, to allow enough time to build rapport and empathy with participants. Two pilot interviews were conducted prior to the interview with participants. My co-supervisor was interviewed first and a PhD student from the UNE Business school second. These pilot interviews allowed me to evaluate the adequacy, flow and timing of the interview. My principal supervisor also participated in the first ten interviews with the participants, pointing out areas where I could improve and how I could expand on lead questions to gain in-depth information on specific issues. Undeniably, these provided good training opportunities for developing my interviewing skills and helped me to detect potential issues that I needed to address. Examples of these issues were not being completely engaged with participants' responses (active listening), how to get back on track on the issues discussed, how to detect participants' concerns and ask for further explanations, and my ability to rephrase what has been said to confirm my understandings. Over time, as these interviews progress, I was able to make the questions

spontaneous, resembling a flowing conversation (Choak, 2012), allowing greater flexibility for the participants to discuss issues and topics pertinent to them (Choak, 2012). This resulted me to better capture the participants' perceptions and constructions of their social reality (Minichiello et al., 2008). These perceptions were influenced by discourses, assumptions or ideas in the participants' wider context (Braun & Clarke, 2006). In this regard, some interviewees' thought-provoking responses, provided new insights that were used to formulate further questions for subsequent interviews.

The first section captured demographic information (e.g., age group, level of education, location, years of business experience, industry sector and legal structure) of the participants. The second section covered strategy and management of TRW-VBI-CoP (e.g., mission, objectives and qualification and skills of the management team). Services provided by TRW-VBI-CoP were covered in the third section, followed by TRW-VBI-CoP as a virtual community. The fifth section was about the digital technology; the sixth about outcomes achieved and applications of what was learned; the seventh section covered issues relating to COVID-19; and the final section required additional considerations, such as overall satisfaction with services of TRW-VBI-CoP and ideas for future improvements. The interviewees had a great deal of flexibility on how to respond to the questions and were never discouraged when they went off on tangents.

After receiving the list of volunteer participants on 2 July 2020, I called them to organise the interviews. During the phone calls, I introduced myself as a researcher, emphasising the legitimacy of the research by drawing on the association with the University of New England. I explained the purpose of the research and read the information sheet for participants (see Appendix 7) and the consent form (see Appendix 8), which they all agreed with. Moreover, I gave each participant the option of a Zoom or phone interview and to decide on a suitable date and time for the interview. I was flexible, accommodating the priorities and commitments of the interviewees. I organised details of the interview schedules in excel. Usually, the interviews took place a week after the first contact and lasted between 40 and 110 minutes. The first interview was on 27 July and the last on 13 August 2020. Both Zoom and phone interviews were recorded using a digital voice recorder (i.e., SONY ICD-PX470). The Zoom interviews were also recorded using the embedded recording feature of the software. This allowed me to listen to the interviews repeatedly when unsure of a response. Recorded interviews provided a basis for

confirmability of the case study (Blatter & Haverland, 2012; Bryman & Bell, 2003; Lincoln & Guba, 1985).

Interviews are not exempt from subjectivities and many factors could adversely affect the interview process (Mills et al., 2010). These are related to the interviewer (e.g., social attributes), interviewee (e.g., trying to please interviewers) and question formats (e.g., question arrangements can affect responses) (Al-Yateem, 2012). As a qualitative researcher, I reflected on the social attributes that may influence the social dynamics of the interviewer–interviewee relationship, such as gender, age, ethnicity and professional status, in the interview context. For example, I was aware that being a male researcher may play a role in the type and depth of responses from all female participants. Many of the questions in the interview were related to their perceptions of what it meant to be a member of TRW-VBI-CoP, how meaningful their interactions were with other members and how helpful the virtual programs and services were in meeting their needs to adapt to new circumstances, deal with adversity and/or overcome obstacles.

To answer these questions, participants drew upon their experiences and subjectivities which may trigger emotions and vulnerabilities. Their responses about business were intertwined with their personal circumstances. Being a male researcher may be a potentially limiting factor in exploring participant experience and impede the full expression of these narratives, as female entrepreneurs may want to be perceived in certain ways by a male researcher as a result of unintentional and automatic mental associations shaped by culture, traditions, values, social norms and experience (unconscious gender bias). According to Oliffe and Mroz (2005), gender is an important component that can fundamentally shape the interview dynamic.

I always maintained a neutral and non-judgemental position and was opened to listen to different experiences and perspectives. As Hamberg and Johansson (1999) point out, female interviewers are more able than males to assess the real experiences of other women in an interview. Nonetheless, through these experiences I was able to learn about the life of female entrepreneurs with their multiple roles as daughter, mother, wife and sister in a presumed male-dominated rural context, learning and supporting each other through virtual media.

Other factors considered include age and professional status. Female entrepreneurs were at different levels of their business lifecycle. Some were in the start-up phase while others were managing established businesses. In addition, many possessed tertiary qualifications, including Master and Doctor of Philosophy degrees. In some interviews, I was asked how I came to conduct this research and in others I sensed their need to establish themselves as professionals to match the perceived status of the male (and professional) researcher. This usually occurred at the beginning of the interview and as the interview progressed, these interviewees tended to convey a strong discourse about their role as caring and supportive women within their family settings and their role in their communities, often referred to as male-dominated regional contexts. At times, I provided reinforcing comments to empathise and facilitate effective talk about sensitive topics for women as they constantly referred to their personal circumstances (e.g., family life and relationships).

Similarly, my ethnicity and cultural background may have played a role in the social dynamics of the interviewer–interviewee relationship. I was born in Peru and English is my second language. Although I have been in Australia for 14 years, I have an accent when speaking English. All female entrepreneurs were located in rural or remote Australia where there is less exposure to people from different cultural backgrounds compared to Australian cosmopolitan cities. As a result, people living in rural/remote Australia have difficulties in understanding other accents. Not surprisingly, some of the female interviewees found it difficult to understand me, so I either repeated or rephrased the questions. Some responses were not related to the questions asked. Occasionally, I perceived a degree of discomfort from their side, which I assumed affected the depth of their responses.

In addition to the social attributes, I also reflected on other factors such as the medium used to conduct the interviews and the environment in which the interview took place. I conducted the interviews from my office at UNE Business School to guarantee a reliable and stable Wi-Fi connection and avoid disturbances. Most of the interviews were conducted remotely via Zoom and a few by phone. I usually connected half an hour before the interview to test the software, including audio and the video camera. However, connectivity goes both ways and if the interviewee does not have a reliable internet connection or a good signal for a phone call, then interruptions are likely to occur. Again,

this is relevant because these participants are living in rural/remote Australia and may not have access to the same Internet infrastructure. In fact, this was the case, with both Zoom and phone calls resulting in poor quality video/audio at times.

Regarding the environment, some of the interviewees were in their offices or home offices and completely focused on the interview. Others were undertaking their usual activities within or outside their home environments. The environment is an important component that may also strongly influence the emergent narrative forms (Manderson et al., 2006). For example, one interviewee was in the kitchen cooking, and another was in a café having a coffee and a snack while simultaneously answering the interview questions. Even those who were in an apparent quiet environment were sporadically interrupted by either their children, pets, phone calls, or questions from a spouse. I felt more comfortable and at ease when the interviewee was solely focused on the interview. Interviewees performing other activities in parallel to answering the interview questions gave the impression that they had other priorities and were subject to time constraints. I recognised the pressure to finish the interview as quickly as possible, which led me to pay less attention to their responses and not probe further when required.

- **Transcriptions**

Transcription involved the conversion of interviews into text for easy coding and analysis (Minichiello et al., 2008). All 24 interviews were transcribed for subsequent coding and data analysis first using Microsoft Word's speech-to-text feature called 'Dictate'. This was a tedious and time-consuming process. One hour of audio recording represented seven to eight hours of typing to produce a transcript of 16 to 20 pages of data. Nonetheless, it is considered a good practice for the researcher to transcribe the first few interviews (Minichiello et al., 2008). In doing so, I familiarised myself with the data and engaged in preliminary data analysis. The remaining interviews were transcribed by two people, each transcribing six interviews. Minichiello et al. (2008) note that when transcribing interviews, it is important to determine the level of detail. The transcribers received instructions about the level of detail required.

It was not possible to include all the non-verbal interaction during the interviews since transcriptions cannot capture the rhythm of speech and the nuances of meaning associated with voice tone (Minichiello et al., 2008). For this reason, I combined the

textual transcriptions with their audio source during the data analysis. The data analysis process is explained next.

C. Data Analysis and Interpretation

There is no one right pathway to analyse qualitative data (Cooksey & McDonald, 2019; Atkinson & Delamont, 2005), but the approach chosen depends upon the research goals, research questions and philosophical assumptions (Cooksey & McDonald, 2019). In this research, the social constructivism framework strongly influenced the pathway followed for the analysis of the qualitative data. Here, although guided by the outcome evaluation framework, the analysis followed a bottom-up data-driven approach where interpretations were constructed from the participants' perceptions and interpretations of their social realities (Cooksey & McDonald, 2019).

Qualitative data analysis also considers how to best display the data and interpretations to the users/readers (Cooksey & McDonald, 2019). To tell a convincing story without limiting the meanings, I used a narrative display because it maximises my ability to tell clear, straightforward and transparent stories about TRW-VBI-CoP and its members. The first step in qualitative analysis is getting into the data and coding them. To code the data, I read, reflected and interacted many times with them. This process was assisted by NVivo (release 1.3), a software for qualitative data analysis.

NVivo facilitates the use of a variety of data sources such as text documents, portable document format (.pdf), audio and video files (Mills et al., 2010). In this research, twenty-four text documents and audio files were used iteratively during the data analysis. Audio files were useful because they captured the rhythm of speech and the nuances of meaning associated with the subtle modulations of tone in participants' responses not captured in transcriptions (Minichiello et al., 2008). Careful consideration was given to presenting the narratives and claims as written text could be interpreted in various ways. According to Riessman (2008), researchers must be cautions when making claims based solely on the written text from interviews, as reading is another form of interpretation. Figure 13 shows both the text files and audio files uploaded into NVivo. Once the data was imported into the software, the data was systematically organised, managed and analysed using an inductive thematic analysis (in practice, much of qualitative research

is a combination of a priori and inductive coding [Walter, 2013]), in combination with narrative analysis.

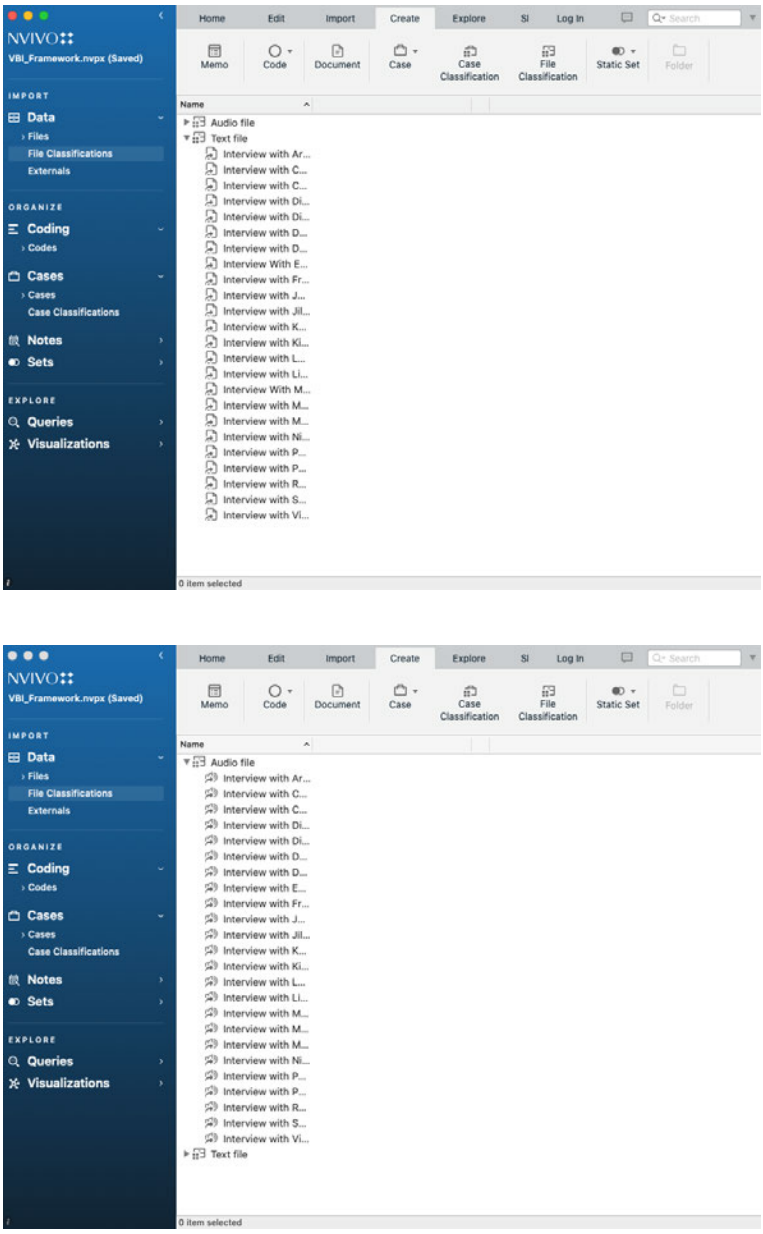


Figure 12. Text files (top) and audio files (bottom) uploaded in NVivo software for organisation, management and analysis.

Thematic analysis is a popular analytical method in qualitative research, particularly research involving interviews (Walter, 2013) and where research is underpinned by a social constructivism paradigm (Braun & Clarke, 2006). Thematic analysis allowed the identification of patterns and examination of meanings in participants' stories, in relation to what it means to be rural, a woman and in business. Similarly, in the context of VBIs, patterns and meanings in relation to how members perceived and used the digital platform for learning, communication and collaboration purposes; why they trust TRW-

VBI-CoP services and other members; their perceptions of how well these business support services were managed; the quality of business support services provided; and what they have learned and applied in practice were identified and coded.

Narrative analysis provided a distinctive way of walking readers/users through my interpretations of participants' perceptions, constantly relating back to the data as anchors for those interpretations (Cooksey & McDonald, 2019). Narrative analysis provided the opportunity to enhance my understandings of some of the subtleties and complexities of being a rural female entrepreneur in Australia (Larty & Hamilton, 2011), including the construction of their identities, and how these influenced the way they learned, networked and acted (Johansson, 2004). Therefore, their identities were critical to understanding the challenges they faced and how they made decisions involving starting and/or growing their businesses.

