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**The Mediating Role of Decision-Making Logic and Moderating Role of Organisation
Ambidexterity in the Relationship between Entrepreneurship, Organisation Change
Readiness and Resources in New Zealand: An Exploratory Study**

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Abstract

Entrepreneurship is a cornerstone of the New Zealand (NZ) economy. Entrepreneurs drive innovation, build wealth and create employment. Yet how entrepreneurs sustain the small and medium-sized enterprises (SMEs) that make up over 99% of NZ businesses has received little research attention. Moreover, in the current world where organisation changes are happening rapidly there is limited literature on how entrepreneurs prepare their business for these changes. This study is the first to link entrepreneurship to organisation change readiness (OCR) which is of particular importance given the current technological change climate facing businesses which is being driven by the Fourth Industrial Revolution (IR 4.0).

This study sought to understand how entrepreneurs running SMEs in NZ create OCR by using different types of resources and different types of decision-making logic. Extending understanding of these relationships further, this study examined the relationship between resources and OCR and how different types of decision-making logic mediate this. It also examined how the relationship between decision-making logic and OCR is moderated by organisation ambidexterity.

This study was a quantitative design that involved 119 participants, all of whom were entrepreneurs that owned SMEs in NZ. Participants comprised 28 females and 91 males, with most aged between 20 and 39 with at least an undergraduate degree. After controlling for age, gender and education level, the study's results found that a positive relationship existed between resources and OCR that was mediated by decision-making logic. A positive relationship was found between both types of decision-making logic and OCR; however, organisation ambidexterity did not moderate this relationship. These results show the important impact that the entrepreneur has on the change readiness of his/her business and the importance of both resources and decision-making logic to organisation change readiness (OCR).

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List of Abbreviations

AI	artificial intelligence
ANOVA	analysis of variance
BCa CI	bias-corrected and accelerated confidence intervals
CEO	Chief Executive Officer
CFA	confirmatory factor analysis
CMV	common method variance
EFA	exploratory factor analysis
FG resources	financial and government resources
GDP	gross domestic product
ILO	International Labour Organization
IR 4.0	The Fourth Industrial Revolution
IT	information technology
LLCI	lower limit confidence interval
M	Mean
MBIE	Ministry of Business and Innovation
OA	organisation ambidexterity
OCQ–C, P, R	Organisational Change Questionnaire–Climate of Change, Processes, and Readiness (scale)
OCR	Organisation change readiness
OECD	Organisation for Economic Co-operation and Development
R&D	research and development
RBV	resource-based view
SD	standard deviation
SE	standard error
SEM	structural equation modelling
SMEs	small and medium-sized enterprises
SPSS	IBM SPSS Statistics for Microsoft Windows (formerly known as the Statistical Package for the Social Sciences [SPSS])
ULCI	upper limit confidence interval.

Chapter One: Introduction

Small and Medium-Sized Enterprises (SMEs) and Entrepreneurship

Small and medium-sized enterprises (SMEs) globally make up approximately 90% of all businesses and contribute to over 50% of jobs (World Bank, 2019). Among members of the Organisation for Economic Co-operation and Development (OECD), SMEs make up 99% of businesses and contribute to around 70% of jobs (International Labour Organization [ILO], 2021). Job creation is becoming more important, with the World Bank estimating that by 2030 over 600 million jobs will be needed to support the world's growing workforce (World Bank, 2019). As SMEs are typically more agile and able to change faster than larger businesses, the OECD views SMEs as having a unique opportunity to change the world of work by creating, adopting and adapting to emerging technologies (OECD, 2023b). The role of SMEs is also important in helping to build the social identity and cohesion of local communities (OECD, 2021b). As the population and requirement for greater technological advancement and adoption increase, the sustainability of SMEs is important for all countries (International Labour Organization [ILO], 2021). Despite this, a significant portion of SMEs do not survive past five years (International Labour Organization [ILO], 2021).

Behind the establishment of SMEs are entrepreneurs. An entrepreneur is defined as someone who has an ownership stake in a business, as well as the responsibility for making decisions on business activity and addressing the financial consequences of those decisions (Hopp and Stephan, 2012; Knight, 2006; Schumpeter, 2010). Entrepreneurs come up with new ideas; they drive innovation in economies and are willing to take significant personal risks. They drive the expansion of businesses, new employment opportunities and the development of new technology (Lumpkin and Dess, 1996). In addition to driving job creation and innovation, entrepreneurs running SMEs are responsible for a significant portion of a country's profit, making up between 50–60% of gross value-added in the OECD (International Labour Organization [ILO], 2019).

Entrepreneurship consists of three phases. In the initial phase, an entrepreneur identifies a potential business opportunity; this is followed by gathering the required resources; and, finally, the on-going management of the created opportunity to enable the business to survive and grow (Baron and Shane, 2007; Frese and Gielnik, 2014).

Identification of business opportunities has been examined from the perspective of knowledge spill-over theory (Acs et al., 2009), entrepreneurial alertness (Kirzner, 1983; Tang

et al., 2012), and prior experience (Shane and Venkataraman, 2000). Required resources have been explored from the perspective of the importance of finance and how lack of finance can be a significant limitation (Ho and Wong, 2007); the importance of a plan for securing finance (Crick and Crick, 2018); and the use of social networks to gain credit from suppliers when starting a new venture (Winborg and Landstrom, 2001). Studying the third phase of entrepreneurship, venture performance or failure, has found that goal-setting, self-efficacy and communication of a clear vision have direct effects on business growth (Baum and Locke, 2004). In addition, it has been argued that characteristics, such as the need for achievement, rather than the personality traits of entrepreneurs are predictive of business success (McClelland, 1965; Rauch and Frese, 2000). Therefore, the characteristics of an entrepreneur and his/her decision-making and use of resources, are all important phases of the entrepreneurial process.

Research on the three phases of entrepreneurship has focused on the characteristics that differentiate entrepreneurs from employees (Brandstätter, 2011). In comparison to small business managers, entrepreneurs are found to have different personality traits with a higher need for achievement and greater tolerance for ambiguity (Begley and Boyd, 1987; Stewart and Roth, 2001, 2007). In comparison to employees, entrepreneurs are found to possess certain constructs that are essential to new business creation, most notably an entrepreneurial orientation which is identified by traits that include risk taking, pro-activeness and innovativeness (Rauch et al., 2009). Entrepreneurs also differ from employees when it comes to accessing resources. Entrepreneurs have the ability to leverage social capital to effectively identify new business opportunities, obtain financial and other resources to develop the opportunity, and use networks to promote the opportunity (Stam et al., 2014). They need to apply a decision-making logic to allow them to seek, and make use of, the correct financial and government support that can help them to sustain and grow their business. In comparison, employees are required to use their knowledge and skills to complete job roles. One of the biggest differences between entrepreneurs and employees is the role they play in adapting to change. An entrepreneur is the ultimate decision-maker, he/she required to take initiative, adapting his/her business to market shifts, and identify opportunities that will allow his/her business to be sustained. An employee, as an individual contributor, is required to adapt to change implemented by the entrepreneur.

The survival and growth of a business, which is the third phase of entrepreneurship, is arguably the most important aspect of entrepreneurship. Governments start to see return on

investment in a start-up during the maintenance stage of a business when long-term employment and wealth are created. Despite the value of the maintenance stage of business, there is less research on this stage than the other two stages of business (Frese and Gielnik, 2014; Hall et al., 2022; Hambrick, 2007). Research that explores the different demands and challenges of different phases of entrepreneurship has been highlighted as a gap in research (Frese and Gielnik, 2014). An entrepreneur's social capital and use of financial and government resources are additional areas that require further study (Hall et al., 2022). As the concept of entrepreneurship has only recently become an active area of study in psychology, it is perhaps not surprising that the social sciences have started by linking it to well understood existing areas of research, such as the Big Five personality types (Brandstätter, 2011). More recently, research has started to explore an entrepreneur's choices through different types of decision-making logic and the impact that this has on their business in terms of innovation and sustainability (Alzamora-Ruiz et al., 2021; Chandler et al., 2011; Runping et al., 2016). Looking to the future, the world of work is changing significantly: thus, having a greater understanding of how entrepreneurs use different types of decision-making logic and resources to structure and sustain SMEs is becoming even more important.

Entrepreneurship, SMEs and New Zealand (NZ)

The business landscape in New Zealand (NZ) is unique. It is considered the easiest country in the world in which to do business with the shortest start-up time for new businesses (OECD, 2020). Playing an important role in NZ, SMEs employ 29% of the population and contribute over NZ\$56 billion to gross domestic profit (GDP) (Ministry of Business and Innovation [MBIE], 2019). Despite the ease of doing business, over 99% of businesses in NZ are SMEs suggesting that while it is easy to start a business, opportunities for growth may be more difficult (OECD, 2020). In NZ, SMEs face unique challenges due to the isolated nature of the country. For example, small businesses struggle with transporting goods and recruitment of talent. These challenges are also related to NZ's small population size, and low average income (MBIE, 2019).

Given the importance of SMEs, it is concerning that these businesses, seen as a backbone of the NZ economy (Tongsuksai et al., 2023), are lagging behind their counterparts in other OECD countries in several significant ways. Due to NZ's geographic isolation, SMEs export only 12% of the country's total goods (Ministry of Foreign Affairs and Trade,

2022), which is the smallest amount of any country in the OECD (OECD, 2022). Export is important as it supports trade surplus and contributes to the overall economic growth of the country. It also supports business sustainability as entrepreneurs are not solely reliant on the NZ market. While NZ's geographic location makes the export of physical goods more challenging (MBIE, 2019) it should not significantly impact the country's ability to export goods that aren't physical such as services and technology.

In addition, NZ small businesses lag behind other countries in the OECD on adoption of technology and use of it for revenue generation (CPA Australia, 2023; Hettihewa and Wright, 2010). This is surprising given the significant investments the NZ government has made to help SMEs to upskill adoption of technology (Mazzarol and Clark, 2016). In skills related to adaptability, NZ SMEs rank in the bottom five OECD countries (OECD, 2021b). Adaptability is essential for long-term survival in business, with findings in prior research indicating that businesses without a good balance between maintaining their competitive advantage and seeking new opportunities often do not survive (Gibson and Birkinshaw, 2004; Nobakht et al., 2021). Due to the Fourth Industrial Revolution (IR 4.0), the world is currently experiencing the fastest-ever technological advancements, and SMEs in NZ run the risk of falling further behind SMEs in other countries if these challenges cannot be resolved. The flow on effect of not adapting to new technological advancements such as artificial intelligence (AI) and automation, will be a decrease in productivity, and the risk of financial and employment loss should foreign competitors that are more technologically advanced and therefore productive and efficient enter the NZ market.

Challenges Facing Entrepreneurs

Entrepreneurs have always had to navigate challenges on local and global levels, with these challenges escalating more recently. Supply chain disruptions, the COVID-19 pandemic, natural disasters due to climate change, and global unrest caused by wars, have all taken a significant toll, not only in terms of business survival but also in relation to business owner's mental health (Lathabhavan, 2023; OECD, 2023b). In NZ specifically, during the recent COVID-19 pandemic, 11,000 people lost their jobs, causing the unemployment rate to increase from 4.0% to 5.3% (Statistics New Zealand, 2020). Recognising the importance of SMEs in the labour market, many governments, including the NZ's, worked to support entrepreneurs and ensure the survival of SMEs through the allocation of funding and loans

(OECD, 2023a). Now that the pandemic is officially over, these loans need to be serviced, with many SMEs struggling to do so due to late payments from customers.

In addition to environmental challenges, businesses, both large and small, are facing a period of significant technological change. This is defined as the Fourth Industrial Revolution (IR 4.0), which is the next step in the digitisation of the manufacturing industry (Schmitz et al., 2019). This is driven by data and connectivity, analytics, robotics and automation (Schmitz et al., 2019). Despite being defined as happening within the manufacturing industry, the technologies created as part of IR 4.0 extend beyond manufacturing to impact all industries and societies (Bühler et al., 2022). Businesses need to digitise and adopt new technologies such as AI, cloud computing, and the Internet of Things (Bradač Hojnik and Huđek, 2023; Guych et al., 2020). This will require high levels of adaptability and business resilience (Sitinjak et al., 2022). Entrepreneurs will need to prime their employees for change, building a climate that is open, and receptive to, regular changes to ways of work and implementation of new technologies.

The Fourth Industrial Revolution (IR 4.0) has significantly changed the way businesses are structured, how work is organised, and what is monetised. More than ever, it is important entrepreneurs are supported to sustain SMEs as they drive innovation and new job creation in an uncertain environment. Entrepreneurs who run SMEs are seen as having a unique opportunity to change the world of work through technology creation and adoption (OECD, 2023b). Governments should therefore be redefining and better managing support provided to entrepreneurs running SMEs. They can write policies that focus on job maintenance while also encouraging the adoption of digital technologies and greener ways of working (OECD, 2023a). In addition, governments can promote open markets that support innovation (Xu et al., 2024). Adaptation in SMEs is more difficult than larger businesses, with entrepreneurs facing constraints, such as a lack of expertise and financial resources amid competitive pressures (Al-Qirim, 2006; Bradač Hojnik and Huđek, 2023; Chung et al., 2022; Guych et al., 2020; Tongsuksai et al., 2023). Therefore, it is important to understand how entrepreneurs can prepare and sustain their businesses during periods of significant technological change so that the right resources to support this can be provided.

Organisation Change Readiness (OCR), Resources and Decision-Making Logic

Prior research has found organisation change readiness (OCR) to be a key factor influencing successful technology adoption by SMEs (Tongsuksai et al., 2023). The current research investigates how entrepreneurs use resources and two different types of decision-making logic (effectuation and causation) to ensure their business is ready for change. The study speculates that OCR will allow entrepreneurs to better adapt their businesses to the changes that come about due to the Fourth Industrial Revolution (IR 4.0). Supporting this, a study of Indonesian SMEs navigating changes as a result of IR 4.0 found that OCR is an important condition for the business to be in (Adhiatma et al., 2023). In addition, Tongsuksai et al.'s (2023) study on adoption of cloud computing by SMEs found that change readiness had a significant impact on the businesses ability to adapt to new technology.