Having the research questions in mind was important because it guided my thinking about the data and opened possibilities to explore further ideas associated with each theme (Evans, 2017). Data was first coded bearing in mind the building blocks of the outcome evaluation framework; emergent themes were identified and then filtered through women's entrepreneurship and social network lenses to identify participants' decisions to join TRW-VBI-CoP; and the influence of the virtual business incubation programs and services on their intentions, behaviours and actions toward starting and/or growing businesses in rural Australia. This research followed the six phases suggested by Braun and Clarke (2006) for the analysis of qualitative data:

1. Becoming familiar with the data: re-read data many times. All interview transcripts were read at least three times before commencing the analysis. Walter (2013) argues that it is vital for the researcher to read all transcripts before starting the analysis of any individual transcript. Reading the transcripts in NVivo allowed me to make comments on specific passages that I considered relevant or needed clarification or triggered thoughts and ideas. This was done using the 'Annotations' feature. Annotations in words or sentences appeared highlighted in blue in the actual transcript for easy recognition and later review. It was possible to see all annotations made for all transcripts at once, see annotations for individual transcripts and also see specific annotations in context. Figure 14 shows the annotation made in one interview transcription in NVivo. Similarly, I wrote 'Memos' for each transcript

after I finished reading and annotating it. Memos are summaries of the interviews where I wrote my thoughts and reflections of the issues and experiences being recounted by the interviewee. Annotations and memos helped me to contextualise the data and to start envisioning more clearly the association between the building blocks that comprise the outcome evaluation framework.

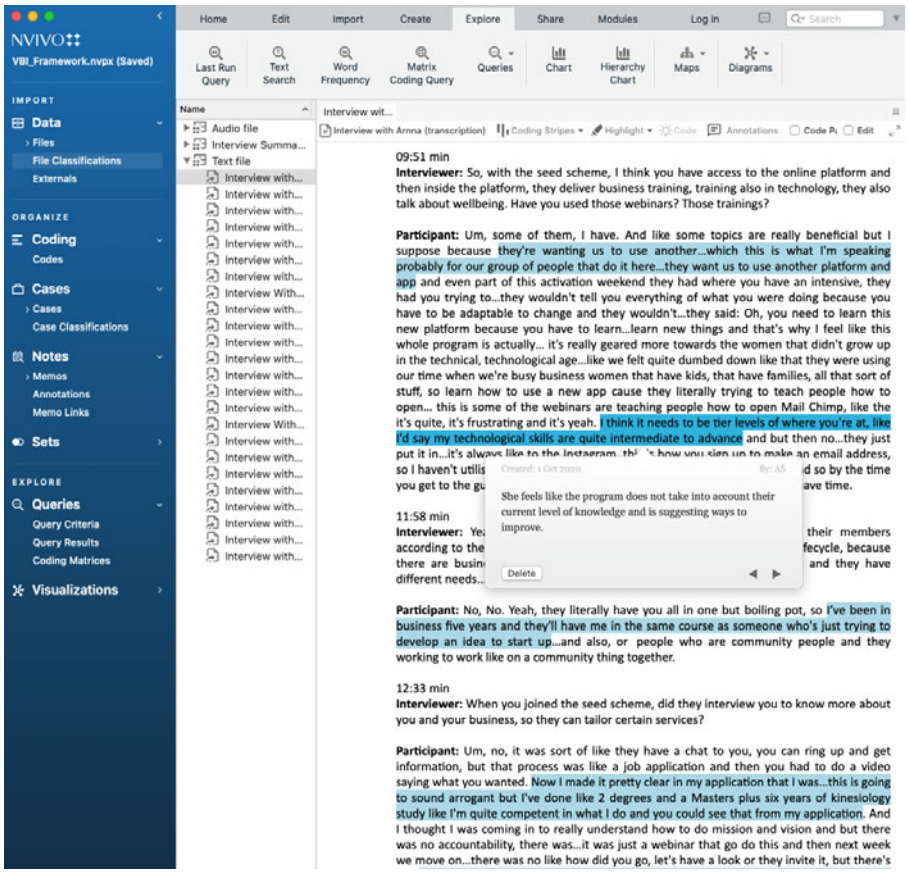


Figure 13. Annotations made on interview transcript using NVivo software.

2. Generating initial codes: introducing small notes and finding patterns. Coding is an integral part of qualitative analysis (Walter, 2013). It involves reflecting on, interacting with and thinking about the data (Savage, 2000). It is a process of inspecting the text for recurrent themes, patterns and relationships which are then categorised for later retrieval, analysis and theory-building (Mills et al., 2010). Codes are descriptive labels and were applied to segments of the transcript (e.g., single words, phrases or whole paragraphs), considering the rural context in which these narratives were made (Green, et al., 2007). Codes were initially related to the building blocks of the outcome evaluation framework. As meaningful segments emerged, they were placed in one or more of the codes created, since some responses partially or completely overlapped. A category or code for 'Other' was kept for

segments judged relevant but unclear as to how they may fit and be utilised within the analysis. The 'Other' category was analysed at a later stage for data relating to or complementing the already labelled categories or subcategories.

Once data sorting and coding were completed, the next step was to explore the relationship between the codes. Categories pertaining to the outcome evaluation framework seemed to have levels of perception. For example, a favourable perception of the digital technology appeared to be positively associated with members' willingness to search for learning resources and interact within the virtual community. A hierarchy was developed where all coded information was sorted according to where it fitted. This was helpful for identifying and understanding the categories related to others and those that stood alone. At this stage, interpretations were constantly checked against the transcripts and audio files to ensure veracity of the claims.

3. Locating themes: collating codes to find potential themes. This step involved sorting and collating all the potentially relevant coded data extracts into themes (Braun & Clarke, 2006). Having spent time coding the transcripts and exploring how the codes fitted together, I found particular ideas that assisted me in interpreting and explaining the data. Interestingly, the subcategories or child codes that emerged provided rich explanations within their respective theme as they were neither in the extant literature nor considered beforehand by the researcher. In addition, novel themes emerged from the data, such as the rural-woman-only VBI.

4. Reviewing themes: establishing whether themes align with codes and aligning all data to create a thematic 'map'. Once the themes are devised, they require refinement (Braun & Clarke, 2006). This process revealed some inadequacies in the initial coding and themes and the data were recoded. This process was expected as coding is an ongoing and reiterative process (Braun & Clarke, 2006). The generation of themes required comparing my interpretation of the data with the conceptual framework used to develop the outcome evaluation framework. Green et al. (2007) argued that the efficacy of this process determines the extent to which the study is generalisable to other groups and settings. According to them: "It is this capacity to explain the social phenomena observed in the study that makes the findings

generalisable to other settings, thus providing better evidence" (Green et al., 2007, p. 559).

5. Defining and naming themes: making a story to show how themes have been defined. The main themes were developed according to the building blocks of the outcome evaluation framework. Many of the categories in each theme overlapped. For example, according to the literature, it is by virtue of the existence and evolution of digital technologies that virtual organisations and virtual communities are possible. In addition, a virtual community is a virtual organisation, but a virtual organisation is not necessarily a virtual community. Further, trust is considered fundamental to both the virtual organisation and the virtual community. Other important themes emerged, that provided a wider context for rich explanation of the outcome evaluation framework. These complementary themes were interviewees' perceptions of self, of the context and of TRW-VBI-CoP as a VBI exclusively for rural women.

6. Producing the written report: Writing up and reporting the findings of a case study is recognised as a major challenge for researchers (Mills et al., 2010). This is because every case is unique and there are no standard approaches to reporting (Mills et al., 2010). However, when writing the case report, it is important to consider the intended audience (Mills et al., 2010). The intended audience for this study is both academics and practitioners (i.e., business incubator founders and managers and policymakers). The academic audience is familiar with the business incubation literature and their interests may be in exploring even further VBIs. Organisational practitioners may be more interested in the practical lessons derived from this case. Accordingly, the discussion and conclusion were produced in a way that resonate with the interests of these two intended audiences.

   The participants' demographic information was presented first. All relevant results were discussed, including results that were unexpected, adding to the credibility of the discussion (Nowell et al., 2017). Direct quotes from the participants were used and the selection of the quotes was based on relevance to the concept or idea being discussed. According to King (2004), direct quotes from participants are an essential component of the final report. Contrasting views were presented, which gave me the

opportunity to enlarge and enrich my interpretations. This is a positive aspect of the presentation of the findings because contrasting views enhance the authenticity and convincingness of the story (Cooksey & McDonald, 2019). Furthermore, while I tried to give voice to all participants equally, the over-representation of some participants' words was because they were more adept at presenting their views than others, providing me with more material to discuss. Lastly, it is valuable to report findings using narratives to allow readers to live inside the case, a practice deemed useful for making the research persuasive (Mills et al., 2010).

5.3. Conclusion

A thorough description and explanation of the research design and process was provided in this chapter. The visual depiction of the research process served as a roadmap of the stages involved and their associated steps, starting from the research questions, followed by philosophical assumptions, model development and model evaluation. Importantly, I acknowledged my role as a researcher and reflected on several social attributes that may have influenced the social dynamics of the interviewer–interviewee relationship, thus affecting the types and depth of interviewees' narratives. The presentation of the narratives from participants is described, focusing on projecting their voices to enable readers to form their own interpretations and conclusions.

Chapter 6: Results and Findings

6.1. Introduction

This chapter presents the results and discusses the findings for the three research questions that guided this research study. First, the demographics of participants are discussed. This is followed by the identification of the key service provision process variables of VBIs. Next, the relationship between each variable and entrepreneurial knowledge and entrepreneurial self-efficacy is explained and evaluated based on incubatees' perceptions and experiences. A final discussion of the relevancy of the outcome evaluation framework is provided afterwards, which include the contributions of this study for scholars and organisational practitioners followed by the limitations, suggestions for further research and conclusions.

6.2. Demographics of Participants

This section presents demographic information on incubatees and their businesses based on information from the interviews. It covers age; level of education and business experience; location; and size, legal structure and industry sectors.

6.2.1. Age

According to the GEM (2017), women's participation in entrepreneurship peaks in the 25-34 age range, closely followed by the 35-44 age range. However, early-stage entrepreneurship is more common in the mid-career ages of 25-54 years than in either the younger or older age groups (GEM, 2017). This trend is also supported by the fact that women aged 25-54 years are less risk averse than both older and younger women (ABS, 2015). Most interviewees were within the 46-50 age group.

6.2.2. Level of Education and Business Experience

Generally, entrepreneurial activity rates improve with education for both men and women (GEM, 2019; Dilli & Westerhuis, 2018). However, in high-income and middle-income countries, highly educated women are generally less likely to start businesses as they have employment opportunities (GEM, 2019). In the case of Australia, however, female business owners in rural and regional areas are likely to report lack of

employment as a reason to engage in entrepreneurial activities (Department of Family and Community Services, 2020).

Participants in this study were highly educated; they all held post-secondary certifications or university degrees. The majority had relevant business experience and had worked for many years in their industry sector of operation. For the majority, their business ventures were in the areas their qualifications or previous work experiences, however, others were operating in completely new fields. For example, FE11 with a biomedical science degree made and sold curry paste. Also, FE16 who was completing a Doctor of Philosophy in Astrophysics, operated a business in the ICT sector.

Despite their educational backgrounds and business experiences, these incubatees felt the need to join TRW-VBI-CoP for support and resources to overcome not only challenges in their businesses (e.g., sales and marketing) and rural environment (e.g., social isolation and limited resources) but also personal barriers that impeded them from moving forward in their business endeavours. This highlights the uncertainty that surrounds entrepreneurship where knowledge and business experience, although important, do not guarantee success.

6.2.3. Location

As shown on the map below (figure 15), most of the participants were in New South Wales, followed by Victoria, Queensland and finally Western Australia. Notably, TRW-VBI-CoP is taking advantage of the digital technologies to reach, connect and support members across Australia. The digital platform used enables online learning and networking among their members.

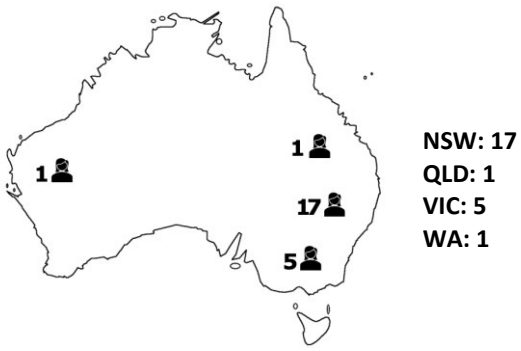


Figure 14. Location of participants

6.2.4. Size, Legal Structure and Industry Sectors of Businesses

According to the ABS (2015), most Australian women business owners are self-employed with no employees. This is also the case for participants in this study, where the majority operated as sole traders. Three participants hired contractors on casual basis (i.e., FE1, FE17 and FE7) and two had two casual employees each (i.e., FE16 and FE9).

Women in small business in rural and remote Australia tend to operate in the service sector as opposed to production and sale of goods (Rural Industries Research and Development Corporation, 2004). This is also reflected in this study. Fifteen participants provided services compared to seven who sold products and the other two provided both service and products. Most rural women business owners are in the agriculture, retail and accommodation, and food services industry (Department of Family and Community Services, 2020). In this study, health care was the industry most represented among participants, followed by information technology and agriculture. Figure 16 shows the legal structure, representative industry sectors and products or services provided by participants.

6.3. Research Question 1: What are the Key Service Provision Process Variables of TRW-VBI-CoP to Effectively Deliver Business Programs and Support Online?

This section provides empirical evidence of how the key service provision process variables were identified. As previously mentioned, these key variables derived from the observations of TRW-VBI-CoP' service provision processes, interviews with the founder, an examination of the technical functioning of the digital platform used and an analysis of how incubatees use the digital platform and their perceptions of their interactions within it.

6.3.1. Digital Technology

A viable cost-effective way to reach, connect and support rural women in business (wherever located) is through an appropriate digital platform The interviewees saw TRW-VBI-CoP as a community of like-minded people with whom they could connect and learn. Connecting implies bringing geographically dispersed female entrepreneurs together where they can learn (from resources and from each other) and collaborate to

achieve mutually beneficial personal and business outcomes. Thus, the capacity to connect and learn online is a key factor for VBI digital platforms. To this end, TRW-VBI-CoP chose the Mighty Networks learning and networking management platform (L&NMP).

The success of TRW-VBI-CoP is based on the levels of participation and interactions among its members. These are together referred to as member engagement and in the context of the digital technology, it is determined by the security, performance and usability of the L&NMP. In other words, the more incubatees perceive the L&NMP as secure, free of technical issues and easy to navigate, the more time they would spend using it. Incubatees' engagement within the L&NMP is therefore critical to building their entrepreneurial knowledge and self-efficacy. The interaction of incubatees with the L&NMP (specificity of the L&NMP) and among themselves (relationality of the L&NMP) within the L&NMP is described next.

6.3.1.1. Specificity

Specificity refers to the specific functions of the L&NMP that determine what members can or cannot do. The incubatees must enrol in the platform to access the learning modules and other resources designed and developed by TRW-VBI-CoP. Within the L&NMP, each member has their own profile, and they can search for other members, know where other members are located and who is concurrently online. They can send messages to other members, create articles with rich media (e.g., adding videos hosted on YouTube and audio files), create events and questions and share to social media. Members can also create groups to start discussions on a particular topic and subscribe or unsubscribe to receive notifications that are important to them.

Data from the interviewees with the participants indicate that the way members used and benefited from the L&NMP depended upon their digital proficiency, time spent using it and commitment to learn how to use the platform. FE18 stated:

> *I think it comes down to how often you use it...if you use it and then you don't go near it for a month, you gotta remember, you know … if you don't use enough you gotta think what you did.*

And FE7 added:

> *When I first started using it, it was really hard to use…I don't use it as much as I could probably do.*

Interviewees' perceptions of the L&NMP were also strongly influenced by how its features were configured, the performance of these features and the way that the online learning resources and events were organised within the platform. In this respect, Mighty Networks was viewed both positively and negatively. For example, when searching for members, events and courses, it was expected that relevant lists would appear in alphabetical order (or at least have the option to do so), which according to FE16, is not the case:

> *If I wanted to find somebody, I've gotta scroll down the list, then like I said, it is not even in alphabetical order, which is intuitively when you're looking for something.*

Furthermore, FE14 said:

> *It's taking me a little while to get my head around it but yeah, I think ... I was a bit confused with the events and the courses.*

However, interviewees widely acknowledged that selecting, configuring and adapting the digital platform to the needs of the organisation and members simultaneously was a cumbersome task and improvements were continuously made. In this vein, the efforts of TRW-VBI-CoP at improving access and use of the L&NMP were acknowledged. For example, FE22 explained:

> *I've seen a huge development in the technology side, it is much easier than what it used to be [laugh]. I feel now it's much more business orientated, and it offers a lot more practicality ...*

Many participants struggled with notifications. Interviewees indicated that they could receive email notifications, mobile notifications (if they had downloaded the mobile app) and both email and mobile notifications simultaneously. By default, notifications were turned on and members were usually notified when TRW-VBI-CoP added new content, someone sent a message, or someone replied to a comment or liked a contribution. For example, FE9 said:

> *I did initially receive all the notifications and that was too much.*

Likewise, FE15 said:

I find that there are way too many notifications.

In addition, according to a few interviewees, functionalities such as logging in, accessing content once registered and payment processing were not performing effectively. In this regard, FE16 commented:

> *It seems to forget your password even if you haven't changed your password.*

Also, FE10 described what others, to whom she recommended TRW-VBI-CoP, experienced when they tried to join for the first time:

> *So, when I recommend someone, there is quite often a challenge with the payment – that their credit card won't go through, or they register and then they don't get connected.*

Furthermore, the way that the content was organised in Mighty Networks impacted interviewees' perceptions of the L&NMP. Few interviewees agreed that the content was not well organised and as a result, they had difficulties finding the resources they needed. Consequently, Mighty Networks was regarded as clunky. For example, FE7 said:

I think when I first started using it, it was hard to use, really clunky.

Also, FE10 commented:

Yeah. It's a little bit clunky.

Some interviewees were not fully aware of all that they could do in the L&NMPM. This was the case, for example of creating subgroups to initiate discussions about topics and interests. According to the founder of TRW-VBI-CoP, all members can create subgroups. For example, FE5 commented about the creation of subgroups:

> *I would say that probably you would have to ask somebody on the team ... I'm not a hundred percent sure because I haven't … I haven't done that.*

Similarly, FE4 also noted:

I don't know… I haven't utilised it.

In summary, some members lacked knowledge on how to use specific functions of the L&NMP which impeded their ability to engage effectively with TRW-VBI-CoP and other members.

6.3.1.2. Relationality

Relationality refers to the capacity of the L&NMP to integrate with other digital platforms to extend its current functionality and the variety of relationships formed through online social interactions.

The L&NMP is integrated via Zapier with other web applications such as Asana for project management and Stripe for payments. Despite this extended functionality, it was recognised that more integrations were necessary to automate main processes and that some processes were still inefficient. She noted for example that a customer relationship management system compatible with Mighty Networks was required.

TRW-VBI-CoP is also using other digital tools such as Zoom and Facebook Messenger to enable various forms of relationships between the management team, trainers, mentors and incubatees, and also, among incubatees. Zoom, for example, was used as the video conferencing software for synchronous communication including delivery of trainings, workshops and events. Zoom facilitated incubatees' interaction in the form of real-time communication in which they connected to and learned from trainers and from each other, and the trainers learnt from incubatees. In regard to learning from trainers, FE14 said:

> *Mainly my really big learning has been in IT … I've learned how to use Canva and all sort of other things … I've certainly developed skills around Zoom meetings and all those things.*

In terms of learning from each other, FE3 commented:

> *I guess the point is that the things I get from the VBI are more on intangible side of things rather than technical skills and the hard skills … I'm looking at a different direction for the learning.*

Finally, on trainers learning from incubatees, FE18, a trainer/facilitator in accounting and finance remarked:

> *So, I've certainly come along to learn from other women … even just hearing people's stories you always learn something no matter what level they are at.*

On variety of relationships formed, when incubatees connected to learn, they were also presented with the opportunity to get to know each other, develop trust and form collaborative relationships and friendships. For example, F14 said:

> *I've been involved with a group of women that now we are working together on a business together. That obviously was unexpected and has been a very great outcome.*

FE1 provided examples of making friends:

> *I've made some absolutely delightful friends over the internet … I've met some really lovely ladies from all walks of life and all different stages of life.*

6.3.2. Trust

Incubatees joined TRW-VBI-CoP because they saw the network as an extension of themselves. TRW-VBI-CoP exhibited a high degree of homophily, and consequently, incubatees expected their interactions to be free of conflict. Hence, incubatees saw TRW-VBI-CoP network as providing a safe environment, which was necessary to enable them to express their vulnerabilities, and which in turn provided opportunities to learn and improve. This was noted by FE23:

> *I feel like vulnerabilities are encouraged because that's where the learnings are.*

These elements positively contributed to the development of trust between TRW-VBI-CoP management team and its members as well as among members. This is because similarities in narratives and therefore, a collective identity resulted in shared values and a level of communal understanding about what constitutes honest, generous and caring behaviour within the virtual community.

6.3.2.1. Trust in the Virtual Organisation

Trust is also important for the VBI as a virtual organisation. In line with this, contractual trust was displayed by the management when they delegated tasks appropriately and

effectively managed the expectations of work to be accomplished. For example, FE24 commented:

> *We have team meetings every Thursday, so there's lot of reflection on what's working well and what needs to be improved. So, there is forward planning.*

From the above comment, it is clear that reflecting on what is working well and what needs to be improved needs honest feedback, which requires informing difficult truths as well as admitting shortcomings and mistakes. This is an example of communication trust. For example, FE18 admitted:

> *I'm not very technically minded, so occasionally I'll give her* [the founder] *some feedback on, you know, how to make it* [the platform] *better for dummies.*

Finally, the management team exhibited competence trust when recruiting people within the L&NMP with specific skillsets to provide training and education. In this respect, FE23 said:

> *They are often calling out for people who have a certain skill set to provide education. I've been asked a couple of times to present using my skill set.*

6.3.2.2. Trust in the Virtual Community

For VBIs to perform as vibrant virtual communities, trust is of paramount importance and several dimensions were identified by the interviewees that corresponds with findings from the literature: ability, benevolence, integrity and predictability (Wu et al., 2010; McKnight & Chervany 2002). Table 13 presents incubatees' perceptions in relation to how these trust dimensions are associated with successful and vibrant virtual communities.

Table 13. Incubatee's perception of trust

Trust dimension	Example	Incubatees' perceptions
Ability	A VBI that demonstrates knowledge and skills in supporting entrepreneurs and is capable of identifying member needs can readily gain members' trust.	*FE2: I have confidence in TRW-VBI-CoP team ... I have seen them adapt and change themselves and taken new ways of doing things seriously. I can see that I have confidence in who they are and how they can adapt to whatever the future holds.* *FE6: [The founder] focuses on rural communities and women in rural communities ... she's just got so much*

		knowledge behind her, not only her personal knowledge and experience … but she also taps into so many other people … she has an insight, she lives in a rural community, too often at city businesses, they would say we will help the rural communities, but they are not in it, she's immersed in it, so I think that's really the advantage. *FE7: So, I think we trust them, you know, we trust their motives … I think they're there for us and that's really important because you feel listened to.*
Benevolence	A VBI that supports and encourages its members and where members actively respond to other members' concerns, proactively adding value to one another.	*FE2: So, whenever I've reached out with someone with TRW-VBI-CoP, not only have they been supportive, but they have been unconditional, and I think that is really important. They have done really well that way.* *FE5: They're actually interested in you … um reaching your potential.*
Integrity	Integrity implies compliance with the commonly accepted values, principles and rules. This is often achieved by having a code of conduct.	*FE6: So, there is a statement, it's called Chatham House rules for confidentiality which is different from full confidentiality.* *FE22: I think that most of the time there is that set of boundaries or rules that we know, that are part of TRW-VBI-CoP which has been well instilled through the network of mutual respect and trust and listening.*
Predictability	Refers to the belief that all community members will respect policies and adhere to certain behavioural guidelines.	*FE1: Everyone is so kind and so supportive, and I think that is a very, very important aspect of it.* *FE18: These are not women that are all thrown together in one space … These are like-minded people that are coming with a genuine want to help themselves and to help each other.*

Another form of trust was also evident. This trust relates to the incubatees' level of confidence when using the L&NMP and making their details available online for other members to contact them if needed. FE14 said:

> *I understand that my details are shared among everyone … that my phone number, for example, emails address and name are shared … They [TRW-VBI-CoP] basically said, well here are all the people in your group; if you need to contact them, here they are … I think everybody's on it … I'm happy to be contacted.*

Many incubatees felt comfortable to share their personal information and feelings without hesitation. For example, regarding sharing personal information FE21 commented:

> *I've felt safe. There were things I shared in that forum I guess that I didn't share anywhere else, so I guess I felt safe.*

In terms of disclosing personal feelings, FE22 said:

> *I feel much more comfortable now to share my feelings online than I did in the beginning.*

One participant, FE3, expressed caution with sharing information online:

> *I have the mindset that anything that is online is insecure … If the information is online, someone can get to it … anything that I put online, I presume that somebody is going to have an inappropriate access to it at some point.*

6.3.3. Virtual Organisation

In section 3.3, it was stated that cooperation is key for the coordination of activities, particularly when activities are carried out online. Well-coordinated activities are reflected in well-designed, organised content, tailored programs and services and timely delivery of various support. The coordination of tasks and activities occurred over the internet. This was because the founder and management team were in different geographical areas. They had access to feedback from sources, including analytics from the L&NMP, to monitor incubatees' interaction with the platform and between them as well as their needs and wants, enabling TRW-VBI-CoP to regularly improve its service delivery processes and tailor services, all of which indicate that it was performing as a virtual organisation.

A virtual organisation is flexible, accountable and adaptable. Recent proposed changes to the structure of TRW-VBI-CoP from a company to a cooperation demonstrates efforts at enhancing flexibility for increased access to a variety of resources and speedy response to opportunities and threats in its environment. This change was announced in the Seed Scheme Strategic Report where the founder mentioned that:

> *TRW-VBI-CoP is currently undertaking a restructure to a cooperative model - which will most likely come into effect in 2021.*

A co-operative is a member-owned business structure, where all members have equal voting rights. Members are responsible for the decisions, direction and success of the co-operative. The co-operative is traditionally based on values of self-help, responsibility

and equality (Fair Trading, 2020). Some of the current members were aware of this proposed change. For example, FE23 explained:

> *[The founder] wants TRW-VBI-CoP to be owned by its members. So, instead of being one voice…she [the founder] recognises that it's not about her is about us … I think she uses the word collective or cooperative.*

The transition from a company structure to a co-operative structure is currently underway. On January 15th, 2021, I accessed a document in which TRW-VBI-CoP founder announced:

> *We are currently transitioning TRW-VBI-CoP to a co-operative structure which is run by its members, which is very exciting! TRW-VBI-CoP Co-op will continue to connect rural women and support their wellbeing and agency through networking, mentoring and training.*

In addition, TRW-VBI-CoP management team showed high levels of empathy that allow them not only to understand incubatees and share their feelings, but to help them in the best possible way. The following quote from FE24 illustrates it:

> *They show respect for people … there was one call where I was talking about finance and superannuation and I actually decided to open up and be completely honest about my situation … and it brought up a lot of emotion and I turned my video off…but [the founder] who was running the course touch base with me through the chat privately and said: Ok [FE24], just want to make sure you are ok. So, it was picked up and the fact that the other mentor had noticed I guess my stress, anxiety and overwhelms and did it respectfully and kindly with kindness.*

Monitoring how members use the L&NMP to access resources and network, allowed TRW-VBI-CoP to continuously add value to its members. This was recognised by both a current and a past member. For instance, FE7 commented:

> *They [TRW-VBI-CoP] are good at trying ideas and adapting things and throwing things out that don't work.*

In addition, FE2 (past member) said:

> *I have seen them adapt and change themselves and taken new ways of doing things … I have confidence in who they are and how they can adapt to whatever the future holds.*

In terms of accountability, interviewees confirmed their confidence in the experience, skills, attitudes and knowledge of the CEO and management team to deliver tailored programs and services. Emphasis was on the length of their experience in specific fields and as businesses owners and managers. An understanding of the 'rural' context was also deemed essential, so they could approach issues from a rural female perspective. These characteristics were essential to demonstrating the passion and wisdom necessary for imparting knowledge. For instance, FE12 said:

What they are teaching is what they have learned. What they have developed and learned; what has worked for them. They've started businesses, built businesses. Their successes are their skills.

FE5 commented:

> *They have an understanding of um, women in business, and um, rural women; and, you know, not everybody's from a … a remote area.*

It is important to note that Mighty Networks has an analytics dashboard that allows TRW-VBI-CoP to collect data on its members such as total number of members, members activity and engagement, and what days and times they are online. Member surveys are an integral part of TRW-VBI-CoP's service provision and responses are used to monitor satisfaction and gauge areas where improvements could be made. For example, new programs that emphasise personal development have emanated from these surveys.

6.3.4. Virtual Community

To understand how TRW-VBI-CoP functions as a virtual community, it is necessary to know what motivated the founder, the purpose of the organisation and what the current organisational objectives are. According to the founder:

> *I was motivated by the desire to support rural women to reconnect with their most powerful voice and then to provide a platform from which they could amplify that voice. I was seeing all these incredibly talented rural women being frustrated at their lack of reach and impact and I was frustrated for them and wanted to do something about it. We were tired of being overlooked.*

The purpose is:

> *To provide support to rural women where they are, so they may #bloomwheretheyareplanted and so they can #livelocalgrowglobal*

The organisational objectives are:

> *… to provide support to rural women in business, to create profitable enterprises, provide employment (self and flow on) in rural and regional areas … we have a very strong focus on technology, business and success. Fostering connection, innovative enterprise, wellbeing and resilience in rural women.*

The issues relevant to operating as a successful virtual community are: a mission and objectives shared by members, quality content, encouraging members to generate and share content, access to external networks, and operating with a commercial orientation.