Under the resource-based view (RBV), an entrepreneur can create sustained competitive advantages for his/her business through the culture he/she builds and the people hired (Barney, 1991). Part of organisation culture is the readiness of a business for change. Organisation change readiness (OCR) is dependent on the right individual, group, organisational and leadership contexts (Weiner, 2020). In an SME, the entrepreneur is often the leader and the person making decisions on what happens in the business, therefore defining the organisation contexts in which the business exists. This includes creating a state where his/her business is ready for, and receptive to, change. Receptivity to change indicates that when a change is implemented, the business will be more likely to successfully adopt that change (Weiner, 2020). It is therefore important to understand how entrepreneurs can best be supported to sustain their business through developing changes readiness. This starts with understanding what the barriers are, and how ready the business is for upcoming changes.

According to the RBV, the possession of resources alone does not provide a competitive advantage (Barney, 2001). Businesses need to also be able to effectively organise and leverage their resources for productive outcomes (Yin et al., 2021). Given the fast rate of change brought by IR 4.0, entrepreneurs need to have the ability to assess, review and adapt to potential new opportunities for their business. To do this, the decision-making logic of the entrepreneur is important. The way he/she chooses to set goals, obtain resources, and structure his/her business is all linked to the way that he/she makes decisions. Ultimately, this

all impacts the way employees view the change readiness of an organisation and how receptive they are to change (Armenakis et al., 1993).

Organisation Ambidexterity

Evertsen and Rasmussen (2024) found when entrepreneurs navigate the challenges posed by digital technologies they follow two distinct paths. One is market exploitation where a gap in the market is identified and exploited, and the second is market exploration where technological and commercial resources are combined to drive business success. Together, exploitation and exploration make up organisation ambidexterity, an organisation structure that has been shown to predict the sustainability of businesses (Aftab et al., 2022). Implementing organisation ambidexterity, businesses are able to sustain competitive advantage by exploiting internal strengths and by removing external threats (Barney, 1991). Adopting the structure of organisation ambidexterity is an important part of the sustainability of a business and is likely to contribute to OCR as it will help to prime employees for regular change through the exploration of new opportunities.

Research Gaps

Most entrepreneurship research has focused on what drives entrepreneurial activity, examining what combination of personality, business and environmental factors comprise the recipe for success in new venture growth (Baum and Locke, 2004). More recently, the focus has shifted to the final stage of entrepreneurship, business growth and sustainability (Akinboye et al., 2020; Baron and Shane, 2007; Frese and Gielnik, 2014). In organisation psychology, research on entrepreneurs has focused predominantly on exploring the personality traits that define an entrepreneur, his/her identity, attitude, decision-making strategies and opportunity exploitation (Frese and Gielnik, 2014; Omorede et al., 2015). Emphasis has been placed on how these things lead to the success or failure of an initial business idea. The current study responds to calls to expand the understanding of how an entrepreneur sustains his/her business post the initial start-up phase (Frese and Gielnik, 2014; Hall et al., 2022). The current study is timely as IR 4.0 is bringing a significant amount of change to the world of work. How entrepreneurs adapt to this will involve making considered decisions and successfully leveraging resources both internally and externally.

Organisation change readiness (OCR) is the focus of this study. A business that is primed to be receptive to change is more likely to be able to adopt and adapt to changes as part of IR 4.0, such as technological advancements. Psychologists have undertaken extensive

research on how employees and managers influence organisation change readiness (OCR) (Armenakis et al., 1993; Bouckennooghe et al., 2009; Holt et al., 2007). Predominantly, the focus of research has been on leadership styles and multilevel studies of organisations, with considerable debate about where the most focus for preparing a business for change should sit (Armenakis et al., 1993; Bouckennooghe et al., 2009). The entrepreneur, as the leader, has a significant influence on the change readiness of his/her business. Despite this, the current study was unable to find any research to date that explores the link between OCR and entrepreneurship.

Despite the demonstrated importance of SMEs, they have been the focus of only a few scholars, in part due to the challenge of gathering suitable data (Lubatkin et al., 2006). Previous research on entrepreneurship and SMEs in NZ has been based on an event such as the 2011 Christchurch earthquake (Cameron et al., 2018; Tanner et al., 2022), international expansion (Oyson and Whittaker, 2015) or the antecedents that allow entrepreneurs to succeed in business start-up (Bi and Collins, 2022; Crick and Crick, 2018; Kirkwood and Walton, 2010). In addition, the prior research has predominantly used qualitative methods (see for example: Cameron et al., 2018; Crick and Crick, 2018; Kirkwood, 2009). Qualitative methods provide a deeper understanding of the lived experience but cannot draw correlations. For psychologists, the study of entrepreneurs running SMEs is of particular interest, as they have a larger impact on the business, being both founder and manager, combining this with organisational conditions allows for the study of the business's outcomes (Palmer et al., 2019; Rauch and Frese, 2000). Therefore, the current study contributes to the scant knowledge and data of entrepreneurs running SMEs in NZ.

The RBV had typically been applied to understanding how larger businesses survive and thrive. More recently, the RBV has been applied to the study of entrepreneurship (Chandler and Hanks, 1994; Lichtenstein and Brush, 2001). The focus with most research has been on the resources required for new business creation, with financial resources being a significant requirement (Agrawal et al., 2024; Evertsen and Rasmussen, 2024). Government resources such as access to incubators which support idea development, offer subsidised rent and access to networking with peers, are important for business success (Davidsson and Honig, 2003). In addition, social capital is important, with a large proportion of entrepreneurs using social networks and relationships as an alternative source to traditional bank loans for funding their businesses (Ebben and Johnson, 2006). The research gap is the need to extend

the understanding of the RBV beyond new business start-up to supporting OCR and, ultimately, on-going SME sustainability.

A growing body of research has explored links between OCR and different types of decision-making logic. The most commonly studied types of decision-making logic for entrepreneurs are effectuation and causation (Chandler et al., 2011; Sarasvathy, 2001). The use of a decision-making logic has been found to have a significant impact on the ultimate sustainability of businesses. For example, both effectuation and causation logic have been found to have a positive impact on new technology adoption (Guo et al., 2016). Decision-making logic has also been found to be important in the resilience of businesses during times of crisis and in business model innovation (Cherbib, 2024; Futterer et al., 2018). The current study therefore extends this growing body of research by evaluating how an entrepreneur's decision-making logic, whether it be effectuation or causation, can impact the change readiness of his/her businesses. In addition, it contributes to a new body of research that looks at decision-making logic as a mediator between resources and an outcome variable.

Organisation ambidexterity has been researched from the perspective of organisation design in psychology. The focus has largely been on structural changes that allow businesses to split into day-to-day operations and future focused divisions. This, of course, is only feasible in a larger business where resources are available to divide these functions and still have a successfully functioning business (Lavie et al., 2010). The current study plays an important role in extending an understanding of organisation ambidexterity and how it relates to the on-going sustainability of SMEs.

Research Questions

The current research is a quantitative exploratory study that seeks to address the gaps outlined by taking both organisation and individual views. Specifically, it explores how the entrepreneur, the ultimate decision-maker in the business, uses social capital and perceives the availability of financial and government resources. It further explores how resources and different types of decision-making logic may allow entrepreneurs to build a culture of receptivity to change. It analyses how either effectuation or causation decision-making logic mediate OCR and examines how organisation ambidexterity moderates this relationship. This leads to the following questions that underpin this study:

1. How do social capital and financial and government resources impact organisation change readiness (OCR)?

2. Does a relationship exist between resources and different types of decision-making logic?
3. How does the decision-making logic of the entrepreneur impact SMEs' organisation change readiness (OCR)?
4. Do different types of decision-making logic mediate the relationship between resources and organisation change readiness (OCR)?
5. Does organisation ambidexterity moderate the relationship between decision-making logic and organisation change readiness (OCR)?

Practical Implications

Due to IR 4.0, the entrepreneurs that lead SMEs are facing unique challenges related to technology adoption and business adaptation (Matt and Rauch, 2020). In NZ, SMEs are an important cornerstone of the country's economy, contributing innovation, wealth and job creation. In the current study, the scant research on entrepreneurs running SMEs in NZ is added to through a quantitative design. A sample size of 119 entrepreneurs, all of whom are involved in running an SME, aims to support and verify the conclusions drawn by the study.

As entrepreneurial skills are desirable to support business adaptation in changeable markets, understanding more about how an entrepreneur sustains his/her business is important. While scholars have been working to explain differences in business growth, little research so far explains the antecedents of sustainability (Akinboye et al., 2020). By exploring the different factors that contribute to an entrepreneur's ability to create OCR the current study helps to gain an understanding of what is needed for the on-going survival of an SME in the current climate.

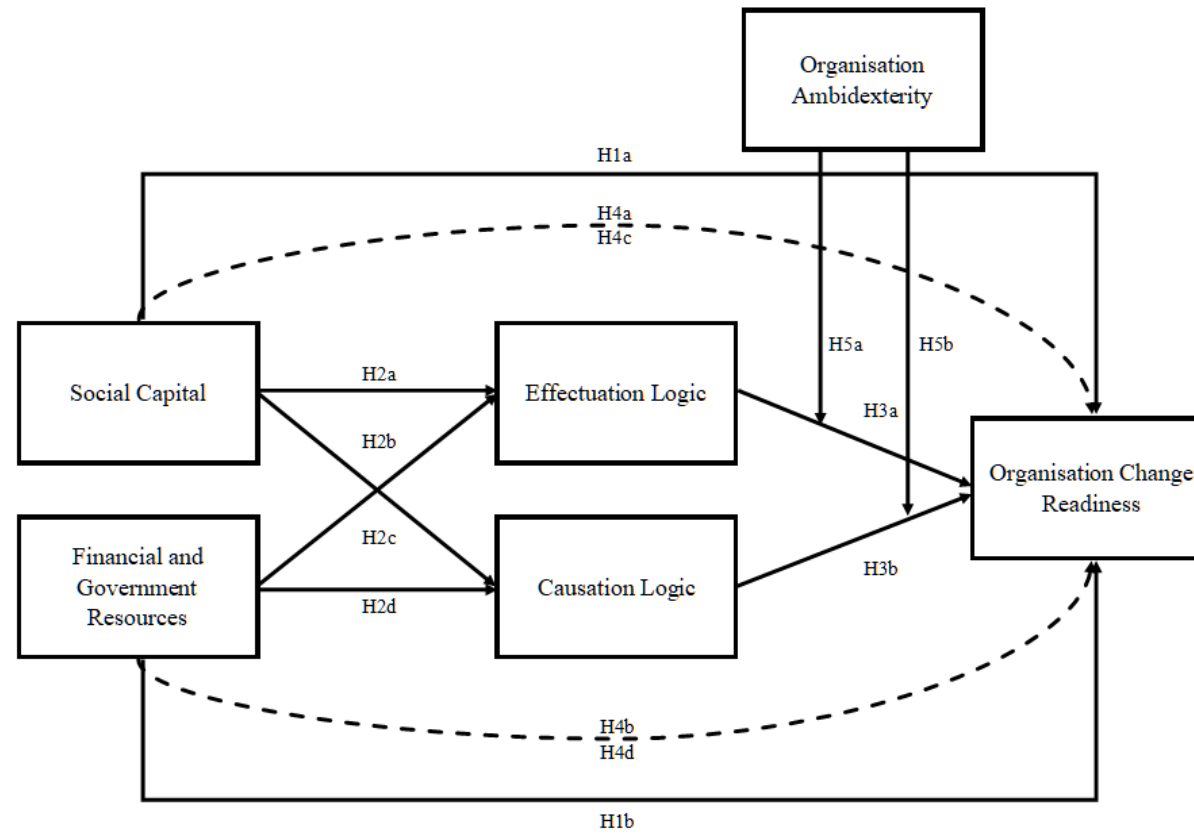
This study seeks to address gaps in the literature related to entrepreneurship and OCR, the RBV and SME sustainability. The study seeks to influence the decisions of policymakers in NZ regarding resource availability and how entrepreneurs running SMEs can be better supported to sustain their business. Finally, the study seeks to contribute to the small amount of available research on the understanding that an entrepreneur has about his/her business after the start-up phase.

The current study has several practical implications. Firstly, it serves as a measure of the importance of both social capital and the perception of financial and government resources as well as different types of decision-making logic for entrepreneurs. Secondly, it provides information regarding the requirements of entrepreneurs operating SMEs in terms of

policies regarding funding and support. Finally, it provides a better understanding of how entrepreneurs can sustain businesses and adapt to market changes. This is particularly relevant given the current experience of an unprecedented amount of business disruption from IR 4.0 and its technological advancement. The current study therefore contributes to the understanding of how an entrepreneur sustains his/her business after start-up phase and explores a new topic, that of OCR and entrepreneurship. The hypothesised model, as described, is shown in Figure 1.

Figure 1

Hypothesised Model



Structure of Thesis

The rest of this thesis is structured as follows: The thesis begins with an analysis of the literature on entrepreneurship, specifically in NZ, from an organisation psychology perspective. Included in this is an in-depth introduction to the key areas of this study: entrepreneurship, OCR, social capital and financial and government resources, effectuation and causation as types of decision-making logic and organisation ambidexterity. Following this, the methods used in this study are discussed, along with the study's results. Finally, a discussion covers the key findings, strengths, limitations and future research implications followed by a conclusion which briefly summarises the study.

Chapter Two: Literature Review

In entrepreneurship research, the initial phase of business creation comprises two facets: opportunity recognition and the individual entrepreneur (Shane and Venkataraman, 2000). In this phase, those who engage in entrepreneurial behaviour such as risk-taking and innovation along with exploiting opportunities, are defined as entrepreneurs. This definition suggests that entrepreneurship ends once a business has been created. The current study subscribes to the view that the definition of entrepreneurship extends beyond new business creation and into the on-going operation of the business where new opportunities are identified and exploited and ideas are implemented (Baron and Shane, 2007; Frese and Gielnik, 2014). Under this definition, family-run businesses, small businesses without growth ambition and under-resourced businesses with a desire for growth, can all be defined as driven by entrepreneurs. The current study's focus on moving beyond the initial start-up phase of entrepreneurship is supported by the view that entrepreneurship is not a short-term state but a process that continues over the life cycle of the business (Baron and Shane, 2007; Hopp and Stephan, 2012). Prior research in support of this view has found that the growth intentions of entrepreneurs shift over time, impacted by their environment and resource availability (Akinboye et al., 2020; Baron and Shane, 2007).