6.3.4.1. Mission and Objectives

TRW-VBI-CoP provides a virtual community for aspiring and nascent rural female entrepreneurs to connect, learn and exchange their knowledge. The interviewees acknowledged that they joined TRW-VBI-CoP in the first place because its mission and objectives resonated with who they are and aligned with their interests and what they wanted to achieve in their lives. This clearly indicated that TRW-VBI-CoP was effective in communicating its distinctive focus.

All interviewees are identified with the mission and objectives of TRW-VBI-CoP. They highlighted that TRW-VBI-CoP's mission is to build and maintain diverse and vibrant rural communities. FE23 explained:

> *Their mission is to sustain a vibrant and rich rural Australia, for communities to thrive and for communities to have a diverse tapestry of businesses…that could be available anywhere.*

Interviewees explained that this mission is being achieved through the empowerment of nascent women entrepreneurs to be the best they could be wherever they are, despite the personal limitations, lack of resources and other challenges that characterise rural contexts. It was acknowledged that the support was not coming solely from management but from all members in the network. The following two excerpts illustrate these points:

> *[FE11] You know, your location isn't something that holds you back. You can be just as successful, no matter how remote you are. You can still have the tools to grow a really successful business, regardless of your location.*

[FE4] To connect women within an established and supportive community, to learn and thrive … As much as anything to address some of the underlying issues of why a business may not be progressing the way it potentially could. And often those barriers are actually personal. I think the emotional support and the learning about self is really important arm of that business [TRW-VBI-CoP].

6.3.4.2. Encouraging Members' Contribution

Other key factors for successfully engaging members and sustaining the virtual community were identified. Some members felt encouraged by TRW-VBI-CoP management team, trainers, mentors and peer members to participate and make contributions within the network. For example, FE15 commented:

> *We were always encouraged right from the start to get on and contribute.*

Likewise, FE8 said:

> *Definitely. Often questions are asked, and you are encouraged to answer the questions.*

FE10 said:

> *There's a real teacher–student energy. Like, the presenters are very open to other people's input. They're very humble … In fact, it's encouraging.*

Expectedly, members were not always at ease with making contributions even where they were specifically asked and encouraged. Reasons given varied and included for example lack of time and pressure from other priorities. Some were concerned about sharing confidential personal information, others preferred face-to-face discussions (or using Zoom), and yet others lacked the confidence to give presentations or make other contributions. In this respect, F11 said:

> *I can get caught up in supporting others so much that I'd end up not actually supporting myself.*

Similarly, FE14 said:

> *I'm happier to talk and discuss things with people face to face than simply type text messages and leave things…when I'm in the Zoom meeting, which is how most of them are, I do often ask and answer questions and contribute.*

FE13 commented:

> *I probably didn't share anything like that. Probably not very confident at doing that.*

6.3.4.3. Access to External Networks

TRW-VBI-CoP used its networks to find and recruit experts to provide various services to incubatees, including advice on tax accounting, IT, legal and other business management issues. All experts recruited were women with rural backgrounds who were well known in their field of expertise within their communities. This was explained by FE6:

> *Where someone could potentially, you know, fill a niche that* [the founder] *needs, she'll ask … so people* [outsiders and always rural females] *are drawn into the community … they might only present for the month and then we don't see them again.*

Members were also provided with opportunity to share their knowledge through presentations to the whole community and were remunerated for their presentations. For example, FE6 remarked:

> *I love that TRW-VBI-CoP leverages the knowledge and experience of different people within the network … So,* [the founder] *looking for business training, asks people if they would like to present for a month and get paid in return if they have the knowledge and experience.*

FE1 expressed:

> *It's wonderful to see the women that you are participating with, do a presentation. It's brilliant, I love it!*

6.3.4.4. Commercial Orientation

The commercial orientation of TRW-VBI-CoP has ensured its financial sustainability since its inception in 2015. TRW-VBI-CoP offers three types of membership: free membership, annual membership (US$33.99 per month or US$299.99 per year) and

lifetime membership (US$899.99 one time). Free members can access limited resources such as general posts and articles. Annual subscriptions allow members to access all courses available during the year covering online weekly trainings, mentoring, networking events and discounts provided by strategic partners. Lifetime membership provides the same benefits but for the lifetime of members.

6.4. Research Question 2: How do TRW-VBI-CoP Service Provision Influence Individual-Level Outcomes of its Incubatees?

This section examines the links between the key service provision process variables and the outcomes sought, specifically entrepreneurial knowledge and entrepreneurial self-efficacy.

6.4.1. Entrepreneurial Knowledge

TRW-VBI-CoP provided training in business, management, technology, leadership as well as programs on personal development and wellbeing. Trainings and programs were delivered via Zoom and were recorded and uploaded into the L&NMP. In this way, members unable to attend the live trainings and programs could access the recordings at a later stage. The flexibility of being able to access trainings and programs at any time was highly commended. FE9 remarked:

> *To me, it's the opportunity to go back and listen to all the weekly business trainings and the tech trainings and you've got them all listed … it's like a library… to me, that is the feature I use the most and get the most benefit from.*

However, some interviewees recognised the importance of attending live training sessions. For example, FE22 commented:

> *I do like the fact that you can then watch playback, but I do know for myself, that for accountability, I'm better to show up if I can, and watch it live.*

The wide variety of topics covered, and knowledge shared among members was recognised as one of the major benefits from TRW-VBI-CoP. Indeed, the immediate application of such knowledge was not a priority for some members who regarded the knowledge gained as relevant for its potential future value. In this vein, FE15 stated:

> *Everything that was shared in one way or form, we may not need it now but at least we've got that knowledge for next time, for later. There were lots of sharing of information, weather it was relevant to you or not, it's still actually good to hear that and know about that, because you never know when you are going to need it.*

Entrepreneurial knowledge is vital for new venture creation and comprises various categories of knowledge. For instance, for many interviewees, entrepreneurial knowledge was not limited to acquiring business knowledge or technological skills but also encompassed a myriad of soft skills that were learned and internalised from their lived experiences. On the acquisition of business knowledge FE20 commented:

> *A lot of information that I've received has been very valuable. Especially around like costings in my business and the finance side of it for me was a bit of an issue.*

FE22 commented on the technical skills gained:

> *TRW-VBI-CoP was very helpful in introducing me to different platforms that I could use in IT. I mean the IT has been extremely beneficial.*

Illustrative quotes highlighting the value of soft skills were provided by FE2:

> *I have learned that anything is possible … I've learned the importance and value of networking ... I've learned that we are all in constant evolution and learning.*

And, by FE5:

> *Yeah, mindset stuff … Um, I've learnt to appreciate remote areas and the things that these women do … a lot of the skills learned on TRW-VBI-CoP are very relatable.*

6.4.2. Entrepreneurial Self-Efficacy

Success in entrepreneurship requires not only the entrepreneurial skills but belief in possession of these skills. Considering that the majority of the incubatees experienced lack of self-confidence/self-worth, half of the interviewees reported having gained confidence in themselves and in their entrepreneurial skills through their membership with TRW-VBI-CoP. Some of the responses in terms of confidence were as follows:

> *[FE7] I think I've developed confidence*

[FE9] The thing I feel the most is that I've just gained a lot of confidence.

[FE19] I feel more confident.

Many interviewees explained that they started developing self-confidence as they gained more knowledge and understanding about themselves. In this regard, FE22 explained:

> *I think, first and foremost, is to understand myself as a person and why I do what I do and my motivations for doing it, because that then leads onto what I want to achieve in my business.*

On the personal side, confidence enabled incubatees to construct more positive narratives which helped reverse feelings of worthlessness and unhappiness. Feeling worthy and happy were expected to lead to or manifest more positive life experiences. For example, FE1 said:

> *I think I've grown a lot in my self-confidence and self-worth, that's sort of the personal aspect of it.*

FE24 explained:

> *I do feel more confident, and I do feel happier inside and that's gonna come out and give me a better experience in the outside world.*

On the business side, as incubatees developed self-confidence, they became assertive when relating and communicating to others and were more willing to take risks. For example, FE12 commented:

> *Having the confidence to put yourself out there and take a risk, it's huge and that's where the whole wellbeing and how it's all integrated and all where things are put up and everything they do, it all flows, and it all works together.*

Likewise, FE13 said:

> *I had a lot more confidence to say YES to things I could do, or to say NO to things I knew I couldn't fit in.*

Improvements in self-confidence encouraged incubatees to try different activities to move their business forward. For instance, FE24 said:

> *I feel more confident in everything I'm doing with my business. I'm now able to post something on Facebook, that was a huge anxiety thing for me … now I do it nearly every day and I feel confident about myself now.*

Finally, the existence of role models, that is, the presence of rural women with successful ventures positively impacted the self-efficacy of less experienced members. In this respect, FE15 explained:

> *For me, it was more about building that confidence, because a lot of the time it's our internal speeches that say, no you can't do it … So just having this whole group of people around me that are actually doing it, shows me that I can just do it.*

6.5. Research Question 3: What are the Gaps in TRW-VBI-CoP Service Provision that Need to be Addressed to Improve Individual-Level Outcomes?

A number of gaps in strategy and service provision processes were identified by members of TRW-VBI-CoP. Interviewees recognised that expanding the number of strategic partnerships will benefit TRW-VBI-CoP's standing in the industry, helping TRW-VBI-CoP to create more value for its members. For example, engaging a broad network of providers means access to a large number and variety of resources, for use by nascent entrepreneurs for their business ventures. For service provision, the gaps identified were associated with the branding strategy, currency for payment of membership fees, effective use of the L&NMP, and policies on behaviours on the platform and as members of TRW-VBI-CoP.

To enhance its strategic positioning interviewees suggested that TRW-VBI-CoP should engage more strategic partners to help reinforce its credibility and reputation. This could provide a means of differentiation, given the increasing number of start-up programs already available. For example, when asked about potential areas for improvement, FE18 said:

> *Looking for partnerships with councils or other bodies. I think that is the way to do it, because then you're not just another option in that whole sea of the Internet, you've got some context or point of reference, some credibility and I do think that most people once they get into the community, understand it and build connections and see value and, you know, get involved.*

The majority of interviewees agreed that TRW-VBI-CoP should have a coherent branding strategy. This is because the branding of the L&NMP, that is Mighty Networks,

appears in the mobile app, creating confusion and discontent among members who used the app. For example, FE16 explained:

> *[Mighty Networks] It's an American platform, I think it's not their own…they'd be better off investing and having their own online platform. It's not good branding where they teach you about how poor branding is for yourselves to using a third-party platform you can't brand it … my blog has my brand; it doesn't have um somebody else's brand. And I think it looks more professional having your own branding.*

Another issue that affected members' engagement was the fact that they paid for their subscriptions in US dollars. Most members were discontent with this, and one member even considered it inappropriate to promote or make the membership price look cheaper and consequently more appealing to members. For example, FE18 commented:

> *We want to know [the price] in Australian dollars because the exchange rates are so variable that normally you just kind of add half as much again and go that's a ballpark um but also because it's an Australian product for Australian people based in Australia… that in itself is a little bit of a deterrent.*

Similarly, FE24 said:

> *My perception is that just put it in Australian dollars, you don't need to hide behind what is actually worth and try it market it as being cheaper than what it is…I prefer it was advertised in Australian dollars, yeah.*

As previously stated, the more time members spent using the platform, the more benefit they obtained from it (see section 6.3.1.1.). Given that incubatees are not expected to be technologically competent when they join TRW-VBI-CoP, a user manual on how to use various functions of the Mighty Networks platform is recommended, in addition to training sessions on how to use the platform. The user manual should be a searchable electronic document readily accessible in the virtual community and should also be downloadable. By providing a user manual, TRW-VBI-CoP can alleviate many of the frustrations encountered by incubatees when they use the platform, enhancing in this way the incubatees' experience with the platform and overall satisfaction with the L&MNP.

Although Chatham House rules were used to maintain confidentiality of information on participants in the virtual community, there were no specific rules or norms for acceptable online behaviour. In this regard, some incubatees recognised that having a

code of conduct was important to safeguard the interest of all. For example, FE14 explained:

> *I guess from THE Rural Women's point of view having a code of conduct and having those things in place and in case something was to arise would be helpful. Um and I guess also possibly having that very visible when you first sign up, so you sort of know that that is in place.*

Consequently, a handbook on policies should be developed to define desired behaviour rather than rely on the expectations that all members will behave respectfully and courteously. In addition, the policy handbook can provide guidance on ethical issues or emotional situations that may arise within the virtual community.

For services, some members pointed out that some of the content from the training modules were not relevant to them. Others, however, were overwhelmed by the same content. For example, FE17 regarded the content of the training modules as very basic, merely for beginners. In this regard, she suggested:

> *I think there's definitely a need for an advanced business support program for rural women. That would be phenomenal!*

This highlights the importance of designing and developing training modules with the different levels of knowledge and experience of members in mind. This could be achieved by classifying members by the different stages of their business development which will allow development of distinct value packages that cater for their specific needs and goals.

Often, the content of trainings modules was general in nature. This means that the content could be applicable to a range of industry sectors. However, it was noted that some content was relevant for some sectors but not others, suggesting that incubatees should be supported to apply content to their specific industry sectors. For example, FE21 noted:

> *As an artist that's* [general content] *never worked for me. So, they need to start to cater to the different experience levels and separate sectors, yeah, to really move forward, I think.*

TRW-VBI-CoP is not a specialised incubator, but a general incubator that supports members across industry sectors. For this reason, designing and developing programs for specific sectors may not be feasible or may be a cumbersome task. One way to overcome

this challenge is by developing case studies to illustrate how the content can be applied to specific sectors. They can also invite members from different sectors to present webinars explaining how they have applied specific concepts and tools to their businesses and the results achieved. In addition to tailored programs for each segment, activities and resources for all members would allow interactions and learning across the various levels of experiences within the membership.

Importantly, some members of TRW-VBI-CoP showed interest in becoming mentors to help the less experienced members. Other members emphasised the need to be mentored and having more mentors. For example, FE16 commented:

> *I want to help other people, so I'd like to learn how to mentor. I think, I'm at that point now where I actually want to learn how to help others.*

A training packages can be developed on mentoring, allowing experienced members to learn about mentoring so they can mentor others. This will benefit TRW-VBI-CoP in multiple ways such as providing a source of revenue stream and time and cost saving from hiring external mentors.

It is not surprising that access to finance is one of the main barriers faced by incubatees. Currently, many sources of finance are available, and one source of funding is through government grants. In this vein, training in writing grant applications was suggested. For example, FE7 reported:

> *I guess another thing TRW-VBI-CoP could support, would be like [writing] grant applications.*

Despite the various issues experienced and/or encountered by interviewees, the majority were satisfied with TRW-VBI-CoP. This is explained next.