A History of Entrepreneurship

Entrepreneurship has been of interest to scholars since the early 1900s when economist Joseph Schumpeter studied the interaction between competitive markets and innovation (Giersch, 1984; Gilbert, 2006). The study of entrepreneurship has gone through an evolution, starting with a focus on the individual through Schumpeter (1934) and McClelland (1967). This focus drove research on the entrepreneur and the unique traits possessed that make some entrepreneurs successful where others failed. It was found that entrepreneurs scored higher than others on the need for achievement, risk-taking propensity and tolerance of ambiguity (Begley and Boyd, 1987; McClelland, 1965). Research focus then shifted to the economic and strategic decisions made by the entrepreneur, moving away from a psychological perspective (Frese and Gielnik, 2014). In more recent years, research has shifted back to a psychological perspective with the understanding that entrepreneurship is the undertaking of an individual, and, therefore, one that is personal (Baum, 2007; Frese and Gielnik, 2014).

In a recent analysis of psychological entrepreneurship research, five areas of research were identified (Gorgievski and Stephan, 2016). The first area was research that explores entrepreneurship as a career choice, for example, the influence of family and social networks that might support this choice (Hunter and Wilson, 2007). A family history of entrepreneurship creates an on-going expectation of business ownership and offers access to financial resources and social capital, including family and government ties that can support a new venture start-up. Research has shown that education levels and family experience impact willingness to start a business due to the availability of scarce resources that the entrepreneur would otherwise potentially be unable to leverage (Bi and Collins, 2022).

The second area was research that explores entrepreneurship with a focus on the personal differences that predict success and survival (Gorgievski and Stephan, 2016). For example, risk appetite, flexibility to change and ability to identify and exploit opportunities are all characteristics that have been found to be predictors of successful entrepreneurship (Burns, 2013). Tenacity, the ability to acquire new resources and passion have all been found to contribute to an entrepreneur's business growth (Baum and Locke, 2004).

The third areas was research on the health and well-being of entrepreneurs which has received significant research interest (Gorgievski and Stephan, 2016). For example, a recent study explored the impact of entrepreneurial agility on well-being during the adversity faced during the COVID-19 pandemic, finding that a combination of opportunity and planning agility improved well-being (Stephan et al., 2023). Research has additionally examined work-family conflict and how this impacts well-being, finding that work-family enhancement moderates the relationship between work-family conflict and well-being (Nguyen and Sawang, 2016).

The fourth area was research on the link between entrepreneurs' cognition and behaviour with opportunity identification and performance outcomes. Studies in this area have examined behavioural processes linked to opportunity exploitation. For example, research has explored how an entrepreneur's social identity influences his/her use of different decision-making logic in starting a new business (Alsos et al., 2019). Studies have also examined the interaction between entrepreneurs and their immediate environment, for example, the impact of a selected decision-making logic on gaining funding from venture capitalists (Crick and Crick, 2018).

The fifth area was research on how entrepreneurial leadership impacts business (Gorgievski and Stephan, 2016). For example, research has linked entrepreneur's leadership style to firm performance in family-owned firms (Bernhard and O'Driscoll, 2011). An entrepreneur with a transformational leadership style has been found to positively influence business performance whereas a transactional leadership style has been found to negatively influence performance (Ensley et al., 2006).

What has been clear, to date, is that entrepreneurship is a nuanced topic and an individual pursuit, influenced by factors that are sometimes in, and sometimes out, of that individual's control (Rauch and Frese, 2000). The influence of the entrepreneur's leadership is far more pronounced in a small business than in a large business (Palmer et al., 2019). Tied to leadership is the way in which an entrepreneur makes decisions, whether this be through effectuation or causation logic, and the antecedents, including internal and external resources, that impact his/her decision-making strategy. These aspects influence business outcomes, including the change readiness of the business.

Entrepreneurship in New Zealand

In NZ, the number of microbusinesses and SMEs created has increased steadily over the past 10 years (MBIE, 2022). Among entrepreneurs, over half come from family environments, where self-employment and business ownership are the norm (Hunter and Wilson, 2007). The NZ business landscape has certain factors that make it an easy place to start a business. The circumstances under which entrepreneurship is most likely to occur include a lack of incentive to pursue the opportunity in an existing business and low barriers to entry (Rumelt, 2005). The “number 8 wire mentality”¹, otherwise considered as “give it a go”, indicates the NZ focus on trying things out, suggesting New Zealanders may be more inclined than other nations to entrepreneurship. Additionally, the lack of ability to protect information under stringent intellectual property laws typically leads to more new business creation. All these things prime NZ as a place where becoming an entrepreneur is easier than in other countries.

From the perspective of resources, NZ has worked to create an environment where entrepreneurship can be supported. Significant investment has been made into helping

¹ The term ‘number 8 wire mentality’ indicates the ability of New Zealanders to create or repair machinery using the scrap materials on hand.

businesses to export, business programs and technology incubators (Mazzarol and Clark, 2016). Various government bodies have been set up to support the growth of entrepreneurial ventures. For example, New Zealand Trade and Enterprise (NZTE), which is designed to support overseas export, and the Ministry of Business and Innovation (MBIE) which has a focus on innovation across a range of industries (Mazzarol and Clark, 2016). Additionally, the development of a business website designed to support the creation of new businesses has allowed NZ to maintain its status as a country with low barriers to entry and an easy place to do business (Mazzarol and Clark, 2016). The focus of government support is predominantly on new venture creation and driving gazelle businesses² in which growth ambitions are high.

Study on entrepreneurship based in NZ has followed the direction of broader entrepreneurship research, focusing on an understanding of what predicts the success of a business start-up (Cameron et al., 2018). A combination of causation and effectuation decision-making logic in entrepreneurs has been found to lead to greater investment, with the preference being for causation logic to give angel investors³ more confidence in the long-term viability of the business (Crick and Crick, 2018). Both effectuation and causation decision-making logic have been found to mediate the relationship between entrepreneurial orientation and the decision by NZ SMEs to internationalise (Karami et al., 2023). One longitudinal qualitative study has explored the gendered constructs of leadership and entrepreneurship from the perspective of female entrepreneurs (Lewis, 2015). Research has shown that the different technologies adopted can increase or decrease the pace of change and the change readiness of businesses (Haar and White, 2013).

A common theme in NZ entrepreneurial research has been the focus on the drivers for starting a business. For example, entrepreneurial behaviour in students has been found to mediate the relationship between self-efficacy and fixed mindsets (Bi and Collins, 2022). Specific research on the Mānuka honey industry highlighted the multiple threats faced by entrepreneurs both from aggressive new entrants and large businesses (Duarte Alonso et al., 2020). The authors showed in this research that these threats cause a dark side to entrepreneurship, where risks are weighed up and deviant behaviour deemed acceptable by many (Duarte Alonso et al., 2020). One qualitative exploratory study examined creative

² A gazelle business is a young business that experiences rapid growth over a period of at least four consecutive years.

³ An angel investor provides initial seed money for start-up businesses, usually in exchange for ownership equity in the business.

entrepreneurial venture creation after the 2011 Christchurch earthquake (Cameron et al., 2018). This study moved beyond venture creation to the prolonged viability of ventures, finding that without on-going resource support and high levels of agreeableness, some entrepreneurs lacked the ability to sustain their business once the new normal had emerged (Cameron et al., 2018).

Organisation Change Readiness (OCR)

The three parts to organisational change are; readiness, adoption and institutionalisation (Holt et al., 2007). The first part, OCR, was identified in a study of production workers in a manufacturing business (Coch and French, 1948). Including workers in the planning and development parts of a change process was found to reduce resistance to change (Coch and French, 1948). Later, this research was reinterpreted, suggesting that not only was including workers an important way to reduce resistance but it was, in fact, a way to create readiness for change (Bartlem and Locke, 1981).

Traditionally, change research scholars have focused on large change projects, describing the readiness, adoption and institutionalisation method as essential for successful change (Armenakis et al., 1993; Bartlem and Locke, 1981; Holt et al., 2007). While the original definition of readiness for change was a state that occurred prior to an episodic event, change scholars more recently have started to consider it as a general state into which a business primes employees (Bouckennooghe et al., 2009; Caldwell, 2013; Holt and Vardaman, 2013; Shum et al., 2008). This is due to rapid advancements in technology as part of IR 4.0 which are causing change at a faster rate than ever before. In addition, while the concept of change readiness previously focused on successfully navigating a singular change event, businesses now have multiple change events that can be happening concurrently (Holt and Vardaman, 2013). The developments in IR 4.0 have led to accelerating market changes and technology advancement. Research has shown that organisational change is not exclusively a result of formal large-scale planned initiatives, it is also a result of reacting to environmental changes, such as outsourcing, policy changes and new team members (Caldwell, 2013).

Organisation change readiness (OCR) is defined in the current study as the state of a business when it is primed and ready for change (Holt et al., 2007). In this state, employees are primed to either support or resist change efforts (Armenakis et al., 1993). Typically, psychologists have focused on influencing employees to successfully move an organisation into a supportive state. This is particularly important as over 40% of change initiatives are

deemed unsuccessful (By, 2005; Isern and Pung, 2007). However, an emerging body of literature has been studying the impact of teams and leaders on preparing employees for change (de Jong et al., 2023; Musteen et al., 2006; Rafferty et al., 2013). The antecedents that make up OCR include an environment in which leaders communicate and create clarity, one thing that support clear communication is being clear on the decisions that are made and the logic behind these (McKay et al., 2013; Rafferty et al., 2013). In essence, OCR does not happen by itself: it is important that both leaders and employees are ready for, and capable of, executing change (Holt and Vardaman, 2013).

Prior research has examined how employees and managers could better contribute to the success of a business. Different leadership styles (Burke et al., 2006; Locke, 1991). Employee motivation (Hackman and Oldham, 1976; Herzberg, 1974) and job engagement (Bakker and Demerouti, 2017; Demerouti et al., 2001) have been found to be important contributors to business success. In the past 20 years, attention has started to turn to the founder of the business, the entrepreneur, whose decisions have a significant impact on the future success or failure of the business. While the study of entrepreneurship itself is not new, what is new is the understanding of the impact that the entrepreneur has on his/her business, both in a start-up phase and in the on-going implications of how a business adapts to changing market conditions. While organisation psychologists have started to build depth in research on how employees and managers contribute to organisational change readiness (Bouckenoghe et al., 2009; de Jong et al., 2023; Ji et al., 2022; McKay et al., 2013) the associated impact of the entrepreneur on this has received, as far as this study is aware, no attention.

During the COVID-19 pandemic one of the key factors found to be contributing to SME survival was the adoption of digital technologies (Silva et al., 2023). The successful adoption of digital technologies depended significantly on the resilience of the organisation and its ability to adapt to change (Silva et al., 2023). Technological advancement was also found to be an important factor in OCR during the COVID-19 pandemic (Sreenivasan and Suresh, 2022). Recently, the measurement of technology readiness has received growing interest (Ed-Dafali et al., 2023). However, technology readiness is only one part of overall business readiness for change. For example, the COVID-19 pandemic had a significant impact on the way businesses operate worldwide. While the adoption of digital technologies was one factor that contributed to SME survival other factors, such as government funding,

speed of business structure change and adaptation to working from home, contributed to the on-going sustainability of businesses during this challenging time.

Considering the impact an entrepreneur has on his/her businesses, OCR is an important part of this (Gorgievski and Stephan, 2016). The change readiness of the business and how primed employees are for change can have a significant impact on the success of, for example, shifts in organisation structure and new job role creation. With the rate of technological advancement under IR 4.0, new job roles will be created, and change will be significant and on-going for businesses. For this reason, change readiness is an essential part of the on-going survival of businesses. To support employees to adapt to these shifts in the world of work and support the on-going sustainability of businesses, organisations need to be ready for change.

Resources

Following the RBV, the actions and decisions of entrepreneurs are viewed through the lens of their ability to optimise resources which can be tangible or intangible. It is imperfectly imitable resources that are a source of competitive advantage (Barney, 1991). For example, the culture of a business and the relationships between managers are difficult to imitate. The culture of an SME is impacted by the entrepreneur (Rauch and Frese, 2000). One of the ways this happens is through his/her decision-making logic including deciding what resources to leverage. Resources can come in the form of social capital, such as the networks of an entrepreneur; financial resources, such as bank loans; or government resources, such as policies that support business creation and growth.

The perception of available resources, including community, government and financial support have been found to support nascent entrepreneur effort (Hopp and Stephan, 2012). Studies on external resources typically find that they have an indirect effect on new venture growth, continued innovation and socially supportive environments (D'Oria et al., 2021; Hopp and Stephan, 2012; Xu et al., 2024). Securing resources does not happen in a vacuum: it is not only resource availability but also the entrepreneur's ability to exploit these resources that leads to success of the business (D'Oria et al., 2021; Wiklund and Shepherd, 2003).

Resources are an important aspect of the on-going sustainability of an SME and taking into account changes as part of IR 4.0, they are becoming even more important. While the adoption of technology under IR 4.0 is not an imperfectly imitable resource, the ability to

exploit that technology is (Barney, 1991). Successful technology adoption within businesses comprises two things: firstly, the resources available to entrepreneurs, particularly financial, and their ability to leverage these resources (Bradač Hojnik and Hušek, 2023; Chung et al., 2022); and, secondly, the change readiness of the business from both an organisation and an employee perspective (Holt and Daspit, 2015).

Human capital is also a source of competitive advantage as it is a resource that is difficult to replicate (Barney, 1991). How an entrepreneur uses this capital to structure his/her business to exploit existing business opportunities and explore new ones is a competitive advantage. To create OCR, the culture in the business needs to be designed to be receptive to change. This, in turn, leads to the success or failure of the adoption of new ways of working, new job roles and technology adoption as part of IR 4.0, all of which create a sustained competitive advantage.

Social Capital

Social capital is defined as “the sum of the actual and potential resources embedded within, available through, and derived from, the network of relationships possessed by an individual or social unit” (Nahapiet and Ghoshal, 1998, p. 243). Social capital is an important part of business networking for entrepreneurs. For example, the more extensive the network of the SME’s Chief Executive Officer (CEO), (who is often the entrepreneur), the stronger the balance between exploitation and exploration in his/her business (Cao et al., 2010). This is due to the holistic understanding of the market that a broad external network provides the CEO with, allowing him/her to more accurately assess where he/she should be exploring and what he/she should be exploiting. Additionally, an entrepreneur’s social networks were found to impact business growth (Zhao et al., 2010). Without such a network, entrepreneurs are more reliant on their top-level managers for advice which is likely to be clouded by the manager’s personal bias in relation to the business direction. Social capital leads to socially supportive environments which have also been found to encourage innovation and therefore sustain a business over time (Davidsson and Honig, 2003; Hopp and Stephan, 2012).

In a small country like NZ, business relies considerably on relationships and the leveraging of social networks. Financial resources can be obtained when an entrepreneur uses his/her social capital. For example, bootstrapping, or acquiring finance without debt from banks or investors, is used 80-95% of the time to fund a business (Ebben and Johnson, 2006). Bootstrapping involves gaining finance from a variety of sources such as family and friends.

To obtain this source of finance, one needs to have a strong social network and a good social reputation. Networks come in the form of family, business, community, and government ties (Chen et al., 2015). Intangible resources, such as information and support from family and friends, are a clear example of leveraging social networks and they have been found to impact the on-going sustainability of a business (Kirkwood, 2009). Relationships with suppliers and customers, as well as support from other entrepreneurs, provides coaching, guidance and the potential for new opportunity identification. Community ties provide a source of customers and also potentially employees (Pio, 2007). Support from the community can also lead to opportunity identification, while ties with government officials can allow a greater understanding of the available support and how to utilise it (Chen et al., 2015).

Financial and Government Resources

Resources, including financial and regulatory resources, have not surprisingly been found to have an impact on business growth (Gill and Biger, 2012; Hansen and Hamilton, 2011; Lee, 2014). Financial resources specifically have a significant impact on the on-going success and growth of small businesses (Storey, 1994). While seed money is important to start a business, the ability to grow and sustain that business only comes with additional funding. Studies have found that financial constraints can significantly limit entrepreneurship (Ho and Wong, 2007), while access to finance supports entrepreneurship (De Mel et al., 2008; Wiklund and Shepherd, 2003).

Following the RBV, while financial capital is important in itself, it is not a source of sustained competitive advantage: it is what the entrepreneur does with the capital that makes it an advantage (Okoi et al., 2021). Financing can be used to create a competitive advantage through human capital, culture building or exploration and exploitation of the market (Dollinger, 2008; Wiklund and Shepherd, 2003). For example, finance allows an entrepreneur to hire employees that both fill the gaps in his/her own knowledge and support him/her in the growth of his/her business (Wiklund and Shepherd, 2003).

Governments can contribute to the on-going sustainability of SMEs not only through the provision of finance but also through access to markets, investment in research and development (R&D), training and technology support (Sitinjak et al., 2022). Having good government networks and support has been found to have an impact on business growth (Shirokova et al., 2021; Zhao et al., 2010). Government support, such as policies and regulations, plays an important part in supporting SMEs sustainability and resilience (Sitinjak

et al., 2022). The decisions that governments make regarding infrastructure, immigration and the availability of finance, all impact SMEs' overall growth. For example, in studying SMEs in Indonesia, Sitinjak et al. (2022) found that the on-going resilience of businesses is dependent on government support to provide access to markets, capital and technology. During the COVID-19 pandemic, decisions by governments to support SME tourism operators had a significant impact on recovery in the post-pandemic phase (Estiri et al., 2022). The decisions that governments made regarding financial support through direct lending, grants and subsidies provided SMEs with immediate relief. In addition, government support to strengthen marketing programs impacted SMEs' longer-term resilience (Estiri et al., 2022).

Government support from a financial perspective is also important. As entrepreneurs running SMEs in NZ tend to prefer to retain equity and avoid debt, their rate of business growth tends to be slower (Mazzarol and Clark, 2016). Therefore, small business policies created by governments that focus on tax cuts can have a significant impact on SME sustainability and growth (Mazzarol and Clark, 2016). If a business is bootstrapped with funds from the entrepreneur and his/her friends and family, this may cause instability should a financial situation change. Therefore, the entrepreneur's ability to access more stable financing, through avenues such as bank or venture capitalist funding and government grants, is likely to impact his/her decision-making when it comes to digitisation and technology adoption. Looking towards the future, due to technological advancements as part of IR 4.0, the way in which governments implement not only financial support for entrepreneurs running SMEs but also provide support in terms of adopting digital strategies and technologies will have a significant impact on SMEs' long-term sustainability.

Entrepreneurs running SMEs in NZ can solve challenges linked to geographic location through IR 4.0 and the technology developed. For example, automation of manufacturing processes reduces the reliance on low-wage workers who can be unreliable and hard to find. More efficient manufacturing processes mean that goods can be made onshore and shipped for assembly elsewhere, thus reducing the carbon footprint of businesses. Unfortunately, while small businesses in NZ have significant opportunities to adopt new technologies, entrepreneurs often lack the resources and capability to adapt to changing environments (MBIE, 2019). Therefore, the support provided by governments plays an important role for entrepreneurs running SMEs in their ability to adapt to IR 4.0 changes.

Resources and OCR

Social capital is important for entrepreneurs who want to sustain their business. It allows entrepreneurs to share knowledge, develop long-standing business relationships and negotiate loans from suppliers, all of which contribute to an SME's on-going sustainability. Social capital also allows entrepreneurs to enable changes in their business (Chetty and Agndal, 2007). Entrepreneurs with high social capital can leverage networks for support and advice. They can also use their networks to obtain alternative sources of funding which may reduce the pressure of loan repayments.

Financial and government resources allow entrepreneurs greater freedom. Finance allows entrepreneurs to hire people who can support their knowledge gaps. Human capital is a source of sustained competitive advantage which is important. Government resources allow entrepreneurs access to knowledge, technology and markets which they otherwise would not be able to access. Together, these resources allow an entrepreneur to prepare his/her business more effectively for change, giving him/her time to prepare his/her business for change as well as the ability to hire managers who can effectively drive change initiatives. The more resources an entrepreneur has, whether these be financial, government or social, the greater his/her ability is to leverage these. Resources give entrepreneurs time and the ability to better prepare their business for on-going changes. This leads to the following hypotheses:

Hypothesis 1 (a): Social capital leads to a higher level of OCR.

Hypothesis 1 (b): Financial and government resources lead to a higher level of OCR.

Decision-Making Logic

One predictor of business success and sustainability is the way in which entrepreneurs make decisions (Palmer et al., 2019; Rauch and Frese, 2000). Their ability to adapt to market demands and identify opportunities once their business has been launched is a key predictor of the on-going sustainability of the business. In her seminal work, Sarasvathy (2001) described two different types of decision-making logic that entrepreneurs might use in starting a new business, namely, effectuation and causation. Research on entrepreneurs in SMEs has found that their type of decision-making logic strongly impacts the culture, strategy and direction of the overall business (Beaver and Jennings, 2001; Puplampu and Kuada, 2005; Rauch and Frese, 2000). The way in which an entrepreneur assesses

opportunities and acts on market information, including adopting new technologies, impacts OCR and, ultimately, the extent of the sustainability of his/ her business.

While the importance of resources cannot be underestimated in the creation and on-going success of businesses for entrepreneurs, it is not a direct contributor. Instead, it is the perception of, and belief in, what the entrepreneur can access that drives how the business is structured and his/her confidence in making risky decisions. These decisions then influence the growth and survival of the business leading to its success or failure. Furthermore, the entrepreneur's decision making logic impacts his/her ability to leverage resources and how he/she structures their business which is of significant importance for on-going business sustainability (Wiklund and Shepherd, 2003).

Effectuation Logic

Part of being an entrepreneur means not only leveraging the resources available but also navigating and sustaining a business without having all the resources needed to make decisions (Akinboye et al., 2020). This could be due to a lack of information, funding or human capital. The availability, or lack thereof, of resources is known as opportunity versus creativity, with creativity being needed when resources are unavailable (Akinboye et al., 2020). In that instance, the entrepreneur is forced to think creatively, and to use a decision-making logic of effectuation.

Effectuation logic comprises the following four lower-order dimensions: affordable loss over maximising expected returns, strategic alliances to eliminate future uncertainty, exploitation of contingencies rather than knowledge, and the controllable parts of an unpredictable future (Sarasvathy, 2001). Affordable loss involves the entrepreneur assessing what he/she can attempt versus the resources at his/her disposal (Chandler et al., 2011). Following this process, an entrepreneur will identify how much he/she can afford to lose and then experiment using multiple strategies. This approach allows him/her to consider multiple opportunities to reject those that do not fit within the constraints of affordable loss (Chandler et al., 2011).

Strategic alliances enable entrepreneurs to control for an unpredictable future (Sarasvathy, 2001). In a new venture start-up, an entrepreneur will seek to gain pre-commitments from customers and suppliers (Chandler et al., 2011). In this way, he/she seeks to gain certainty around future market share and to reduce some of the risk of starting a new venture. This also spreads the risk amongst multiple stakeholders, allowing the

entrepreneur to increase his/her assessment of the amount of affordable loss that can be sustained (Chandler et al., 2011).

Exploitation of contingencies over exploitation of knowledge, is favoured by entrepreneurs using an effectuation process (Sarasvathy, 2001). This involves the entrepreneur being flexible, and adapting to contingent opportunities as they arise (Chandler et al., 2011) as opposed to following a set path. This flexibility is especially valuable in a starting a business, as it allows the entrepreneur to change plans and priorities based on new information and available resources.

Causation Logic

Causation is a more traditional decision-making logic that has been followed and studied by marketing and management scholars (Sarasvathy, 2001). Causation logic involves setting a plan and executing it (Chandler et al., 2011). It is a prescriptive process that follows linear thinking where a goal is set, pathways are identified to achieve the goal, constraints (typically related to resources) are identified, and criteria for choosing between pathways are defined (Sarasvathy, 2001). It is what is described as effect dependent, meaning the decision maker is imagining possible effects of different paths and selecting between them (Sarasvathy, 2001).

Entrepreneurs who follow causal logic make decisions based on the expected return (Brettel et al., 2012; Liu et al., 2022; Shirokova et al., 2021; Yang et al., 2019). This includes using social capital in the form of leveraging networks with suppliers for favourable terms and analysing resources in both internal and external environments to assess their competitive position in the market (Futterer et al., 2018; Winborg and Landstrom, 2001). From a financial resource perspective, this may mean not paying themselves or working out of their home rather than spending money on an office (Winborg and Landstrom, 2001).

Under causation logic, an entrepreneur is exploiting knowledge (Sarasvathy, 2001). Following a set plan requires having specific resources to input and execute the plan. While to some extent, this may be possible in new business creation, it can cause challenges if the entrepreneur needs to adapt his/her business plan to meet the changing market. For example, studies have found that causation is negatively associated with uncertainty and experimentation (Chandler et al., 2011; Yu et al., 2018), both of which have been identified as important parts of start-up survival (Castaño-Martínez et al., 2020; Chakma et al., 2024).

Therefore, whether causation is an effective or ineffective decision-making process is situation-dependent.

Resources and Decision-Making Logic

Experimentation is what allows an entrepreneur to identify the controllable parts of an unpredictable future (Chandler et al., 2011). Rather than attempting to gain market share, an entrepreneur creates a market that will sustain his/her business (Sarasvathy, 2001). By experimenting and innovating, an entrepreneur is able to explore different future options and quickly identify the most viable one (Chandler et al., 2011). Under effectuation logic, entrepreneurs leverage their social capital to expand networks and find potential stakeholders (Sarasvathy et al., 2014; Van Mumford and Zettinig, 2022). They reduce their costs by sharing equipment, human capital, and office space with other business owners (Fauchart and Gruber, 2011).

Causation involves setting a goal and then working to achieve that goal by obtaining the available necessary resources. As a decision-making logic, it allows the entrepreneur to control the required inputs into his/her business and to plan what is needed from a financial perspective by understanding relevant government policy and using appropriate social and government networks to secure the necessary funding. Effectuation decision-making logic, conversely, involves assessing what is available from a resource perspective and defining a goal and moving towards that goal. It leans heavily on social capital to effectively spread risk and make appropriate assessments of business viability. This leads to the following hypotheses:

Hypothesis 2 (a): Social capital leads to a higher level of effectuation decision-making logic.

Hypothesis 2 (b): Social capital leads to a higher level of causation decision-making logic.

Hypothesis 2 (c): Financial and government resources lead to a higher level of effectuation decision-making logic.

Hypothesis 2 (d): Financial and government resources lead to a higher level of causation decision-making logic.

Decision-Making Logic and OCR

Research on SMEs has found that OCR influences the successful adoption of digital marketing strategies (Su et al., 2023), the implementation of e-commerce (Sutanonpaiboon and Pearson, 2006), and the adoption of digital ecosystems (Adhiatma et al., 2023). Interestingly, the researchers were unable to find any research, to date, exploring OCR and entrepreneurship. The current study's speculation was that the focus on the entrepreneur beyond the business start-up phase is relatively new and that the focus on OCR from a business owner perspective is also relatively new. The current study's belief is that research examining the antecedents that support OCR from the perspective of an entrepreneur running an SME is of increasing importance given the upcoming (and current) disruption of the world of work. Therefore, the way an entrepreneur makes decisions will have a significant impact on organisation change readiness (OCR).