6.5.1. Overall Satisfaction with Incubation Services

Overall, most interviewees were satisfied with the services provided by TRW-VBI-CoP. Representative quotes are provided below:

> *[FE1]: I love it! it is something that I really value, it's one of my main priorities that I have with my professional development and personal development and connection with other women. I think it's incredibly valuable*

> *[FE22]: I am very satisfied because from where I had started in 2014 to where I am now in 2020, I think it's equipped me with strategies and skills especially in our current climate to be able to be more adaptable and innovative.*

Satisfied members were keen on recommending TRW-VBI-CoP to others. Interestingly, these recommendations were not limited to rural women in business but rural women in general because of a belief in the value of networking and connecting for everyone. For example, FE4 said:

> *I actually recommended TRW-VBI-CoP to a couple of friends that don't have businesses. So, I think, just from a personal growing and learning and expanding your thought processes perspective, it would be really good.*

6.6. Discussion of Findings

The discussion of the findings covers the associations between each key service provision process variable and the outcomes at the individual level achieved by incubatees, that is entrepreneurial knowledge and entrepreneurial self-efficacy. This is explained considering that all incubatees are females operating in rural Australia.

6.6.1. Digital Technology and Entrepreneurial Knowledge and Self-Efficacy

The key areas of the digital technology that affect entrepreneurial knowledge and entrepreneurial self-efficacy are related to the specific functions enabled within the digital platform when creating the environment for online learning and social interactions. TRW-VBI-CoP can function as a VBI because of the Mighty Networks L&NMP, the digital platform used. This L&NMP enables and supports online learning and various forms of social interactions.

While online learning facilitates access to learning materials, social interactions facilitate learning in groups and from one another. Online learning and social interactions are essential components to creating a motivating educational environment where members of TRW-VBI-CoP can learn individually or form groups to learn together and from one another. In line with Meinel and Schweiger (2016), human interaction is considered an important motivational factor for learning in digital environments. Consequently, TRW-VBI-CoP management team must ensure that the L&NMP enables these two functionalities so that incubatees can acquire entrepreneurial knowledge and access

social capital for the success of their startups (Aerts et al., 2007; Bøllingtoft & Ulhøi, 2005).

Online learning resources are available in various forms such as videos, podcasts, articles and links. Online trainings and video lessons are first delivered live via Zoom and then recorded and uploaded into the L&NMP. Members unable to attend synchronously can access the lessons where and when it is most convenient for them. This encourages members to continue participating and engaging in the conversations without the feeling of being left behind. However, some interviewees mentioned having difficulties in finding resources and events, describing the L&NMP as clunky. This fact relates to the usability of the L&NMP. Although this could be explained to an extent by incubatees' digital proficiency, it also suggests to TRW-VBI-CoP that a better organisation of the learning resources is required. Usefulness of content, membership plans in US dollars and minor performance issues were also found to affect members' engagement.

TRW-VBI-CoP is currently using all the social community features in Mighty Networks to enhance the learning experience and motivation of its members. These features are explained below.

A. Social Forums

The social forums allow incubatees to discuss each lesson and ask questions. As expected, incubatees have different levels of knowledge, stemming from differences in education and experiences. More experienced incubatees can assist in the learning process by addressing questions about business concepts or other aspects of the lessons that are posted to the social forums by other incubatees. This usually occurs shortly after the question is posted, allowing incubatees' doubts to be addressed promptly. Clearly, more experienced incubatees automatically take on mentoring roles and help the less experienced incubatees with knowledge acquisition and application. Social forums are particularly useful because mentors are regarded as symbolic role models who set examples and provide valuable lessons for aspiring and less experienced rural female entrepreneurs (Byrne et al., 2019).

B. Groups

Groups are spaces to discuss various topics of interest that may not be addressed in courses and/or may not necessarily be of business in nature. TRW-VBI-CoP creates groups accessible to free and/or paid members and other groups are created for particular purposes. Incubatees are also allowed to create their own groups, which can be organised as private (by invitation only) or public (anyone within the community can join). Private groups are created for example by members who know each other in real life or live in the same region and want to discuss personal, business and contextual issues in a private setting. Public groups, on the other hand, could encompass broader interests and industry sectors. Public groups provide an avenue for incubatees to participate and engage in various conversations based on their own motives and interests, adding to both their entrepreneurial self-efficacy and knowledge. This is particularly important for new members and for incubatees with low self-confidence because for women networking is not just an avenue for acquiring instrumental resources but is equally important for accessing intangible and valuable benefits such as social support and friendships (Greguletz et al., 2019).

The interviews with incubatees indicate that although several belong to and participate in groups, few take the initiative to create groups because they do not know how to create groups. The user manual on functions of the Mighty Networks platform proposed in section 6.5., can help address this problem and enhance interactions, leading to knowledge creation and self-efficacy building.

C. All Member Chat

This feature allows all members of the community, irrespective of their membership status (free or paid) to chat to other members who are online. This feature is currently available for the web but not for the mobile application. In it, members can share text, images, video links and emojis. Members of TRW-VBI-CoP use this feature to ask general questions about a course or an event while connected on their computers or laptops. The TRW-VBI-CoP noted that it was easy for incubatees to get lost in the conversation when they use the chat function. For this reason, members prefer to use Facebook Messenger for informal conversations and to CoP in touch with one another.

The use of Zoom and Facebook Messenger exemplifies the significance of using additional digital tools complementary to the main L&NMP for knowledge sharing and

online social interactions. The social community features and use of complementary digital tools mean content is not limited to that provided by TRW-VBI-CoP and its management team. Content is also generated by members through their interactions, such as conversations and resources shared within the L&NMP (e.g., social forums, groups and chats) and in other digital tools used (e.g., Zoom and Facebook Messenger). The dynamism of their social interactions is not limited by the interactions among incubatees but also includes interactions with the management team, mentors, trainers, facilitators and external experts and affiliates. These in combination with a large number and diverse sources of information and knowledge are critical to generating resources and opportunities for members to enrich their entrepreneurial knowledge and entrepreneurial self-efficacy, which in turn will positively influence their entrepreneurial endeavours and outcomes.

The specificity and relationality properties of the digital technologies used (e.g., the digital platform and complementary digital tools) in the service and support provision, the ease of use of these functions, incubatees' digital proficiency and sense of privacy and security when interacting online, are all important to member engagement. This is in line with previous studies on virtual communities in which security, performance and usability of the digital technology were positively associated to member engagement (Schröder & Hölzle, 2010; Michaelides & Morton, 2008). Importantly, high level of members' engagement in virtual communities is essential for their profitability (Song, 2019) and long-term success. (Casaló et al., 2010).

Furthermore, all incubatees affirmed that equally important to the quality of the learning materials, is the passion, relevant experience and good understanding of what it is to live and work in rural communities that trainers, mentors and facilitators have. In fact, it is nearly impossible to influence others without feeling an intense, meaningful connection to the content that is delivered (Cardon et al., 2009). In addition, having an authentic understanding of the context in which incubatees operate, in this case rural communities, is essential for delivering training in incubators (Simpson et al., 2002). Interestingly, qualifications of trainer and facilitators are important but rank behind passion and familiarity with context.

Leimeister et al., (2006) pointed out that the security of the digital platform is paramount to developing trust within the virtual community. The trust associated to digital

technologies is referred to as system trust (Hsu et al., 2011) or digital trust (Song, 2019). In the context of TRW-VBI-CoP, it is how incubatees perceive the privacy and reliability of the L&NMP and other complementary digital tools used for online learning and networking. Generally, incubatees felt comfortable sharing personal and business matters when they use the L&NMP and the other digital tools and had confidence that the TRW-VBI-CoP management and peers would handle these securely, confidentially and respectfully. Other aspects of trust are discussed next.

6.6.2. Trust and Entrepreneurial Knowledge and Self-Efficacy

Trust is fundamental to the service provision and continuity of TRW-VBI-CoP as a virtual business incubator. The trust exhibited among incubatees and among TRW-VBI-CoP management team and other external affiliates is referred to as interpersonal trust. Interpersonal trust emanates from similar incubatees' narratives (manifested through their common stories rather than personal attributes) and from a common perception of each other as 'like-minded'. These similarities in narratives form incubatees' collective or social identity, leading to shared values, shared purpose and common understandings and are fundamental to trust and behaviours within the virtual community of TRW-VBI-CoP. For example, incubatees' genuine interest in supporting each other, a result of their shared purpose, motivate them to interact, collaborate and support each other (Algesheimer et al., 2005), even in the absence of personal relationships (i.e., benevolence trust). This is because in circumstances where a collective identity and purpose exists, members often assist each other out of a sense of duty to the community (Porter et al., 2011). In supporting each other, for example through positive encouragement and feedback, incubatees help build each other's self-efficacy (Wilson et al., 2007).

Trust in TRW-VBI-CoP as an organisation comes from incubatees' belief that the management team has the competences, skills, knowledge and experiences to accomplish what is promised or inferred, that is, to equip them with the necessary knowledge and confidence to successfully start and grow their business ventures. TRW-VBI-CoP positioned itself as a trustworthy organisation principally due to its inclusive culture and commitment to empowering rural women wherever they live. The culture and commitment to empower rural women were built over years and have materialised in language and practices. For example, words such as thrive, healing, evolve, POD and

phrases such as *bloom wherever you are*, represent the ethos of TRW-VBI-CoP that differentiate them from other business support organisations in rural Australia. Practices are manifested in the type of content created and how and by whom it is delivered (i.e., ability trust). TRW-VBI-CoP, as a relationship-oriented community, encourages information and knowledge sharing online by applying the Chatham House rules. It means that members are free to use the information received, but the identities of the speakers and other members cannot be revealed. TRW-VBI-CoP members exhibit a high degree of homophily, implying that there are certain expectations about members' behaviours and intentions (i.e., predictability trust). Here, members are expected to behave ethically and with integrity and in compliance with commonly accepted values (i.e., integrity trust). With this culture established and accepted by members, their willingness to contribute with information and knowledge is enhanced, building in this way the reputation and credibility of TRW-VBI-CoP within the community. Relevant information and knowledge, stemming from renowned members living in rural areas tend to be more readily accepted and applied by members to their entrepreneurial endeavours, therefore, building their entrepreneurial knowledge.

6.6.3. Virtual Organisation and Entrepreneurial Knowledge and Self-Efficacy

TRW-VBI-CoP as a virtual organisation, deals with the coordination of all interorganisational relationships and activities involved in the provision of virtual business incubation services. Also, as a virtual organisation, TRW-VBI-CoP is responsible for creating the necessary conditions for online learning and networking, favouring the creation and sharing of knowledge. These conditions include care, mutual trust and empathy (von Krogh et al., 2000). Moreover, TRW-VBI-CoP as a virtual organisation, is favourably affected by its organisational flexibility, which allows changes in its structure, processes, strategies and services in a timely manner. This enables ready adaptation to meet the demands of various cohort of incubatees and the needs of rural regions.

TRW-VBI-CoP and its members are interdependent and jointly create value. As such, incubatees can influence the strategic decisions of TRW-VBI-CoP. For example, TRW-VBI-CoP is changing its legal structure from a company to a co-operative, and it is expected this will maximise members' involvement, engagement and satisfaction as members will be responsible for the impact TRW-VBI-CoP will have on their business

ventures and local communities. This change was deemed necessary for the continuous development and preservation of the network in the long-term. Moreover, with this change in its structure, TRW-VBI-CoP expects to open doors to additional resources from local and broader communities.

TRW-VBI-CoP provide members with the opportunity to provide feedback and suggestions which is then used to improve or tailor programs and services within the virtual community. If a suggestion is rated high by most members, TRW-VBI-CoP considers it as priority and attends to it as soon as it is practicably possible (i.e., adaptability). By involving members in the value-creation process, TRW-VBI-CoP is able to continuously innovate and ultimately, enhance value for its members. This value-enhancing process is demonstrated, for example, through incorporation of new topics in the learning programs (e.g., regenerative agriculture), the introduction of new digital tools (e.g., a new communication or collaboration application) and/or adding complementary services from strategic partners. Importantly, when external trainers, mentors and expert advisors are brought to the virtual community, TRW-VBI-CoP ensures that they are female, experts in their field and have rural experience for optimal engagement (i.e., accountability).

The above enables TRW-VBI-CoP to better promote active learning and peer interaction among its members which are critical aspects of the learning process (Razmerita et al., 2019) that build knowledge and self-efficacy, motivating incubatees to engage in the entrepreneurial process, and in turn, learn from their experiences. These findings are in line with existing studies that suggest that much of entrepreneurial learning takes place in context and is experiential in nature (Politis, 2005; Minniti & Bygrave, 2001; Sarasvathy, 2001). It is from these experiences that incubatees acquire relevant practical knowledge and the necessary confidence to effectively deal with uncertainty and face unknown risks (particularly during the start-up process), identify and embrace opportunities as they arise, and skilfully overcome challenges and perceived disadvantages (e.g., personal, business and contextual barriers). In this way, incubatees can move their business ventures forward.

6.6.4. The Virtual Community and Entrepreneurial Knowledge and Self-Efficacy

An important function of the virtual community is to enable collaboration. Collaboration is important because it encourages social interaction and knowledge exchange and provides opportunity for interactive learning (Razmerita et al., 2019) Collaboration is facilitated by the digital technology, that is the L&NMP and digital tools used, enhanced by trust and promoted by the shared vision among incubatees. The associations between digital technology and trust on the one hand and outcomes of entrepreneurial knowledge and self-efficacy on the other have already been discussed, so that the attention here will be on the shared vision.

TRW-VBI-CoP was able to achieve a collective mind focused on achieving both individual and common goals within rural communities. All members share the TRW-VBI-CoP's mission of diversifying and growing rural communities by empowering women in business. The internalisation of this mission by members creates a shared vision that embodies the collective goals of all members within the virtual community and unites them to pursue the common outcomes. This confirms previous studies that reported shared vision as a bonding mechanism that brings and keeps members together (Hsu et al., 2011; Tsai & Ghoshal, 1998). Also, the presence of a shared vision among incubatees strengthens their interpersonal trust.

Knowledge exchange and other communication activities occur in an environment perceived as safe. The continuous participation of members in mutually beneficial activities lead them to form meaningful relationships and even friendships. Regular involvement in the various knowledge exchange and communication activities, enables incubatees to sharpen their collaborative skills. These include providing social support to others in need and giving and receiving feedback, interpersonal networking skills (e.g., practising inclusivity, building trust and active listening), organising skills (e.g., coordinating meetings) and problem-solving skills (e.g., brainstorming and evaluating consensual solutions) (Ettington & Camp, 2002), all of which are relevant to their entrepreneurial pursuits. It is worth mentioning that incubatees' motives for participating within TRW-VBI-CoP virtual community is not limited to learning, but also to seeking social support, headhunting and mentoring others. Peer-mentoring, however, occurs informally whereas more formal mentoring is available but at additional cost.

Incubatees acquire relevant business, management and technology knowledge through formal video presentations delivered by experts from within and outside TRW-VBI-CoP virtual community. In this instance, incubatees learn by listening, reflecting and discussing what is delivered. As previously mentioned, TRW-VBI-CoP enables social learning, where members can learn together and from each other, irrespective of their age, role/position or qualifications. Less experienced members strengthen their self-efficacy through social vicarious experiences provided by more experienced members who act as role models. This is consistent with previous research that suggests that self-efficacy of women entrepreneurs can be enhanced using role models (Wilson et al., 2007). In addition to providing knowledge through entrepreneurship education (e.g., conduct feasibility studies, develop business plans and running case study simulations), other studies suggest that entrepreneurship education can potentially play a role in developing self-efficacy in individuals (Wilson et al., 2007; Noel, 2001). In a similar way, I argue that the virtual programs developed by TRW-VBI-CoP contribute to the development of self-efficacy by proving incubatees with the know-how and the know-why of doing things.

Members are not passive receivers of content, but on the contrary, they apply the knowledge gained to their businesses and continue learning from their experiences. The allocation of an accountability partner is deemed helpful, particularly by new members of the Seed Scheme. Accountability partners play a hand holding role and constantly check on the new members to see how they are progressing and/or refer them to where they can find solutions to their problems. Incubatees seeing themselves solving their problems raises their beliefs that they possess the entrepreneurial knowledge and self-efficacy to engage in challenging entrepreneurial activities required to succeed. Therefore, accountability partners positively influence incubatees' entrepreneurial knowledge and entrepreneurial self-efficacy. The presence of accountability partners is key for incubatees, particularly during the early stages of their membership, because they are particularly vulnerable to *throwing in the towel* for several reasons. These include difficulty in forming relationships with others in the virtual incubator, engaging with the resources provided or making time away from their family and other commitments to attend the training sessions and interact with others within TRW-VBI-CoP virtual community.

Notoriously, incubatees with self-efficacy try new things and engage in entrepreneurial activities outside their comfort zone. The application of knowledge and competencies gained may result in either failures or successes and incubatees consider the learning from both valuable. Successes stimulate incubatees to focus attention on what works well and to use this knowledge iteratively to exploit opportunities. Failures on the other hand provide the opportunity to explore causes and divert actions to more successful outcomes (Politis, 2005). TRW-VBI-CoP, therefore, supports its incubatees to learn by doing. Previous studies confirm that learning by doing assists with developing self-efficacy, particularly when performing tasks perceived to be similar or related to what is learned (Cox et al., 2002).

In virtual communities, satisfaction reflects the degree to which members' expectations of outcomes are met and consequently motivate them to continue participating in the community (Casaló et al., 2010). Members' satisfaction within TRW-VBI-CoP are regularly assessed from their evaluation of all aspects of the virtual community. These aspects include but are not limited to alignment with the mission and objectives of TRW-VBI-CoP, demonstrated leadership of TRW-VBI-CoP management team, culture of the organisation and the virtual community, navigability of the L&NMP, and usefulness of the learning resources. Other areas of assessment are quality of advice received, variety of support available, management of conflict, and quality of the relationships formed.

Not surprisingly, members experience difficulties in one way or another with one or more of these aspects of the virtual community at different points in time. However, the majority of members, due to repeated positive experiences, are satisfied with TRW-VBI-CoP as an organisation and as a community of rural women pursuing similar goals. Satisfied members are eager to recommend TRW-VBI-CoP, particularly to their closer friends and relatives (Casaló et al., 2010; Koh & Kim, 2004). They do so by word of mouth (talking about the benefits of being part of the community) and by inviting their friends to join the community on their social media networks (e.g., Facebook and Instagram). The significance of these recommendations is highlighted by Casaló et al. (2010, p. 359) who states: *These recommendations are also crucial in order to guarantee the community success since they help to perpetuate the virtual community in the long run by attracting potential new members to the community.*

6.7. Contributions

This research contributes to the literature on business incubators and VBIs specifically by providing a novel conceptualisation of VBIs from where an outcome evaluation framework is derived, that considers the characteristics of incubatees (e.g., females) and the context in which they live and work (e.g., rural Australia). From a practical perspective, this research reduces the uncertainties surrounding the creation, development and outcomes of VBIs, favouring the entrepreneurial support online. Moreover, this research is timely since many physically located business incubators are looking to capitalise on opportunities from the internet and web technologies to reach and support more nascent entrepreneurs online, particularly following the global pandemic. These contributions are elaborated in the ensuing sections.

6.7.1. Contributions to Literature

To date, VBIs have not been explored in depth and little is known about the service provision process variables for the effective delivery of business programs and support online. To this end, a VBI was conceptualised in a novel way, as a type of virtual organisation that by virtue of a digital platform functions as a virtual community in which incubatees learn and interact online for economic and social purposes, and for these to occur, a certain level of trust is required. It has also been demonstrated that the characteristics of VBIs such as their virtualness as well as the network and technological competence required to manage them, significantly differentiate them from traditional physically located business incubators and consequently they are distinct organisations that require separate investigation and explanation. Moreover, in addition to be structured as a for-profit and as a non-for-profit, it was observed that VBIs can also be structured as cooperatives. Furthermore, VBIs are generally driven by social motives and therefore, seek to advance the social interest of a particular community or region.

To my knowledge, this is the first study that integrates the service provision process variables of VBIs, with individual-level outcomes, that is entrepreneurial knowledge and self-efficacy achieved by incubatees through online learning and networking. To a large extent, this study complements the extant literature on VBIs by deriving and validating salient service provision process variables to effectively deliver business programs and support online.

By identifying the VBIs' key service provision process variables and explaining how these variables affect entrepreneurial knowledge and entrepreneurial self-efficacy in the context of rural Australia and for female entrepreneurs in particular, this research goes well beyond existing research in this area. I hope that this contribution will lead to even more research into VBIs, which given the rapid evolution of the internet and web technologies, requires research attention, especially in relation to various contexts and types of entrepreneurs.

6.7.2. Contributions to Practice

Regarding contributions to practice, this research reveals the know-what and know-how for the creation and development of VBIs. A better understanding of how service provision process variables contribute to effective incubatees' outcomes will guide incubator managers to know 'what to do' and 'how to do it' when it comes to delivering business programs and support online to aspiring and nascent entrepreneurs at different stages of their business development. This research also reduces the uncertainty about the outcomes achieved by incubatees at individual level when virtually embedded in the VBI, since it was shown how entrepreneurial knowledge and self-efficacy was acquired/enhanced through the development of commercial and social relationships, role models and vicarious experiences. Moreover, these outcomes and other entrepreneurial capabilities (e.g., creativity, risk taking, motivation and/or intention, sensemaking and propensity for action) can now be qualitatively assessed using the outcome evaluation framework proposed in this study.

Given that an increasing number of business incubators are now looking for avenues to transit at least partially, to the virtual world because of the impact of the global pandemic COVID-19, this research suggests that business incubator managers need to choose a suitable digital platform that enables both online learning and networking effectively, as these both facilitate the acquisition of knowledge and social capital, essential for the survival, growth and success of startups. Importantly, business incubator managers are responsible for shaping the virtual community environment. For example, to effectively support aspiring and nascent rural female entrepreneurs, TRW-VBI-CoP developed an inclusive organisational culture and a positive learning environment governed by trust, in which honesty and openness were welcome. This, in turn, created an environment of rewarded vulnerability in which rural female incubatees felt safe to express and where

they built meaningful relationships. This helped them to acquire new knowledge, validate their current knowledge and strengthened their self-efficacy.

In contrast to traditional business incubators, VBIs captures large amount of information that can be used to be more responsive to the needs of incubatees and changes in the environment. One of the highlights of VBIs is that they can provide support to specific industry sectors and target groups, including communities under-represented or disadvantaged in entrepreneurship (e.g., women, youth, migrants, seniors, the unemployed and people with disabilities). Also, VBIs can support nascent entrepreneurs at different stages of their business development. For these reasons, it is paramount that VBIs must know their audience, more specifically, the barriers and challenges they faced because of their identities, sociodemographic characteristics, and context in which they live and work. Knowing the audience is essential to successfully providing support because it helps VBIs to develop relevant and compelling learning materials and resources incubatees can relate to. In this way, ensuring members' engagement, satisfaction and ultimately guaranteeing the promotion and sustainability of the VBI in the long-term.

6.8. Limitations and Future Research Directions

There are caveats in this study that may limit the generalisability of the findings. First, the findings stem from empirical evidence gathered from a single VBI, namely TRW-VBI-CoP. Also, TRW-VBI-CoP supports rural female entrepreneurs only who share a collective identity. As such, the experiences and challenges of its members may not be representative of all aspiring and nascent rural female entrepreneurs in Australia, making the cultural environment of TRW-VBI-CoP unique. An interesting direction for future research would be to compare multiple case studies investigating the perceptions of incubatees in mixed gender VBIs, and VBIs that are not exclusively regional or rural. Finally, I recommend scholars could undertake longitudinal studies to determine the influence of VBI's key service provision process variables on other dimensions of entrepreneurial capabilities such as creativity, risk taking, motivation and/or intention, sensemaking and propensity for action.

6.9. Conclusion

This research aims to investigate the key service provision process variables of VBIs and the link of these variables to entrepreneurial knowledge and entrepreneurial self-efficacy. To accomplish this purpose, TRW-VBI-CoP was used as a case study. The key service provision process variables of VBIs that form practices for effective incubatees' outcomes were found to be the properties of the digital platform and other digital tools used, in terms of their specificity and relationality, characteristics of the VBI as a virtual organisation, the success factors for operating a virtual community, and the various dimensions of trust. These variables are not independent of each other but are deeply interwoven. This research has satisfactorily and convincingly demonstrated how these key service provision process variables help build the entrepreneurial knowledge and entrepreneurial self-efficacy of incubatees. Additionally, this research revealed the role that TRW-VBI-CoP plays in supporting its members' endeavours by providing a sense of community exclusively for rural women while addressing feelings of social isolation and loneliness that characterise rural contexts in Australia. Furthermore, this research paves the way for future research on VBIs supporting other targeted groups, industry sectors and contexts with outcomes in various entrepreneurial capabilities. Future research that pursues these ideas will hopefully contribute to important policies and support schemes about providing support to nascent entrepreneurs online in various contexts. Finally, this research calls for an integration of Web 3.0 and Web 4.0 technologies into digital platforms for building better and more powerful VBIs.

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Appendix 1: Criteria for Judging the Quality of The Research Design

The complexity that surrounds qualitative research requires rigorous and methodical processes that yield meaningful and useful results (Nowell et al., 2017). Qualitative research significantly differs from its counterpart, quantitative research and therefore, a different set of criteria should be used to judge or evaluate its validity and reliability (Bryman & Bell, 2003). In quantitative research, the three most prominent criteria are reliability, replication and validity (i.e., internal, external and ecological validity), which do not necessarily apply to or offer relevance to qualitative studies. Thus, more appropriate ways to evaluate qualitative studies have been proposed (Blatter & Haverland, 2012; Flick, 2006; Bryman & Bell, 2003). They include trustworthiness and authenticity. Trustworthiness is commonly used to replace the validity criterion of quantitative studies (Finlay, 2006) and comprises credibility, transferability, dependability and confirmability (Flick, 2006; Lincoln & Guba, 1985), while authenticity refers to the wider impact of the research.

In addition to trustworthiness, legitimisation, fairness and authenticity are taken into account as key criteria to assure the quality of the research design. Legitimisation occurs when researchers choose the most coherent and appropriate method to conduct their investigations. In this regard, it is advised for constructivists to explain the research process in detail (Hlady-Rispal & Jouison-Laffitte, 2014). In this study, I strive to provide a clear and precise description of the research process followed by being rigorous and thorough when explaining the details at each step of the research process.

Fairness is about displaying respondents' constructions of their realities in a balanced way (Guba & Lincoln, 1989). I treated participants' narratives equally, although some narratives were more representative than others. Authenticity is when the context of the study is clearly explained and represented, participants' interpretations are enhanced and when participants learn from participating (Guba & Lincoln, 1989). In this study, a chapter is devoted to describing TRW-VBI-CoP as a virtual business incubator. Also, participants' narratives are presented in the form of quotes, communicating their views in their own words to enhance interpretation. Lastly, a final report was produced and shared with TRW-VBI-CoP for the benefit of the organisation and its members.

Under the case study research design, trustworthiness stems from triangulating the data and maintaining a chain of evidence (Yin, 2014). However, triangulation is paradigm-dependent and therefore, its aims and objectives are not identical across paradigms. For example, for positivists, triangulation allows verification of the consistency of findings across methods and data sources with the aim of checking correspondence of the findings to reality through replication (Hlady-Rispal & Jouison-Laffitte, 2014; Yin, 2014). For constructivists on the other hand, triangulation respects the individuals' perspectives in order to disclose the existence of multiple realities (Hlady-Rispal & Jouison-Laffitte, 2014; Patton, 2002). Accordingly, the role of triangulation in this study, which followed a social constructivism paradigm, is to acknowledge and respect the social reality of every individual who made this study possible and in doing so, helped unveil multiple realities.

Yin (2014) suggested that having multiple sources of data helps to capture a broad range of perspectives, behaviours and attitudes. Multiple sources of evidence such as observations, preliminary data collected (e.g., surveys and interviews with the founder of TRW-VBI-CoP and its management team), and interviews with members were used to gather multiple perspectives on virtual business incubation processes, services and outcomes. This provided the data source and data type triangulation crucial to case study research designs. Triangulating data collected strengthened the credibility of the findings (Yin, 2012).

The application of trustworthiness with its fundamental elements (i.e., credibility, transferability, dependability and confirmability) are outlined in Table 19 below, with the tactics and stage of research in which the tactic occurred.

Table 14. Tactics employed to ensure quality of research design and outcomes

Element	Description	Tactic employed	Stage of research
Credibility (Blatter & Haverland, 2012; Bryman & Bell, 2003; Lincoln & Guba, 1985).	Refers to confidence in the research findings. In this research, the results are drawn from participants' narratives and interpreted to a large extent from their views.	I invested sufficient time to become familiar with TRW-VBI-CoP organisation, to build trust and to get to know the data in order to extract rich data. I identified participants' narratives most relevant to the problem under study. These narratives included perceptions of themselves as rural, as women, and as aspiring	Entire research process Data collection and data analysis Entire research process

		entrepreneurs; their perceptions of the context in which they operate; and their perceptions of TRW-VBI-CoP's service provision and the benefits obtained. I used different data sources (TRW-VBI-CoP founder, its management team and members), and different methods of data collection (observations, surveys and interviews) for triangulation.	
Transferability (Blatter & Haverland, 2012; Bryman & Bell, 2003; Lincoln & Guba, 1985).	Refers to the degree to which the results can be transferred to other contexts and settings with other respondents.	This was achieved through thick description. I described participants' experiences and perceptions, taking into account the regional and rural context in which they live and work. I have also provided a detailed description of TRW-VBI-CoP.	Data collection Data analysis
Dependability (Blatter & Haverland, 2012; Bryman & Bell, 2003; Lincoln & Guba, 1985).	Refers to the stability of the findings over time. The research steps followed in this study are consistent with the accepted standards for the exploratory case study research design.	I have described, transparently, all the steps taken from the start of this research to the development and reporting of the results and findings.	Entire research process
Confirmability (Blatter & Haverland, 2012; Bryman & Bell, 2003; Lincoln & Guba, 1985).	Refers to the degree to which the findings can be confirmed by other researchers. In this study, results and findings are derived from the data collected.	Complete records were kept of all steps of the research process including problem formulation, schedules for contact with participants, notes, interview transcripts, audio files, video files and data analysis processes. My own personal values and theoretical inclinations that may affect the research process and findings were recognised and disclosed. This research study was conducted in good faith.	Entire research process

Source: Compiled by author.