In relation to entrepreneurship, both effectuation and causation decision-making logic have typically been applied to setting up businesses (Chandler et al., 2011; Eyana et al., 2018; Liu et al., 2022; Smolka et al., 2018). However, making decisions by effectuation or causation logic is likely to have a significant impact on the ongoing sustainability of a business. Relevant specifically to this study, the underlying logic of causation is that entrepreneurs can control the parts of the future that they can predict (Sarasvathy, 2001). The underlying logic of effectuation is that entrepreneurs do not need to predict the future as some parts of it they can control through decision making (Sarasvathy, 2001). From an OCR perspective, part of what primes change readiness and receptivity to change is regular change initiatives showing employees the business can adapt to different circumstances. As an effectuation decision-making logic is governed by the exploitation of contingencies, it seems likely this will prime employees for change. Conversely, a causation decision-making logic involves setting clear goals for which employees can aim, while being able to predict and prepare for upcoming changes is likely to create clarity and an openness to change. This leads to the following hypotheses:

Hypothesis 3 (a): Effectuation decision-making logic leads to a higher level of OCR.

Hypothesis 3 (b): Causation decision-making logic leads to a higher level of OCR.

Decision-Making Logic as a Mediator Between Resources and OCR

Following the RBV, the sustainability and performance of a business is related to the ability to use available resources, specifically to create and sustain inimitable resources (Barney, 1991). Resource bundling, which is the way entrepreneurs choose to utilise and combine the resources at hand to drive success (Guo et al., 2016), can be done via an effectuation or causation logic. Using effectuation logic, entrepreneurs use pioneering resource bundling to assess and bundle together the resources on hand to make a decision on the direction of their business (Chandler et al., 2011; Guo et al., 2016; Sarasvathy, 2001). Using causation logic, entrepreneurs use stabilised resource bundling to ensure they obtain the right resources for their set goal and combine and transform those resources effectively (Guo and Miller, 2010; Guo et al., 2016; Sarasvathy, 2001).

Effectuation logic is suitable for an unpredictable environment as it requires entrepreneurs to react to changes in the market (Thein et al., 2023). Under effectuation logic, entrepreneurs will use their social network to create strategic alliances that give them for example, pre-commitments to purchase, thus reducing uncertainty (Liu et al., 2022). Social networks can also allow entrepreneurs to share houses, employees, and other resources (Fauchart and Gruber, 2011). This can create comfort for employees that a business is flexible and able to adapt using resources around them as well as creating a sense of financial stability.

Causation logic is suitable for a predictable environment, where entrepreneurs integrate resources based on their pre-defined goal (Liu et al., 2022). This means they will seek to use their social network to, for example, share office space or equipment (Liu et al., 2022). They will also seek to make financial decisions based on what will give them the best return, such as hiring temporary workers (Liu et al., 2022). All these decisions are likely to create stability as there are not large investments in items such as property, or a high permanent employee headcount, that would have the potential to create strain on the entrepreneur and his/her business.

Following the RBV, whichever style of decision-making logic an entrepreneur uses, the more resources he/she perceives that he/she has, the greater his/her ability to make decisions and implement change. Resource scarcity can be a form of stress for employees, leading to negative emotions and change behaviours. Therefore, the importance is placed less

on the specific decision-making logic and more on having a process and adequate resources to drive this process. This leads to the following hypotheses:

Hypothesis 4 (a): Effectuation decision-making logic mediates the relationship between social capital and OCR.

Hypothesis 4 (b): Causation decision-making logic mediates the relationship between social capital and OCR.

Hypothesis 4 (c): Effectuation decision-making logic mediates the relationship between government and financial resources and OCR.

Hypothesis 4 (d): Causation decision-making logic mediates the relationship between government and financial resources and OCR.

Organisation Ambidexterity

Organisation ambidexterity is a relatively new concept within entrepreneurship, first explored by Robert Duncan in 1976 (O'Reilly and Tushman, 2013). Organisation ambidexterity refers to a business's ability to simultaneously explore new opportunities while exploiting existing advantages. This type of structure is essential for the overall success of a business, but the balance between exploration and exploitation can be challenging to achieve if internal resource are scarce (March, 1991). As March (1991) noted, while exploitation can generally be measured and understood, exploration is less easily quantifiable, and returns are less certain. Nevertheless, organisation ambidexterity has been studied in terms of start-up businesses and SME survival and is a significant predictor of the future success of the business (Aftab et al., 2022; Sitinjak et al., 2022; Trieu et al., 2023). Organisation ambidexterity has also been found to be an antecedent to a business's ability to adapt in changing markets which is becoming more important due to IR 4.0 changes (Sitinjak et al., 2022; Trieu et al., 2023).

Structuring a business using organisation ambidexterity helps to facilitate innovation, competitive advantage and business survival by optimising existing areas of the business and encouraging a focus on future areas of opportunity. It is therefore important not only for large businesses for which implementation is easier due to greater access to resources, but also SMEs, in which organisation ambidexterity is needed to survive and thrive, particularly in changing environments (Sitinjak et al., 2022). Additionally, when businesses focus only on exploitation of their existing product or service they struggle to adapt as required (Lavie et

al., 2010; Levinthal and March, 1993). Given that NZ businesses are some of the least adaptable businesses in the OECD and facing a significant period of change due to IR 4.0, this balance is becoming even more important.

Debate is continuing over the subcomponents that make up organisation ambidexterity. Some studies have highlighted the importance of open innovation and entrepreneurial orientation in relation to organisation ambidexterity (Nobakht et al., 2021). Other studies have explored structure and financing as antecedents to SME organisation ambidexterity (Berard and Fréchet, 2020). What is clear is that decisions made by senior management make are essential to create and support organisation ambidexterity (Tushman and O'Reilly, 1996; Westerman et al., 2006). In an SME, due to its size and resource constraints, it is often the decisions of the entrepreneur, rather than those of a senior management team, that dictate business strategy. Therefore, in an SME, an entrepreneur is likely to have a direct impact on the organisation ambidexterity of his/her business. Additionally, given the resource constraints faced by SMEs, it is essential that entrepreneurs leverage external social networks, in addition to their internal team, to advance their strategy and innovation. Using networks beyond the existing business has been found to be essential to create organisation ambidexterity in SMEs (Cao et al., 2010).

Organisation Ambidexterity as a Moderator Between Decision-Making Logic and OCR

The antecedents for OCR include regular assessment and consideration of employees through structures such as performance management (Rafferty et al., 2013). Understanding the strengths and weaknesses of employees is also part of creating and sustaining successful organisation ambidexterity. Organisation ambidexterity is a characteristic which creates a clear structure for a business. The combination of exploration and exploitation has been identified as essential for both business performance and sustainability (Lavie et al., 2010).

Effectuation logic involves acting on, and exploring, opportunities based on who the person is, what he/she knows, and who he/she knows (Sarasvathy, 2001). Decisions are made by the entrepreneur weighing up a combination of the cost, potential risk and experimentation (Chandler et al., 2011). Effectuation logic links to both parts of organisation ambidexterity. Exploration involves innovation, seeking out new revenue streams, and understanding what is likely to be desirable to customers in the future (Lavie et al., 2010). In this way, exploration links to an effectuation logic, in which the entrepreneur uses his/her social networks to keep across new developments in the market that are relevant to his/her business. Exploitation also

links to effectuation logic in that the entrepreneur considers what he/she knows and how this can be best utilised. In other words, an entrepreneur exploits his/her knowledge and that of the people, including his/her employees, around them to effectively sustain their business.

Causation logic is a planned way of making decisions, in which the entrepreneur sets a goal and works to obtain relevant resources based on this goal (Alzamora-Ruiz et al., 2021; Runping et al., 2016). Causation logic links to both parts of organisation ambidexterity. Exploration involves understanding what market threats exist, under causation logic the entrepreneur takes a planned approach and looks for potential threats to his/her business and seeks to minimise these. Exploitation involves enhancing productivity, ensuring that the business is as efficient as possible (Lavie et al., 2010). This links naturally to causation logic in which a clear plan is identified and executed. Using causation logic, it is likely the entrepreneur regularly reviews how his/her business is performing to ensure performance is optimised.

Structuring a business using organisation ambidexterity is likely to prime a business to be more ready for organisation change. The nature of organisation ambidexterity drives regular innovation as well as reviews of productivity and efficiency, with the result being regular change initiatives occur within the business. When organisation ambidexterity is low in a business, it is likely that fewer regular change initiatives occur. The present study has hypothesised that regardless of the decision-making logic, there will be a direct relationship on the level of OCR in a business. This study further hypothesises that high levels of organisation ambidexterity will serve to moderate this relationship. Thus, the following hypotheses are formulated:

Hypothesis 5 (a): Organisation Ambidexterity moderates the relationship between effectuation as a decision-making logic and OCR. The relationship between effectuation logic and OCR is stronger when organisation ambidexterity is high.

Hypothesis 5 (b): Organisation Ambidexterity moderates the relationship between causation as a decision-making logic and OCR. The relationship between causation logic and OCR is stronger when organisation ambidexterity is high.

Chapter Three: Method

Study Design

This study is a cross-sectional design administered via a quantitative survey. All participants were asked the same questions in a self-administered questionnaire. A cross-sectional design is a useful and cost-effective method to gather information on variables that have not been studied before as is the case in the present study, examining the relationship between OCR and entrepreneurship.

Ethics

A low-risk ethics application was applied for via Massey University, ethics number 4000027844 (see Appendix A). In following procedural ethics and being aware of the study's use of some open-ended questions, the risk of deductive disclosure was identified (Tracy, 2010). The online Qualtrics software program was used so that all responses were allocated a unique ID number for data analysis. Collected data was anonymised during the data cleaning process to remove any identifying information.

Participants

Businesses with one to five employees are defined in NZ as microbusinesses (MBIE, 2019). In a business of this size, the owner works in the business. In a business with six to 19 employees, the owner manages the business and in a business with over 20 employees the owner takes a more strategic role (MBIE, 2019). As the current study was interested in the impact of the entrepreneur on the OCR of his/her business through his/her decision-making logic and resources, the study excluded micro businesses. The definition of a large business in NZ is one that has 50 or more employees (MBIE, 2019). The focus of the current study is on the impact of the entrepreneur, with this reducing as employee numbers increase; therefore, any individual that owns a business with 50 or more employees was excluded. Thus, the sample size was limited to entrepreneurs who own their own business and employ between six to 49 employees.

The study was further limited to people over the age of 18 who had either started or purchased a business. Those with less than two years of business ownership were excluded, as the study sought to understand how entrepreneurs sustain their business after the initial start-up phase. The risk of failure is greatest in the first two years of business and stabilises post this time defining the start-up phase in the present study (Strotmann, 2007). In addition,

OCR research shows that change readiness takes time to develop, and, in the first two years of business start-up, entrepreneurs are still going through a discovery phase.

In the first two weeks after launching the survey, the Qualtrics spam filter flagged both bot and duplicate responses. Bots are a common challenge in research when using web-based survey tools which the researchers were not initially aware of (Chen et al., 2023; Storozuk et al., 2020; Teitcher et al., 2015; Yarrish et al., 2019). For this reason, a CAPTCHA⁴ was added to the beginning of the survey. This addition to detect and screen out bots led to a significant decrease in bot detection by Qualtrics.

After the survey closed, the data was manually reviewed to check for bots and duplicate responses. Although Qualtrics software flags potential bots and duplicate responses, the system can be too sensitive, meaning that automatic removal of flagged responses would run the risk of deleting legitimate responses (Yarrish et al., 2019). To carry out a manual check, the data was exported from Qualtrics as a Microsoft (MS) Excel file. Flagged responses from Qualtrics were reviewed for one of the following criteria: a significant level of non-response, unexpected answers to open-ended questions, email address formats typically associated with bots, fast completion times and duplication of a legitimate response (Chen et al., 2023). By applying these methods, 35 responses were removed to provide a final sample of $N = 119$. Given the time limitations for data collection in a 12-month Master's thesis this study sought a medium effect size. There are five predictor variables in the study, therefore 119 participants was an acceptable sample size (Field, 2018).

Participant Demographics

Participant demographics were measured using a combination of free text and questions seeking selection from a range of responses. Gender was measured by asking “how do you currently describe your gender?” with options provided. Age was measured by asking “how old are you?” and providing a free text field. Education was measured by asking “what is your highest level of education?” with options provided. The number of children was measured by asking “how many children do you have?” and providing a free text field. Ethnicity was measured by asking which category describes your primary ethnicity with options provided. Marital status was measured by asking “what one of these best describes

⁴ In computing, a CAPTCHA is a type of challenge–response test used to determine if the user is human to deter bot attacks and spam.

your relationship status?” with options provided. Work eligibility was measured by asking “which of the following describes your eligibility to work in NZ?” with options provided.

Table 1 outlines the participants’ personal demographics. The study’s sample comprised 91 men and 28 women who were predominantly NZ citizens or residents (92.44%, $n = 110$). The average age was 31.78 with a standard deviation (SD) of 10.41. Most of the study’s sample, (91.60%, $n = 110$) identified as NZ European, while 5.88% ($n = 8$) identified as Māori or Pacific Islander. Most participants had an undergraduate qualification (68.07%, $n = 81$) and were either married (39.50%, $n = 47$) or in a de facto relationship (26.89%, $n = 32$). Regarding children, 32.77% had no children ($n = 39$); 31.09% had one child ($n = 37$); and 10.08% had two children ($n = 12$).

Table 1

Participants’ Personal Demographics

Demographic Variable	<i>M</i>	<i>SD</i>	<i>n</i>	%
Age				
20-29	25.21	2.58	67	56.30
30-39	33.19	3.30	31	26.05
40-49	43.82	2.98	11	9.24
50-59	52.80	3.06	5	4.20
60+	61.00	1.22	5	4.20
Ethnicity				
New Zealand European			110	92.44
Māori			4	3.36
Pacific Islander			4	3.36
Indian			1	0.84
Gender				
Male			91	76.47
Female			28	23.53
Highest level of education				
High school			5	4.20
Undergraduate qualification			81	68.07
Postgraduate qualification			33	27.73

Demographic Variable	<i>M</i>	<i>SD</i>	<i>N</i>	%
Marital status				
Married			47	39.50
Civil union			9	7.56
De facto relationship			32	26.89
Separated			17	14.29
Divorced or marriage dissolved			3	2.52
Widowed			1	0.84
Single			10	8.40
Number of children				
None			39	32.77
One			37	31.09
Two			12	10.08
Three			5	4.20
Did not answer			26	21.85
Work rights				
New Zealand citizen or resident			110	92.44
Work visa			8	6.72
Prefer not to answer			1	0.84

Note. N = 119; *M* = Mean; *SD* = standard deviation; *n* = number; % = percentage.