Appendix 2: The Seed Scheme and Bloom Program

The Seed Scheme

The Seed Scheme has three phases, as described below.

Phase 1: The Seed Scheme Intensive

This phase is critical and non-negotiable. All members accepted to the scheme must go through this phase. It is an immersive, in-community experience that incorporates face-to-face gatherings with other members and also online engagement. Through this phase, members gain hands-on start-up experience, develop problem-solving and collaboration skills, and gain understanding of their rural entrepreneurial ecosystem. Members who complete this phase join the Bloom Program.

Phase 2: Weekly Training and POD Connection

During the second phase, members are incorporated into the Bloom Program for a period of 12 months, and gain access to the online weekly trainings in business, technology, and wellbeing. They are organised into PODs. A POD is a group of ten or more sponsored members in one geographic area who have received funding support under the Seed Scheme. POD members meet face-to-face and/or online and receive support from a POD facilitator as well as peer-to-peer support from members.

Phase 3: Engagement with TRW-VBI-CoP Community

Members are given full access to TRW-VBI-CoP community at this stage so they can connect and expand their personal and business networks. They have the opportunity to present their business ideas to the rest of the members and receive feedback. They also practise how to pitch their ideas, develop collaborative business opportunities, and connect at a personal level with other members. The community is regarded as a safe space, a positive, judgement-free environment that provides the potential for business and personal growth.

The Seed Scheme seeks to counteract the high failure rate of new ventures, particularly during their first years of establishment, by allowing members continuous access to a variety of support beyond the 12 months of the scheme at an affordable monthly fee.

Figure 21 shows the towns in which the Seed Scheme has been successfully delivered up to date.

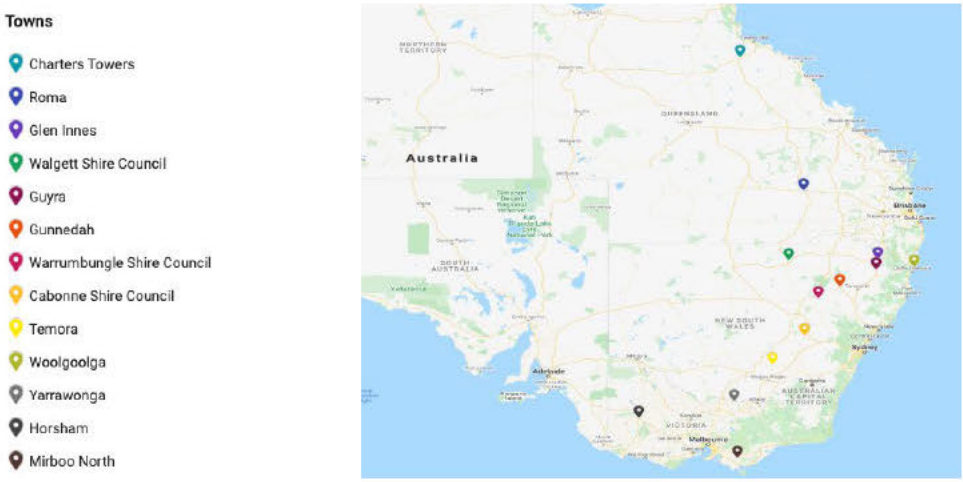

Figure 15. Towns in which the Seed Scheme was successfully delivered. Compiled by the author from information provided by the CEO of TRW-VBI-CoP.

The Bloom Program

A list of courses available in the Bloom Program is provided in Table 20 below.

Table 15. Courses available in the Bloom Program

Course	Description
2019 Members Weekly Business Training	Recordings of the weekly business training/mentoring hosted by rural Australia's leading experts.
2019 Members Weekly Tech Training	Recordings of the weekly tech training/mentoring hosted by rural Australia's tech experts.
2020 Digital and Tech Skills Training	A supportive learning space to explore and understand tools to help you personally and in business.
2020 Members Weekly Business Training	Weekly business training/mentoring hosted by rural Australia's leading experts.
2020 Wellbeing for Rural Woman	THE Return to Whole, hosted by the founder.
CONNECTION Challenge	7-day challenge for women feeling isolated, craving for connection.
Finding Clarity	A course designed for members seeking clarity in life, business, or both.

Gain More CONFIDENCE	A 15-day challenge to uplift members' confidence both personally and professionally.
How to Have Uncomfortable Conversations	Delivered by rural Australia's leading experts.
Make the Most of Your Bloom Membership	Inspiration, motivation, activation. When a rural woman blooms, all around her bloom too.
Redefining Crisis	Rural women claiming mental, physical, financial, and spiritual health.

Source: TRW-VBI-CoP website. Available at: https://community.theruralwoman.com/landing/plans/56149/products.

The topics covered in both the Weekly Business and Weekly Technology training are determined and scheduled in advance for the whole year. There is a theme for each month and a topic for each week within the theme. The weekly topics are not rigid and could be changed based on availability of the speaker, interest in the topic, or other situations that prevent delivery of the planned topic. For example, the 2020 weekly business training has the following themes for each month: January – 'Planning for Success'; February – 'Product Development'; March – 'Marketing and Branding'; April – 'Content Creation and Distribution'; May – 'Pricing and Sales'; June – 'Tax, Insurance and Super'; July – 'Budgeting and Financial Management'; August – 'Time Management'; September – 'Maximising your Media Exposure'; October – 'Managing Growth'; November – 'Staffing and Support'; and December – 'Structure and Systems'. All weekly training sessions are recorded and uploaded to the virtual community so they can be accessed by members at their convenience.

The Bloom Program is provided in three tiers of membership: free membership, annual membership (US$33.99 per month or US$299.99 annual) and lifetime membership (a once-only fee of US$899.99). Free members have access to basic resources such as the virtual community and are able to host online events. Paid members access more relevant content such as all courses, live online weekly training in business and leadership, mentoring, coaching and personal growth, and well-being, all delivered by experts in each field.

Appendix 3: Information Sheet for Founder and Management Team

UNE Business School
University of New England
Armidale NSW 2351
Australia
Email: msaavedr@une.edu.au

INFORMATION SHEET FOR FOUNDER AND MANAGEMENT TEAM

I wish to invite you to participate in my research project, described below.

My name is Angelo Saavedra and I am conducting this research as part of my Master's by research in the School of Business at the University of New England. My supervisors are Professor Bernice Kotey and Dr Kamaljeet Sandhu.

Research Project	**A Framework for Assessing Virtual Business Incubator Outcomes: The Case of TRW-VBI-CoP**
Aim of the Research	The research aims to develop and test a framework for assessing the performance and impact of virtual business incubators. In this regard we are assessing the influence of virtual business support services on building internal entrepreneurial capabilities (i.e., entrepreneurial knowledge and entrepreneurial self-efficacy). TRW-VBI-CoP is considered for this purpose.
Survey	I would like to conduct a survey and for this reason, we ask you to give your time, experience, knowledge, perceptions and patience to complete the questionnaire. The questionnaire is online and will be distributed through Qualtrics, the platform used by the University of New England to deliver online surveys securely. The survey will take approximately fifteen minutes to complete.

Confidentiality	Any personal details gathered in the course of the study will remain confidential. No individual will be identified by name in any publication of the results. All names will be replaced by pseudonyms; this will ensure your anonymity. If you agree I would like to quote some of your responses. This will also be done in a way to ensure that you are not identifiable.
Participation is Voluntary	Please understand that your involvement in this study is voluntary and I respect your right to stop participating in the study at any time without consequence and without needing to provide an explanation. However, once you begin the survey your anonymous data which you have already provided cannot be withdrawn.
Questions	The survey questions will not be of a sensitive nature: rather they are general and will enable me to enhance my knowledge of processes to effectively deliver business support services virtually. Moreover, it will help me to identify the key success factors of virtual business incubators and their influence on building entrepreneurial knowledge and entrepreneurial self-efficacy.
Use of Information	I will use information from the surveys as part of my thesis, which I expect to complete in March 2021. Information from the surveys may also be used in academic journal articles and conference presentations before and after this date. At all times, I will safeguard your identity by presenting the information in a way that will not allow you to be identified.
Upsetting Issues	It is unlikely that this research will raise any personal or upsetting issues but if it does you may wish to contact your local Community Health Centre or Lifeline on 13 11 14.
Storage of Information	I will CoP all hardcopy notes and responses from surveys in a locked cabinet in my office at the University of New England's School of Business. Data gathered in this survey will initially be securely stored on Qualtrics™, a private provider of survey/research software. Once the survey

	period has closed the data will be downloaded to cloud.une.edu.au, UNE's centrally managed cloud server accessible only by the research team. It will also be kept on a password protected computer which only I have access to.
Disposal of Information	All the data collected in this research will be kept for a minimum of five years after successful submission of my thesis, after which it will be disposed of by deleting relevant computer files and destroying or shredding hardcopy materials. Likewise, data will be removed from Qualtrics once the survey is completed.
Approval	This project has been approved by the Human Research Ethics Committee of the University of New England (Approval No HE20-079, Valid to 28/04/2021).
Researchers	Feel free to contact me with any questions about this research by email at msaavedr@une.edu.au
Contact Details	You may also contact my supervisors. My Principal supervisor's name is Professor Bernice Kotey, she can be contacted by email at bkotey@une.edu.au or by phone on 02 6773 2830. My Co-supervisor's name is Dr Kamaljeet Sandhu, his email address is ksandhu@une.edu.au and his phone number is 02 6773 3494.
Complaints	Should you have any complaints concerning the manner in which this research is conducted, please contact: Mrs Jo-Ann Sozou Research Ethics Officer Research Services University of New England Armidale, NSW 2351 Tel: (02) 6773 3449 Email: humanethics@une.edu.au Thank you for considering this request and I look forward to further contact with you. Regards, Angelo Saavedra

Appendix 4: Consent Form for Founder and Management Team

CONSENT FORM FOR FOUNDER AND MANAGEMENT

Research Project: A Framework for Assessing Virtual Business Incubator Outcomes: The Case of TRW-VBI-CoP

I, ……., have read the information contained in the Information Sheet for Participants and any questions I have asked have been answered to my satisfaction.	Yes/No
I agree to participate in this activity, realising that I may withdraw at any time.	Yes/No
I agree that research data gathered for the study may be quoted and published using a pseudonym.	Yes/No
I am 18 years of age or older.	Yes/No

…….. ……
Participant Date

…….. ……
Researcher Date

Appendix 5: Questionnaire for Founder

VBI founder - questionnaire

The answers to this questionnaire will provide us an overview of the service provision processes and services provided by TRW-VBI-CoP. It is organised into four sections: governance, services and target market, operations and financials. In addition to the close-ended questions please provide as much information as possible about your incubator to give us a complete picture of its strategic position and service provision processes.

Governance of TRW-VBI-CoP

1. What is the legal status of TRW-VBI-CoP? (Please tick all applicable boxes):

Legal status	
Public entity	
Private company	
For-profit	
Not-for-profit	
Other Please specify:	

2. Do you have a board of directors? Yes No

3. If yes for Q2, please provide the following information about your board members:

Title/Role	**Qualifications and Experience**

4. Do you have a management team? Yes No

5. If yes for Q4, please provide information about your management team:

Position title	No of people	Position description	Qualification and Experiences
(e.g., project coordinator of business support program 1)	*(e.g., 1)*	*(e.g., coordination of tasks and activities of business support program 1)*	*(e.g., bachelor's in business and cert IV in training and assessment. Three years of experience coordinating the small biz connect program in Dubbo, NSW)*

6. What is the vision of TRW-VBI-CoP?

7. What is the mission of TRW-VBI-CoP? Is the mission consistent across all information channels?

8. What are the main objectives of the VBI?
   (e.g., help women entrepreneurs to be more competitive, increase jobs in regional communities, etc.)

9. In terms of strategy and plans: Has TRW-VBI-CoP prepared the following: (Please tick yes or no accordingly and specify frequency of preparation- e.g., annually, semi-annually)

	Yes	No	Frequency of preparation
Business plan			
Operational strategy			
Marketing plan			

Financial plan			

Services and Target Market of TRW-VBI-CoP

10. What professional services are provided by TRW-VBI-CoP for their incubatees?
(e.g., advice on developing new products and services, market research, product costing and pricing, etc.)

Services for new businesses (start-ups)	**Services for more established businesses**
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

11. Are some services provided free of charge? Yes No

12. If your answer is yes for Q11, please list all services that are provided free:

Free services provided by TRW-VBI-CoP	**Free services provided by strategic partners**
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

13. What criteria, if any, are used to define TRW-VBI-CoP's target market?
(e.g., women located in regional Australia with the intention to start a new business, women located in regional Australia already trading in the marketplace, etc.)

14. What criteria if any, are used to screen prospective incubatees and/or projects for admission into TRW-VBI-CoP virtual business community?
(e.g., commercial viability of project, technical viability of project, entrepreneurial and managerial potential of the individual, projected growth potential, ability to pay membership fees, a business plan must have been prepared, etc.)

15. What criteria if any, are used to screen prospective incubates and/or projects for admission into TRW-VBI-CoP face to face programs?

(e.g., commercial viability of project, technical viability of project, entrepreneurial and managerial potential of the individual, projected growth potential, ability to pay membership fees, a business plan must have been prepared, etc.)

16. What criteria if any, are used to screen prospective incubatees and/or projects for admission into programs delivered by TRW-VBI-CoP's strategic partners?
(e.g., commercial viability of project, technical viability of project, entrepreneurial and managerial potential of the individual, projected growth potential, ability to pay membership fees, a business plan must have been prepared, etc.)

17. Please provide the number of incubatees of TRW-VBI-CoP since its inception in 2015?

Year	Free	Paid
2015		
2016		
2017		
2018		
2019		

18. Are members grouped into industry sectors? Yes No

19. If yes to Q18, please list the industry sectors and the number of members in each sector for the current year.
(e.g., sales, marketing and distribution, business and financial services, information and communications technology, manufacturing, etc.)