Business Demographics

In addition to personal demographic questions, participants were asked questions about their business such as: did they start or purchase it, how was it funded and what was the profit in the last financial year? Participants' business demographics were measured using a combination of free text and questions seeking selection from a range of responses.

The percentage of business ownership, number of years the business had been in operation, number of employees and average hours worked per week were all measured using free text questions. The percentage of business ownership asked participants to list what percentage of their business they currently owned. The number of years the business had been in operation asked participants to state the year their business was established. The number of employees asked participants to list the number of people they currently

employed, including contractors and part-time employees. The average hours of work per week asked participants to list, how many hours a week they worked. The main reason for starting their business and their most important measure of success currently were measured by asking participants to select from the options provided. Revenue range was measured by asking participants to select from the options provided the revenue range of their business for the full financial year of 2022/2023. Business ownership was measured by asking participants to select if they started or purchased their business. Business location was measured by asking participants to select in which city or town their business was located. Industry was measured by asking participants to select which industry best described their business.

Table 2 outlines the participants' business demographic information. Of note, the study's sample comprised 99 people who started their own business and 19 who bought into their business, while one participant did not respond. The proportion of the business owned was relatively diverse; only 14.29% ($n = 17$) of participants owned over 75% (which is typically considered a controlling share in NZ), over one third of participants (34.45%, $n = 41$) owned between 25% and 49% of their business, while 26.05%, ($n = 31$) owned less than 25% of their business. Over 70% ($n = 85$) of participants had operated their business for fewer than 10 years. The reasons for starting or buying into a business were relatively diverse; 29.41% ($n = 35$) wanted a greater share of business profits; 26.05% ($n = 31$) were seeking a better work-life balance; 21.85% ($n = 26$) were seeking more flexibility in working hours; 21.01% ($n = 25$) sought more autonomy. Over one-third of participants (36.97%, $n = 44$) had a revenue range of between NZ\$1 million and NZ\$3 million in the previous financial year; 28.57% ($n = 34$) had a revenue range of between NZ\$500,001 and NZ\$1 million, 21.01% ($n = 25$) had a range of between NZ\$100,001 and NZ\$500,000. Over 60% ($n = 78$) of participants had between 20 and 49 employees, which placed most businesses in the medium-sized category in NZ, a category in which the entrepreneur is involved in the business on a more strategic level. On average, in the past 12 months, 45.38% ($n = 54$) worked between 30 and 39 hours a week, 25.21% ($n = 30$) worked between 40 and 49 hours a week, while only 5.88% ($n = 7$) worked over 50 hours a week. The current greatest measure of success for participants was to grow their business moderately (30.50%, $n = 33$) followed by equal proportions who stated increasing profit margins moderately (17.56%, $n = 19$) and staying about the same size (17.56%, $n = 19$) was the greatest measure of success. Regarding participant business location, Auckland has the highest number (18.49%, $n = 22$), followed by the Bay of Plenty (10.08%, $n = 12$) and Wellington (9.24%, $n = 11$). Regarding participant

business industry, 26.89% ($n = 32$) were in professional services, followed by 11.76% in public service ($n = 14$), and 10.92% ($n = 13$) in hospitality and tourism.

Table 2

Participants' Business Demographics

Demographic Variable	<i>M</i>	<i>SD</i>	<i>n</i>	%
How business ownership came about				
Started own business			99	83.19
Bought into existing business			19	15.97
Did not answer			1	0.84
Percentage of business owned				
Less than 25%	17.52	5.30	31	26.05
25–49%	33.17	4.96	41	34.45
50–74%	63.70	8.58	19	15.97
75% or more	90.50	9.97	17	14.29
Did not answer			11	9.24
Number of years business has been in operation				
Fewer than 5			47	39.50
5–9			38	31.93
10–14			4	3.36
15–19			1	0.84
20+			16	13.45
Did not answer			13	10.92
Main reason for starting or buying into business				
Looking for a greater share of business profit			35	29.41
Looking for better work/life balance			31	26.05
Looking for more autonomy			25	21.01
Looking for more flexibility in working hours			26	21.85
Did not answer			2	1.68
Revenue range for full financial year 2022/2023				
NZ\$100,001–NZ\$500,000			25	21.01
NZ\$500,001–NZ\$1m			34	28.57
NZ\$1m–NZ\$3m			44	36.97
NZ\$3m–NZ\$5m			12	10.08

Demographic Variable	<i>M</i>	<i>SD</i>	<i>n</i>	%
Revenue range for full financial year 2022/2023				
NZ\$5m+			4	3.36
Number of employees				
6–10	8.11	1.37	9	7.56
11–19	14.50	2.50	4	3.36
20–29	24.59	2.08	27	22.69
30–39	33.67	2.84	25	21.01
40–49	44.38	2.35	26	21.85
Did not answer			28	23.53
Average number of hours worked over past 12 months				
Fewer than 30	19.86	5.28	9	7.56
30–39	35.87	2.87	54	45.38
40–49	41.00	1.75	30	25.21
50+	53.18	4.05	7	5.88
Did not answer			11	9.24
The most important measure of success currently is to...				
Grow substantially			14	12.94
Grow moderately			33	30.50
Increase personal time			6	5.55
Increase profit margins substantially			17	15.71
Increase profit margins moderately			19	17.56
Obtain more finance			11	10.17
Stay about the same size			19	17.56
Business location				
Northland			7	5.88
Auckland			22	18.49
Bay of Plenty			12	10.08
Waikato			9	7.56
Gisborne			2	1.68
Taranaki			6	5.04
Hawkes Bay			8	6.72
Manawatu–Wanganui			8	6.72

Demographic Variable	<i>M</i>	<i>SD</i>	<i>n</i>	%
Business location				
Wellington			11	9.24
Nelson			3	2.52
Tasman			5	4.20
Marlborough			7	5.88
West Coast			4	3.36
Canterbury			4	3.36
Otago			2	1.68
Southland			4	3.36
Did not answer			5	4.2
Industry				
Construction			7	5.88
Education or Healthcare			12	10.08
Electricity, Gas, Water and Waste Services			2	1.68
Hospitality and tourism			13	10.92
IT, Media, and Telecommunication			7	5.88
Manufacturing			10	8.40
Mining			2	1.68
Professional Services			32	26.89
Public Service			14	11.76
Property Services			7	5.88
Retail Trade Transport			11	9.24
Warehousing			2	1.68

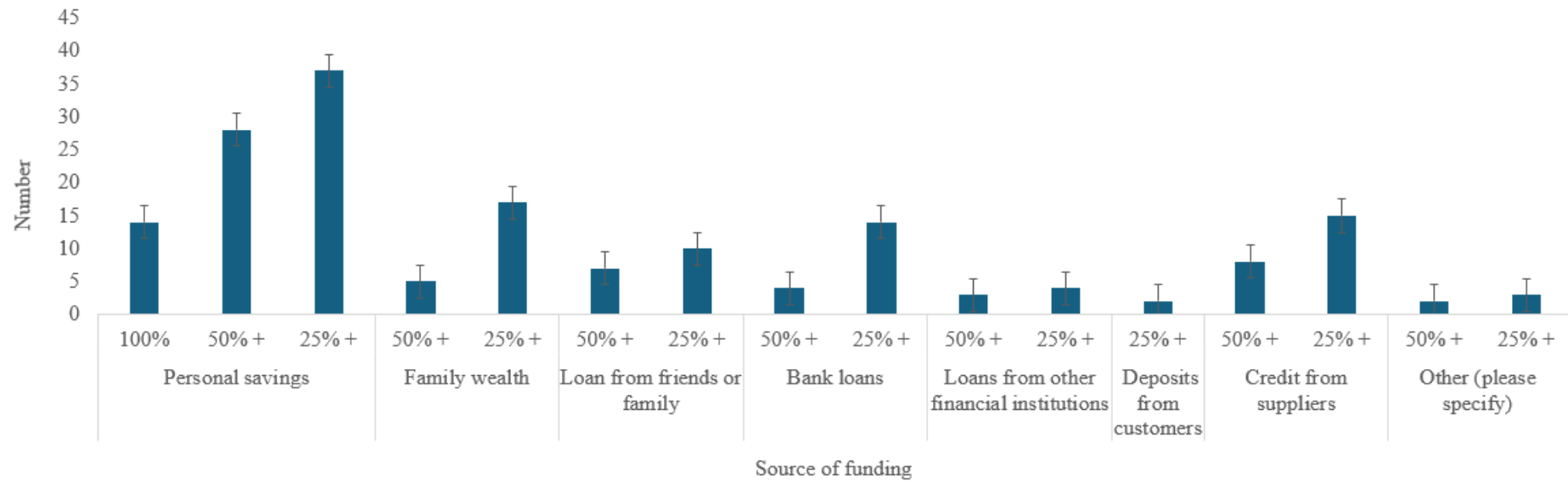
Note. N = 119. M = Mean; SD = standard deviation; *n* = number; % = percentage; IT = information technology.

Original Source of Business Funding

Participants were also asked how their business was funded when they started it. As outlined in Figure 2, the most common funding source for starting a business was personal savings, with 79 participants funding all or part of their business in this way. This was comprised of: 14 participants who funded 100% of their business via personal savings; 28 participants who funded between 50 and 99% of their business via personal savings; and 37 participants who funded between 25 and 49% of their business via personal savings. The second most common initial source of funding for businesses was credit from suppliers. Eight participants funded between 50 and 99% of their business via credit from suppliers and 15 participants funded between 25 and 49% of their business via credit from suppliers. The third most common source of funding for starting a business was bank loans, with four participants funding between 50 and 99% of their business in this way and 14 participants funded between 25 and 49% of their business in this way.

Figure 2

Initial Funding Sources of Participants' Business



Note. Figure 2 indicates the initial funding sources for a participant's business when they first started their business. Error bars show standard errors.

Procedure

Using the Qualtrics software program, a self-administered online questionnaire was created. Convenience sampling was utilised to obtain a broad sample size of SMEs across different industries and locations throughout New Zealand (NZ). The study advertised via social media, posting in both entrepreneur and small business owner Facebook and LinkedIn groups from early October 2023 to early November 2023. Additionally, the survey was advertised in the Connector Communities newsletter which targets NZ growth businesses. Participants were encouraged to share the survey, if relevant, with friends, family members and associates to push the study as wide as possible. The study's attraction strategy was to emphasise the lack of data on SMEs in NZ and the opportunity for entrepreneurs to have their thoughts heard. To compensate participants for their time, they were offered the opportunity to receive a copy of the study findings once published and to enter the draw to win one of 30 NZ\$20 vouchers.

Participants were asked to click on a link which took them through to the survey's front page in Qualtrics. The front page comprised an introduction to the research, as well as a participant information sheet which outlined their rights and how data would be treated, along with the contact details for the researcher and research supervisor. At the end of the information sheet, participants were asked to consent to the study (see Appendix B). To avoid common method variance (CMV) and to reduce social desirability bias, the assurance of anonymity was clearly stated in the participant information sheet. If participants consented to participate in the study, they were then taken to pre-screening questions based on the exclusion criteria previously outlined, which assessed their suitability for the study (see Appendix C). If participants qualified for the study, they were then asked a series of demographic questions regarding themselves and their business (see Appendix D) before completing the scales described in the instruments section (see Appendix E). Finally, participants were given the opportunity to either click on a link to complete a contact survey, or to finish the survey. In the contact survey, participants could enter their email address to either enter the draw to win a NZ\$20 voucher and/or request to be sent the findings when the study was completed.

Instruments

Six different scales were used consisting of a total of 67 questions. A 5-point Likert scale was used for each of the scales. Research has found that a 5-point Likert scale increases response rates and quality and reduces participant frustration (Babakus and Mangold, 1992; Bouranta et al., 2009; Devlin et al., 1993). Each item was labelled to ensure consistency in responses. The labels were ‘1’ = strongly disagree, ‘2’ = disagree, ‘3’ = neither agree nor disagree, ‘4’ = agree and ‘5’ = strongly agree. To ensure participants understood that they were being asked to answer from the perspective of their business and to improve comprehension to reduce CMV throughout the survey “my business...” was added, where relevant, as a precursor to items (Podsakoff et al., 2003). See Appendix E for a full list of the survey questions.

Resources

A scale developed by Chen et al. (2015) was adapted to measure entrepreneurs’ access to, and use of, social capital and their perception of the availability of financial and government resources. Chen et al. (2015) used a 5-point Likert scale for each item ranging from 1 = “completely disagree” to 5 = “completely agree”. The scale was designed to measure Chinese entrepreneur’s use of *guanxi*⁵ networks in the creative industries. While it is true that the Western world has less reliance on *guanxi* networks, the items themselves were relevant to the current study and the scale was a comprehensive measure with good fit (Chen et al., 2015). The overall scale was validated via confirmatory factor analysis (CFA) and structural equation modelling (SEM) with the results showing that the model fit the data well (Chen et al., 2015). In all items used, specific reference to the creative industry was removed to make the questions more generalisable. For example, “I actively participate in business communities of associations in creative industries” was changed to “I actively participate in business communities relevant to my industry”. Additionally, some wording of the items was not relevant to the NZ context and was amended. For example, reference to ‘government officials’ was changed to be ‘relevant people in government’.

⁵ Originating in China, *guanxi* refers to having personal trust and a strong relationship with someone, possibly involving moral obligations and the exchange of favours.

Social Capital

To measure entrepreneurs' social capital 12 items were used from Chen et al.'s (2015) scale which was adapted from a qualitative study (Guo and Miller, 2010) and a quantitative study (Peng and Luo, 2000). The social capital scale used four dimensions: family, business, community and government ties. An example of a measure of family ties is "I receive strong emotional support from my family and relatives". An example of a measure of business ties is "I maintain a good relationship with suppliers". An example of a measure of community ties is "I actively participate in business communities relevant to my industry". An example of a measure of government ties is "I maintain a good relationship with relevant people in various levels of the government". All four scales showed good to excellent reliability with Cronbach's alpha values of .77 for family ties, .79 for business ties, .92 for community ties, and .89 for government ties.

Following the approach of Chen et al. (2015), this study considered the social capital scale to be made up of all four dimensions rather than individual measures. Entrepreneurs in working to leverage social capital do not leverage in isolation, for example, their family ties but rather will use all social capital available to them. Therefore, to score this scale the four dimensions were summed. The higher the overall score was the higher the entrepreneurs' access to, and use of, social capital was.

Financial and Government Resources

Six items from Chen et al.'s (2015) overall scale measured entrepreneurs' perception of financial and government resource availability. This scale comprised two dimensions: financial (three items) and government (three items). These items were adapted from a study on entrepreneur perceptions of resource availability and market conditions in new business creation (Edelman and Yli-Renko, 2010). An example of a financial resources item is "bankers and other investors are willing to help small and medium businesses in New Zealand". An example of a government resources item is "central and local governments provide good support for businesses". Cronbach's alpha values for these scales were good to excellent at .90 for financial resources and .89 for government resources. The third construct, community resources, on the original scale developed by Chen et al. (2015), was excluded as it is beyond the scope of the current study.

Following the approach set by Chen et al. (2015) this study considered the financial and government resources scale to be made up of these two dimensions together rather than

being measured individually. An entrepreneurs' perception of his/her available resources includes both financial and government when it comes to business sustainability. As discussed, governments may create policy that ultimately provides financial resources to entrepreneurs such as tax cuts. Therefore, these scales were scored by summing the two dimensions. The higher the overall score was, the higher the entrepreneurs' perception of the financial and government resource available to them.

Decision-Making Logic

A scale created and validated to measure the different types of entrepreneurial decision-making logic in starting a business was used to measure both effectuation and causation logic (Chandler et al., 2011). In their study, Chandler et al, (2011) measured the type of decision-making logic used by entrepreneurs in new venture creation; however, subsequent studies have successfully used items from this scale to evaluate both types of decision-making logic in on-going business performance (Eyana et al., 2018; Karami et al., 2022; Roach et al., 2016; Yu et al., 2018). A 5-point Likert scale was used to measure all items, ranging from '1' = strongly disagree to '5' = strongly agree in the study done by Chandler et al. (2011).

On both the effectuation and causation logic measures, items were changed to the present tense as the current study sought to understand what entrepreneurs' decision-making logic is rather than wanting them to reflect on how they created their business. For example, in the seven-item causation measure "we analysed long run opportunities and selected what we thought would provide the best returns" was changed to "I analyse long run opportunities and select what I think will provide the best returns".

Effectuation decision-making logic was measured using 13 items categorised under four dimensions. The four dimensions were; experimentation consisting of four items, for example, "I experiment with different products and/or business models", affordable loss consisting of three items, for example, "I am careful not to commit more resources than I could afford to lose", flexibility consisting of four items, for example, "I allow the business to evolve as opportunities emerge", and pre-commitments consisting of two items, for example, "I use pre-commitments from customers and suppliers as often as possible". One item in the experimentation dimension was reverse coded as per the original study.

It was found that effectuation logic was a lower order construct, hence the four dimensions to the scale (Chandler et al., 2011). In Chandler et al.'s (2011) second study,

Cronbach's alpha values ranged between .62 and .85 for the four dimensions. They acknowledged that at .62 the Cronbach's alpha value for pre-commitments fell below the suggested range of .70 which is suitable for research. They suggested that additional items might be added to the pre-commitments measure to strengthen it, however, a subsequent study found that pre-commitments had an Cronbach's alpha value of .79 (Smolka et al., 2018). Additionally, it has been argued that formative constructs should not be evaluated using Cronbach's alpha values, with estimation errors possibly being caused by multicollinearity as formative constructs do not need to correlate (Petter et al., 2007). However, it was found in a subsequent study that the four dimensions of effectuation, using the original questionnaire, had good measurement properties in relation to both reliability and validity and no issues of multicollinearity were identified (Ruiz-Jiménez et al., 2021). Therefore, it is appropriate to use all four dimensions of the effectuation scale as a single scale. To obtain an overall score, the scores for the four dimensions of the effectuation scale were summed, and then the mean was used to calculate the overall effectuation score. The higher the mean, the higher the entrepreneur's overall effectuation decision-making logic.

The causation logic scale used seven items. In Chandler et al.'s (2011) study, causative decision-making logic was found to load onto one dimension meaning that no additional dimensions were required. This was due to the process of decision-making being less complex as causation logic follows a set path to achieve an established goal rather than assessing the environment to create a goal. An example of one of the items is "I designed and planned business strategies". Cronbach's alpha values for the causation scale ranged between .73 and .78 in the two different studies showing good reliability (Chandler et al., 2011). To obtain an overall score, the mean of the seven items on the scale was calculated. The higher the mean, the higher the entrepreneur's overall causation decision-making logic.

Organisation Ambidexterity

Organisation ambidexterity was tested using a scale constructed and validated by Lubatkin et al. (2006). The scale was developed using a sample of SME CEOs over two time periods. The scale consisted of 12 items, six measuring exploitation, that is, the ability to successfully leverage existing competitive advantages and six measuring exploration, that is, the ability to explore opportunities that may be sources of future competitive advantage. In the author's study a 5-point Likert scale was used ranging from '1' = strongly disagree" to '5' = strongly agree. An example of an item measuring exploitation is "my business commits to

improve quality and lower cost”. An example of an item measuring exploration is “my business looks for novel technological ideas by thinking ‘outside the box’”. Reliability for both measures was found to be good, with Cronbach’s alpha values measuring .84 for exploration and .83 for exploitation (Lubatkin et al., 2006). As both exploration and exploitation are required for organisation ambidexterity this scale was scored by summing both constructs and finding the mean with a higher score meaning the entrepreneur’s business had higher organisation ambidexterity.

OCR

To measure OCR, items from the Organisational Change Questionnaire – Climate of Change, Processes, and Readiness (OCQ–C, P, R) scale created by Bouckennooghe et al. (2009) were used. The scale, developed using four studies, was designed to be used to assess the internal context or climate of change (Bouckennooghe et al., 2009). In Bouckennooghe et al.’s (2009) study, a 5-point Likert scale was used ranging from ‘1’= strongly disagree to ‘5’= strongly agree. The original scale measured three dimensions: process of change; climate of change; and readiness for change (Bouckennooghe et al., 2009). As the current study sought to measure only OCR, it excluded the process of change measure as this was designed to assess how change is dealt with, rather than being a precursor to prepare for change which is what the climate of change and readiness for change scales are for.

The climate of change scale comprised three dimensions that assessed the culture or climate of the business. These dimensions were trust in leadership, politicking and cohesion, with five items used from this scale. An example of a trust in leadership item is “the leaders in my business consistently implement policies in all departments”. The trust in leadership scale had acceptable reliability with Cronbach’s alpha value of .79. An example of a politicking item is “we have an environment where it is easy to ask for help from colleagues”. The politicking scale had questionable reliability with a Cronbach’s alpha value of .68. An example of a cohesion item is “I have confidence in my colleagues”. The cohesion scale had acceptable reliability with a Cronbach’s alpha value of .74.

The readiness for change scale measured the perception of change readiness in the business. It is made up of three dimensions, emotional readiness for change, cognitive readiness for change, and intentional readiness for change with six items used from this scale. An example of an emotional readiness for change item is “I find change refreshing”. The emotional readiness for change scale had acceptable reliability with a Cronbach’s alpha value

of .70. An example of a cognitive readiness for change item is “the change will improve work”. The cognitive readiness for change scale had questionable reliability with a Cronbach’s alpha scale of .69. An example of an item on the intentional readiness for change scale was “I want to devote myself to the process of change”. The intentional readiness for change scale had good reliability with a Cronbach’s alpha value of .89. Participants were also asked to complete this scale from their employee’s perspective. This decision was made to give a broader view of the change readiness of the business and reduce social desirability bias. To do this, the same six items on the change readiness scale were used and participants were asked to consider from their employee’s perspective how they would rate each of the items.

While several of the dimensions on both scales fell below the acceptable level of reliability on the Cronbach’s alpha value, subsequent studies have overall found that these scales have acceptable reliability (Frick et al., 2021; Kirrane et al., 2017; Rehman et al., 2021). Bouckennooghe et al. (2009) noted in their study that the three scales could be used separately depending on what the study was designed to measure. They further noted that scales could be combined to provide an overall change readiness score based on what was of interest. The current study therefore created an overall change readiness score by summing all three scales and finding the mean, with a higher mean meaning the entrepreneurs’ business had a higher level of organisation change readiness (OCR).

Analysis Strategy

To analyse the data, the software, IBM SPSS Statistics for Microsoft Windows version 29.0 (formerly known as the Statistical Package for the Social Sciences [SPSS]), was used. Data preparation was completed in MS Excel prior to the data being imported into the SPSS software.

As the study design was cross-sectional and a common scale anchor was used, CMV was a potential issue (Podsakoff et al., 2003). Specifically, the risks of consistency motif, implicit theories and social desirability bias were identified (Podsakoff et al., 2003). Harman’s one-factor test was used to test for CMV by loading all variables into an exploratory factor analysis (EFA), with the unrotated factor solution reviewed (Podsakoff et al., 2003). The test for CMV produced 40.85% of variance. As the first factor did not capture over 50% of the variance which would have suggested CMV (Eichhorn, 2014) it was concluded that CMV was not a concern for this study.

Demographic Analysis

Bivariate analysis was run on age to check for a relationship with each of the variables. Age was found to have no significant relationship with social capital ($r(119) = .16$, $p = .088$), but was found to have a significant and negative relationship with financial and government resources ($r(119) = -.23$, $p = .011$). Age was found to have a significant positive relationship with effectuation logic ($r(119) = .28$, $p < .001$), causation logic ($r(119) = .44$, $p = .002$), organisation ambidexterity ($r(119) = .23$, $p = .013$), and OCR ($r(119) = .26$, $p = .004$). Therefore, the current study chose to control for age when running analysis on all hypotheses.

An independent sample t -test was run on gender to check for a relationship with each of the variables. The homogeneity of variance was violated on all the tests with the p value being less than .05. As the sample size for gender was unequal, a one-way analysis of variance (ANOVA) was then run using Welch's test, which stated that if the p value was significant at the .05 level, normality was not assumed (Field, 2018).

Based on gender, a statistically significant difference was found between groups with all variables. The results were as follows: social capital $F(1,117) = 14.46$, $p < .001$; financial and government resources $F(1,117) = 9.70$, $p = .002$; effectuation logic $F(1,117) = 11.34$, $p < .001$; causation logic $F(1,117) = 4.05$, $p = .043$; organisation ambidexterity $F(1,117) = 16.20$, $p < .001$; OCR $F(1,117) = 11.18$, $p < .001$. While normality cannot be assumed for gender, the current study's assessment was that it was still important to control for gender in further analysis with all variables.

A one-way ANOVA test was run on education level to check for a relationship with each of the variables. Due to sample sizes being very different (high school $n = 5$, undergraduate $n = 81$, postgraduate $n = 33$), to ensure the study controlled for Type 1 error, Hochberg's GT2 was used rather than Levene's test (Field, 2018) with the assumption of normality violated for all the tests. It was concluded that the current study's sampling distribution was not normal. Non-parametric analysis can be used when sampling distribution is not normal to assess if the difference is significant. A Kruskal-Wallis test was run to assess if the difference was significant, while the Dunn test was used to show where the difference lay (Field, 2018).

A one-way ANOVA revealed a significant effect of education level on social capital: $F(2,116) = 20.83$, $p < .001$. The Kruskal-Wallis test revealed significant differences between the three rank totals of 65.00 (high school study), 48.81 (undergraduate study), and 86.71

(postgraduate study), $H(2, n=119) = 28.49, p < .001$. Pairwise comparisons using the Dunn test indicated that undergraduate study was not significantly different from high school study ($p = .308$) but was significantly different from postgraduate study ($p < .001$). High school and postgraduate study were not significantly different ($p = .189$).

A one-way ANOVA revealed a significant effect of education level on financial and government resources $F(2,116) = 10.34, p < .001$. The Kruskal-Wallis test revealed the differences between the three rank totals of 52.00 (high school), 51.85 (undergraduate study), and 81.21 (postgraduate study) were significant, $H(2, n=119) = 17.37, p < .001$. Pairwise comparisons using the Dunn test indicated that undergraduate study was not significantly different from high school study ($p = .993$) but was significantly different from postgraduate study ($p < .001$). High school and postgraduate study were not significantly different ($p = .077$).

A one-way ANOVA revealed a significant effect of education level on effectuation logic $F(2,116) = 21.99, p < .001$. The Kruskal-Wallis test revealed the differences between the three rank totals of 77.10 (high school), 48.07 (undergraduate study), and 86.68 (postgraduate study) were significant, $H(2, n=119) = 30.75, p < .001$. Pairwise comparisons using the Dunn test indicated that undergraduate study was not significantly different from high school study ($p = .067$) but was significantly different from postgraduate study ($p < .001$). High school and postgraduate study were not significantly different ($p = .562$).

A one-way ANOVA revealed a significant effect of education level on causation logic $F(2,116) = 17.42, p < .001$. The Kruskal-Wallis test revealed the differences between the three rank totals of 65.30 (high school), 49.36 (undergraduate study), and 85.30 (postgraduate study) were significant, $H(2, n=119) = 25.71, p < .001$. Pairwise comparisons using the Dunn test indicated that undergraduate study was not significantly different from high school study ($p = .315$) but was significantly different from postgraduate study ($p < .001$). High school and postgraduate study were not significantly different ($p = .226$).

A one-way ANOVA revealed a significant effect of education level on organisation ambidexterity $F(2,116) = 26.99, p < .001$. The Kruskal-Wallis test revealed the differences between the three rank totals of 72.90 (high school), 47.54 (undergraduate study), and 86.62 (postgraduate study) were significant, $H(2, n=119) = 34.09, p < .001$. Pairwise comparisons using the Dunn test indicated that undergraduate study was not significantly different from

high school study ($p = .110$) but was significantly different from postgraduate study ($p < .001$). High school and postgraduate study were not significantly different ($p = .34$).