Industry sector	No of members
1.	
2.	
3.	
4.	
5.	

20. For the year 2019, were any industries highly represented? Yes No

21. What marketing/advertising channels are used to promote TRW-VBI-CoP services?
(e.g., using social media channels such as Facebook and YouTube, ads in local newspapers, referrals from other business support agencies, etc.)

22. What value proposition(s) does TRW-VBI-CoP provide its members?

Operations of TRW-VBI-CoP

23. Who are the main strategic partners of the VBI? And what services do they provide?
The strategic partners are external organisations that provide complementary/additional services to TRW-VBI-CoP members (e.g. national authorities, public agencies, companies, banks, private sector organisations, universities and other R&D organisations, community and voluntary organisations, etc.)

Strategic partner	Services provided
1.*(e.g., strategic partner 1)*	*(e.g., training and advice in commercialisation of products in international markets).*
2.	
3.	
4.	
5.	

24. Approximately how much does it cost annually to operate TRW-VBI-CoP (in AU$)?

25. Please specify the major operating costs
(e.g., total payroll/benefits, website maintenance, virtual community platform, other integrated digital services, etc.)

Operating costs	(AU$)
1.	
2.	
3.	
4.	
5.	
6.	

26. What are the Key Performance Indicators for TRW-VBI-CoP?

27. What approach and criteria are used to monitor and/or measure incubatee performance? Please explain for each of the following groups of incubatees.

    a) within the platform and

    b) within specific programs

28. Do you collect feedback from your incubatees? Yes No

29. If your answer to Q28 is Yes, how often do you collect feedback? Please provide details)
(e.g., at the end of each program, semi-annually, or annually)

30. If your answer to Q28 is Yes, how is feedback collected from members who receive direct/indirect business support from TRW-VBI-CoP?

31. If your answer to Q28 is Yes, how is feedback collected from members who receive business support services from TRW-VBI-CoP' strategic partners?

32. If feedback is collected, how is it organised and used to improve TRW-VBI-CoP services and programs? Please describe and provide examples if possible.

33. Please provide the approximate attrition rate of incubatees for each of the following years. Please express in percentage:

Year	%
2015	
2016	
2017	
2018	
2019	

34. Why do incubatees leave or cancel their membership to TRW-VBI-CoP? Please explain.
(e.g., membership fees to expensive, difficulties in understanding and using the digital platform, limited services provided, etc.)

35. Please provide the approximate percentage of incubatees who have started their own businesses since joining your incubator for each of the following years.

Year	%
2015	
2016	
2017	
2018	
2019	

36. Do incubatees who start their own businesses continue to be part of TRW-VBI-CoP? If they do, in what capacities do they remain within the incubator. Please explain.

Financials of TRW-VBI-CoP

37. What were the main sources of revenue for TRW-VBI-CoP in the 2019 Financial year? Approximately what percentage is each source to total revenue for the year? Please list all revenue sources below.
(e.g., grants from sponsors, subscriptions from incubates, fees from programs etc.)

Source of revenue	Total revenue (%)
1.	
2.	
3.	
4.	
5.	
6.	

38. What were the main categories of expenses incurred by TRW-VBI-CoP in the 2019 Financial Year? Approximately what percentage is each expense item to total operating expenses for the year.
Note: expenses are expenditures that are not directly related to the provision of business support services. Typically includes administrative and general expenses.

Expense item	Operating costs (%)
1.	
2.	
3.	
4.	
5.	
6.	

39. Does TRW-VBI-CoP take an equity (ownership) position in incubatee firms?
Yes No

40. If yes in Q39, is the percentage of equity taken in incubated firms fixed or varies among the firms? Please explain.

41. If yes in Q39, in how many incubatee firms does TRW-VBI-CoP have an equity position?

Year	Number of firms
1.	
2.	

3.	
4.	
5.	

42. Has TRW-VBI-CoP been profitable over the last five years? Please complete the following table to better understand the fluctuations in your profitability.

Year	Profit / Loss
2015	
2016	
2017	
2018	
2019	

43. What were the main asset classes for THE Rural Women in the 2019 Financial Year? Approximately what percentage is each asset item to total assets for the year?

Asset item	% of Total assets
1.	
2.	
3.	
4.	
5.	
6.	

44. What were the main sources of capital for THE Rural Women in the 2019 Financial Year? Approximately what percentage is each source to total capital for the year?

Capital source	% of Total capital
1.	
2.	
3.	
4.	

5.	
6.	

45. What were the main sources of debt for TRW-VBI-CoP in the 2019 Financial Year? Approximately what percentage is each source to total debt for the year?

Source of Debt	**% of Total Debt**
1.	
2.	
3.	
4.	
5.	
6.	

46. Please provide any other information about governance, services and target market, operations and financials of TRW-VBI-CoP that we may have missed in this questionnaire.

Thank you for your time in completing the questionnaire!

Appendix 6: Interview Guide

This research study is about TRW-VBI-CoP. The answers you provide will help me to understand how THE Rural Women is providing their business support services online and also to determine if they are meeting their business objectives. The interview will cover several areas of TRW-VBI-CoP including their strategy and management, the digital technology used and quality of services.

Demographic Information:

This information is important for contextualising your answers.

1. Age group
2. Level of Education
3. Years of business experience
4. Current business status (starting a business, established business).
5. How long has the business been in operation?
6. Legal structure (sole trader, partnership, company)
7. Which industry sector are you operating? Or planning to operate.
8. In which state are you located? (NSW, QLD, etc.)
9. Products/Services provided
10. Markets (Where are your customers located?)
11. Do you have employees? (How many full time, part time and casual?
12. Are you a paid member? When did you join TRW-VBI-CoP?
13. What challenges were you facing prior to joining TRW-VBI-CoP?
14. How did you find about TRW-VBI-CoP?
15. What attracted you to join TRW-VBI-CoP?

Strategy and Management of TRW-VBI-CoP

In this section we will ask about information on what the rural strategies and management team and partners.

1. Do you know the mission of TRW-VBI-CoP? What is it?
2. Are you aware of the main objectives of TRW-VBI-CoP? What are they? And which objectives do you align with?
3. What skills/qualifications and experiences would you expect the management team of TRW-VBI-CoP to have to provide quality services to their clients?
4. Does TRW-VBI-CoP provide services from partners who are not on the management team? Do you know some of these partners and the services they provide through the RW? Does TRW-VBI-CoP have strategic partners who provide complementary services?

Services provided by TRW-VBI-CoP

This section deals with the services that TRW-VBI-CoP provides.

1. TRW-VBI-CoP provides a wide range of support services. Can you mention some of these support services?

2. What services or specific areas of training have you been involved with from TRW-VBI-CoP? (Here, consider various topics on business development such as marketing, accounting and information technology to find out more).
3. Have their services provided expanded over time?
4. Are there any other services that you consider important but are not currently provided by TRW-VBI-CoP?

Virtual community

The questions in this section relates to how members, managers and partners work together as a knowledge community and as a community of practice.

1. What stands out about TRW-VBI-CoP's operation as an incubator and a community of?
2. Do you have confidence in the advice and resources provided by TRW-VBI-CoP and its partners? Please explain.
3. Do you find the interactions (online and face to face) with other members, partners and management of the RW fruitful? Please explain.
4. Do you find members' contribution to be valuable? Please explain.
5. Are you encouraged to make contributions within the community? If so, in which ways? (e.g., presentations, postings discussions)
6. Have you experienced any conflict with members, partners or management of the RW within the community? Explain, how it was handled? Were you satisfied with the final outcome?
7. Does TRW-VBI-CoP have a code of conduct to guide online interactions? Were you introduced to the code of conduct when you joined? Do you find it useful for maintaining order within the community?
8. How regularly does TRW-VBI-CoP present online events such as webinars, conferences, learning materials? What about face-to-face meetings?
9. Are you comfortable that the information you provide including your personal details are securely and confidentially handled?
10. In your opinion: is value enhanced by recruiting members into the management team?
11. Do you think TRW-VBI-CoP services represent value for money? (in other words, are TRW-VBI-CoP services fairly priced?) i.e. Are you satisfied with the quality and types of support provided?

Digital Technology

This part of the interview will assess the effectiveness of the digital platform used by TRW-VBI-CoP

1. How effective is the digital platform that is used by TRW-VBI-CoP for communication and collaboration purposes?
2. What aspects of the digital technology used by TRW-VBI-CoP appeals to you most?
3. Is it easy to navigate and to find resources from the platform?
4. Do you have a personalised page on TRW-VBI-CoP site?
5. Are you able to communicate with all members, selected members and individual members within the community on TRW-VBI-CoP platform?
6. Does TRW-VBI-CoP system allow you to customise information received to topics of your choice?
7. Does the system allow the formation of subgroups with specific interests for discussion?

Outcomes & Applications

This section seeks information on how you have used the resources, skills and knowledge acquired from TRW-VBI-CoP

1. What have you learned from services provided by TRW-VBI-CoP?
2. What skills and competences have you developed from TRW-VBI-CoP?

    a. Brainstorm for a new idea for a product/service
    b. What about identify the need for a new product/service?
    c. Design a product/service that satisfy needs and wants?
    d. Test my products/services and adapt them to my customers' needs
    e. Use technique and tools to develop new business models
    f. Add value to my offerings by study the whole supply chain for my product/service
    g. Estimate the amount of start-up funds and/or working capital for the business
    h. Use technology to gather and analyse data for more informed and better decisions
    i. Use technology to streamline business processes
    j. Protect the intellectual property of your business
    k. Design an effective marketing/advertising campaign for a new product/service
    l. Clearly explain my business idea to my customers, potential investors (or strategic partners)
    m. Create compelling stories about the value to customers from my products/services
    n. Build genuine personal connections in face-to-face interactions
    o. Build trust in online interactions

3. What other skills and competences would you like to develop from TRW-VBI-CoP?
4. How have you applied the skills and competences and any of what you have learned to your business and other aspects of your life? Please explain
5. In what ways have your business improved because of TRW-VBI-CoP?

Covid-19

This section relates to how the COVID has affect you and your business and how you are coping.

1. What do you see as your biggest challenge from Covid-19?
2. What do you see as your biggest opportunity from Covid-19?
3. What support did you receive from TRW-VBI-CoP to help you CoP with Covid-19?

Final questions:

1. How satisfied were you with TRW-VBI-CoP support services?
2. Would you recommend TRW-VBI-CoP services to women interested in starting their businesses?
3. Please explain how TRW-VBI-CoP might improve its services in the future.
4. Would you like to add something else in relation to TRW-VBI-CoP services?

Appendix 7: Information Sheet for Incubatees

UNE Business School
University of New England
Armidale NSW 2351
Australia
Email: msaavedr@une.edu.au

INFORMATION SHEET FOR INCUBATEES

I wish to invite you to participate in my research project, described below.

My name is Angelo Saavedra and I am conducting this research as part of my Master's by research in the School of Business at the University of New England. My supervisors are Professor Bernice Kotey and Dr Kamaljeet Sandhu.

Research Project	**A Framework for Assessing Virtual Business Incubator Outcomes: The Case of TRW-VBI-CoP**
Aim of the Research	The research aims to develop and test a framework for assessing the performance and impact of virtual business incubators. In this regard we are assessing the influence of virtual business support services on building internal entrepreneurial capabilities (i.e., entrepreneurial knowledge and entrepreneurial self-efficacy). TRW-VBI-CoP is considered for this purpose.
Interview	I would like to conduct a semi-structured interview and for this reason, we ask you to give your time, experience, knowledge, perceptions and patience to reflect on your lived experiences and answer the questions. The interview is online via Zoom or could be also by phone. The interview will take approximately one hour and will vary according to the depth of your responses.
Confidentiality	Any personal details gathered in the course of the study will remain confidential. No individual will be identified by name in any publication of the results. All names will be replaced by pseudonyms; this will ensure your anonymity. If you agree I would like to quote some of your

	responses. This will also be done in a way to ensure that you are not identifiable.
Participation is Voluntary	Please understand that your involvement in this study is voluntary and I respect your right to stop participating in the study at any time without consequence and without needing to provide an explanation. However, once you begin the survey your anonymous data which you have already provided cannot be withdrawn.
Questions	The survey questions will not be of a sensitive nature: rather they are general and will enable me to enhance my knowledge of processes to effectively deliver business support services virtually. Moreover, it will help me to identify the key success factors of virtual business incubators and their influence on building entrepreneurial knowledge and entrepreneurial self-efficacy.
Use of Information	I will use information from the surveys as part of my thesis, which I expect to complete in March 2021. Information from the surveys may also be used in academic journal articles and conference presentations before and after this date. At all times, I will safeguard your identity by presenting the information in a way that will not allow you to be identified.
Upsetting Issues	It is unlikely that this research will raise any personal or upsetting issues but if it does you may wish to contact your local Community Health Centre or Lifeline on 13 11 14.
Storage of Information	I will CoP all hardcopy notes and responses from surveys in a locked cabinet in my office at the University of New England's School of Business. Data gathered in this survey will initially be securely stored on Qualtrics™, a private provider of survey/research software. Once the survey period has closed the data will be downloaded to cloud.une.edu.au, UNE's centrally managed cloud server accessible only by the research team. It will also be kept on a password

	protected computer which only I have access to.
Disposal of Information	All the data collected in this research will be kept for a minimum of five years after successful submission of my thesis, after which it will be disposed of by deleting relevant computer files and destroying or shredding hardcopy materials. Likewise, data will be removed from Qualtrics once the survey is completed.
Approval	This project has been approved by the Human Research Ethics Committee of the University of New England (Approval No HE20-079, Valid to 28/04/2021).
Researchers	Feel free to contact me with any questions about this research by email at msaavedr@une.edu.au
Contact Details	You may also contact my supervisors. My Principal supervisor's name is Professor Bernice Kotey, she can be contacted by email at bkotey@une.edu.au or by phone on 02 6773 2830. My Co-supervisor's name is Dr Kamaljeet Sandhu, his email address is ksandhu@une.edu.au and his phone number is 02 6773 3494.
Complaints	Should you have any complaints concerning the manner in which this research is conducted, please contact: Mrs Jo-Ann Sozou Research Ethics Officer Research Services University of New England Armidale, NSW 2351 Tel: (02) 6773 3449 Email: humanethics@une.edu.au Thank you for considering this request and I look forward to further contact with you. Regards, Angelo Saavedra

Appendix 8: Consent Form for Incubatees

CONSENT FORM FOR INCUBATESS

Research Project: A Framework for Assessing Virtual Business Incubator Outcomes: The Case of TRW-VBI-CoP

I, ……., have read the information contained in the Information Sheet for Participants and any questions I have asked have been answered to my satisfaction.	Yes/No
I agree to participate in this activity, realising that I may withdraw at any time.	Yes/No
I agree that research data gathered for the study may be quoted and published using a pseudonym.	Yes/No
I am 18 years of age or older.	Yes/No

…….. ……
Participant Date

…….. ……
Researcher Date