A one-way ANOVA revealed a significant effect of education level on OCR $F(2,116) = 20.37, p < .001$. The Kruskal-Wallis test revealed the differences between the three rank totals of 63.50 (high school), 48.65 (undergraduate study), and 87.32 (postgraduate study) were significant, $H(2, n=119) = 29.55, p < .001$. Pairwise comparisons using the Dunn test indicated that undergraduate study was not significantly different from high school study ($p = .350$) but was significantly different from postgraduate study ($p < .001$). High school and postgraduate study were not significantly different ($p = .150$).

While correlations could not be drawn from the current study's education level data due to the significant differences between undergraduate and postgraduate study across all variables, the study still assessed education level effects should be controlled for in all variable analysis.

Hypotheses Testing Strategy

Descriptive statistics (means, medians, SDs, and range) were produced for each scale. Reliability analysis using Cronbach's alpha values was run for each scale. Using Nunnally's 1976 recommendation, a Cronbach's alpha value range of .90 or above was excellent, .80 or above was good, .70 or above was acceptable, .60 or above was questionable, .50 or above was poor, and below .50 was unacceptable (George and Mallery, 2016). Bivariate correlation analysis was run to assess the significance and direction of the relationship between each scale while controlling for age, gender and education level.

Multiple linear regression was used to analyse the effect of the independent variables (social capital, financial and government resources, effectuation decision-making logic and causation decision-making logic) on the outcome variables (effectuation decision-making logic, causation decision-making logic and organisation change readiness [OCR]). It was also used to analyse the effect of the independent variables (effectuation decision-making logic and causation decision-making logic) on the moderator variable (organisation ambidexterity) and the moderator variable on the outcome variable organisation change readiness [OCR]). In each regression analysis age, gender and education level were added as independent blocks after the independent variable. This was done to control for the statistically significant differences found during the demographic analysis described. Effect sizes were interpreted as small at .02 or less, medium at .02 to .15 and large at .35 or more (Cohen, 1988).

Four hypothesised models of mediation were tested individually using Model 4 of the Hayes (2022) PROCESS v.4.2 macro. The predictor variable was social capital or financial and government resources, while the decision-making logic (either effectuation or causation) was the mediator. The outcome variable was always organisation change readiness (OCR). Age, gender and education level were added as covariates to the mediation analysis to hold them constant. Mean centring was selected for all variables that defined products and the conditioning values were set to -1SD, Mean and +1SD. The bootstrapping was set to 5,000 resamples. The bootstrapping inference for model coefficients was used to generate upper and lower confidence intervals to create an estimation of the conditional indirect effects (Hayes, 2022). To interpret the results, mediation was considered to have occurred when a statistically significant indirect effect of the predictor variable on the outcome variable via the mediator variable was found and a statistically significant direct effect was found (Hayes, 2022). Statistical significance was defined as being when the bias corrected 95% confidence interval from 5,000 bootstrap re-samples did not pass through zero (Hayes, 2022).

After finding significant linear relationships in all multiple linear regression testing, moderation was tested using Model 1 of the Hayes (2022) PROCESS v.4.2 macro. Age, gender and education level were added as covariates to the moderation analysis to control for these effects. Mean centring was selected for all variables that defined products and the conditions values were set to -1SD, Mean and +1SD. The bootstrapping was set to 5,000 resamples. The bootstrapping inference for model coefficients was used to generate upper and lower confidence intervals. Code was generated for visualising interactions to create lines graphs. Moderation was found if the intercept of the decision-making logic and organisation ambidexterity was found to be significant at the .05 level. Simple slope analysis was used to further analyse the interaction.

Chapter Four: Results

Scale Analysis

Table 3 shows the descriptive statistics, Cronbach's alpha values and bivariate correlation analysis for all variables after controlling for age, gender and education level (demographic variables). Overall Cronbach's alpha (α) value for each summed scale fell in the acceptable to excellent range (George and Mallery, 2016).

The social capital scale consisted of 12 items and four subscales. The mean score was 3.69 (SD = 0.68) with good reliability (Cronbach's alpha value [α] = .89). For the subscales, the mean score for family ties was 3.56 (SD = 0.84), with acceptable reliability (α = .70). The mean score for business ties was 3.87 (SD = 0.84), with acceptable reliability (α = .75). The mean score for community ties was 3.76 (SD = 0.76), with acceptable reliability (α = .77). The mean score for government ties was 3.50 (SD = 0.87), with good reliability (α = .82).

The financial and government resources scale consisted of six items and two subscales. The mean score was 3.34 (SD = 0.86), with good reliability (α = .88). For the subscales, the mean score for perceived financial resources was 3.51 (SD = 0.88), with acceptable reliability (α = .79). The mean score for perceived government resources was 3.36 (SD = 0.95), with good reliability (α = .83).

The effectuation decision-making logic scale consisted of 13 items and four subscales. The mean score was 3.57 (SD = 0.65), with excellent reliability (α = .90). For the subscales, the mean score for experimentation was 3.44 (SD = 0.76), with acceptable reliability (α = .73). The mean score for affordable loss was 3.54 (SD = 0.79), with acceptable reliability (α = .74). The mean score for flexibility was 3.70 (SD = 0.74), with acceptable reliability (α = .75). The mean score for pre-commitments was 3.65 (SD = 0.81), with poor reliability (α = .56).

The causation decision-making logic scale consisted of seven items and had a mean score of 3.50 (SD = 0.80), with good reliability (α = .89).

The organisation ambidexterity scale consisted of 12 items with two subscales. The mean score was 3.62 (SD = 0.68), with excellent reliability (α = .91). For the subscales, the mean score for exploration was 3.62 (SD = 0.73), with good reliability (α = .83). The mean score for exploitation was 3.66 (SD = 0.71), with good reliability (α = .83).

The OCR scale consisted of 17 items with three subscales. The mean score was 3.67 (SD = 0.68), with excellent reliability ($\alpha = .92$). For the subscales, the mean score for change climate was 3.76 (SD = 0.68), with acceptable reliability ($\alpha = .76$). The mean score for the participant's view of their business' change readiness was 3.68 (SD = 0.75), with good reliability ($\alpha = .86$). The mean score for the participant's view of their employee's change readiness was 3.57 (SD = 0.77), with acceptable reliability ($\alpha = .78$).

As detailed, with the exception of the pre-commitments subscale all of the scales and associated subscales had over 70% reliability which is suitable for an exploratory study (Nunnally, 1978). The pre-commitments Cronbach's alpha value of .56 meant the scale reliability was questionable (George and Mallery, 2016). Chandler et al. (2011) found a similar challenge and suggested that this is possibly because pre-commitments is a subconstruct of both causation and effectuation decision-making logic. In a recent study, Shirokova et al. (2021) removed this subscale from their study to improve reliability. The current study reran analysis with pre-commitments removed however found the change in results to be so small as to be insignificant and chose instead to retain the scale as per the original method.

Table 3

Descriptive Statistics, Reliability and Bivariate Analysis for Study Variables After Controlling for Demographic Variables

Variable	No. of items	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6
1. Social capital	12	3.69	0.68	.89	-					
2. FG resources	6	3.43	0.86	.88	.72***	-				
3. Effectuation	13	3.57	0.65	.90	.75***	.55***	-			
4. Causation	7	3.50	0.80	.89	.65***	.52***	.82***	-		
5. OA	12	3.62	0.68	.91	.81***	.68***	.75***	.67***	-	
6. OCR	17	3.67	0.68	.92	.82***	.66***	.75***	.72***	.82***	-

Note. Demographic variables = age, gender and education level; No. of Items = number of items; M = Mean; SD = standard deviation; α = Cronbach's alpha value; FG resources = financial and government resources; OA = organisation ambidexterity; OCR = organisation change readiness; *** $p < .001$.

Hypotheses Testing

Table 4 shows the multiple linear regression analysis used to test hypotheses 1 to 3. Analysis was run using the demographic variables, i.e. age, gender, and education level, the independent variables, i.e. social capital, financial and government resources, effectuation logic, causation logic, the moderator variable, i.e. organisation ambidexterity and the outcome variables, i.e. effectuation logic, causation logic, and OCR.

Resources and OCR

Hypothesis 1 proposed that: (a) social capital and (b) financial and government resources lead to higher levels of OCR. Hypothesis 1(a) predicted that a higher level of social capital leads to a higher level of OCR. Linear regression results revealed a large effect, the combination of demographic variables and social capital accounted for 79% of the variance on OCR ($R^2 = .79$, $F[4,114] = 103.80$, $p < .001$). The results showed that social capital was a significant positive predictor of OCR, for every one unit increase in social capital a .81 increase in OCR was predicted ($B = .81$, $SE B = .05$, $\beta = .80$, $t = 15.44$, $p < .001$). Hypothesis 1(b) predicted higher levels of perceived financial and government resources lead to a higher level of OCR. Linear regression results revealed a large effect, the combination of demographic variables and financial and government resources accounted for 62% of the variance on OCR ($R^2 = .62$, $F[4,114] = 47.14$, $p < .001$). The results showed that perceived financial and government resources were a significant positive predictor of OCR, for every one unit increase in perceived financial and government resources a .52 increase in OCR was predicted ($B = .52$, $SE B = .06$, $\beta = .66$, $t = 9.34$, $p < .001$). Therefore, hypotheses 1(a) and 1(b) were supported.

Resources and Decision-Making Logic

Hypothesis 2 proposed that social capital leads to higher levels of both types of decision-making logic, i.e., (a) effectuation and (b) causation. Further, it was proposed that financial and government resources lead to higher levels of both types of decision-making logic, i.e., (c) effectuation and (d) causation. The results for hypothesis 2(a) revealed a large effect, the combination of social capital and demographic variables accounted for 71% of the variance on effectuation logic ($R^2 = .71$, $F[4,114] = 68.57$, $p < .001$). The results showed that social capital was a significant positive predictor of effectuation logic, for every one unit increase in social capital, a .62 increase in effectuation logic was predicted ($B = .62$, $SE B = .05$, $\beta = .72$, $t = 12.02$, $p < .001$). The results for hypothesis 2(b) revealed a large effect, the

combination of social capital and demographic variables accounted for 61% of the variance on causation logic ($R^2 = .61$, $F[4,114] = 43.68$, $p < .001$). The results showed that social capital was a significant predictor of causation logic, for every one unit increase in social capital, a .75 increase in causation logic was predicted ($B = .75$, $SE B = .08$, $\beta = .64$, $t = 9.11$, $p < .001$). The results for hypothesis 2(c) revealed a large effect, the combination of perceived financial and government resources and demographic variables accounted for 61% of the variance on effectuation logic ($R^2 = .61$, $F[4,114] = 43.68$, $p < .001$). The results showed that perceived financial and government resources were a significant positive predictor of effectuation logic, for every one unit increase in perceived financial and government resources, a .36 increase in effectuation logic was predicted ($B = .36$, $SE B = .05$, $\beta = .54$, $t = 6.93$, $p < .001$). The results for hypothesis 2(d) revealed a large effect, the combination of perceived financial and government resources and demographic variables accounted for 50% of the variance on causation logic ($R^2 = .50$, $F[4,114] = 28.31$, $p < .001$). The results showed that perceived financial and government resources were a significant positive predictor of causation logic, for every one unit increase in perceived financial and government resources, a .48 increase in causation logic was predicted ($B = .48$, $SE B = .08$, $\beta = .52$, $t = 6.41$, $p < .001$). Therefore hypotheses 2(a), 2(b), 2(c) and 2(d) were supported.

Decision-Making Logic and OCR

Hypothesis 3 proposed that both types of decision-making logic i.e. (a) effectuation and (b) causation lead to a higher level of organisation change readiness (OCR). The results for hypothesis 3(a) revealed a large effect size, effectuation logic and demographic variables accounted for 71% of the variance on OCR ($R^2 = .71$, $F[4,114] = 67.97$, $p < .001$). The results showed that effectuation logic was a significant predictor of OCR, for every one unit increase in effectuation logic a .89 increase in OCR was predicted ($B = .89$, $SE B = .07$, $\beta = .75$, $t = 11.95$, $p < .001$). The results for hypothesis 3(b) revealed a large effect size, causation logic and demographic variables accounted for 68% of the variance on OCR ($R^2 = .68$, $F[4,114] = 9.39$, $p < .001$). The results showed that causation logic was a significant positive predictor of OCR, for every one unit increase in causation logic, a .61 increase in OCR was predicted ($B = .61$, $SE B = .06$, $\beta = .72$, $t = 11.22$, $p < .001$). Therefore, hypotheses 3(a) and 3(b) were supported.

Table 4*Regression Analysis of Demographic and Independent Variables on Outcome Variables*

DV		OCR					Effectuation					Causation				
Hypotheses	Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
H1a, H2a H2b	Social capital	.81	.05	.80	15.44	<.001	.62	.05	.72	12.02	<.001	.75	.08	.64	9.11	<.001
	Age	.01	.00	.14	2.94	.004	.01	.00	.26	4.75	<.001	.03	.01	.34	5.49	<.001
	Gender	.16	.08	.10	2.10	.038	.11	.07	.08	1.48	.141	.01	.12	.01	0.08	.935
	Edu level	.05	.07	.04	0.77	.445	.02	.07	.01	0.23	.816	.02	.11	.01	0.16	.876
		$R^2 = .79$					$R^2 = .71$					$R^2 = .61$				
		$F(4,114) = 103.80, p < .001$					$F(4,114) = 68.57, p < .001$					$F(4,114) = 43.68, p < .001$				
H1b, H2c, H2d	FG resources	.52	.06	.66	9.34	<.001	.36	.05	.54	6.93	<.001	.48	.08	.52	6.41	<.001
	Age	.03	.00	.42	6.41	<.001	.03	.00	.50	6.78	<.001	.04	.01	.57	7.50	<.001
	Gender	.34	.10	.21	3.52	<.001	.26	.09	.20	2.94	.004	.18	.13	.10	1.40	.166
	Edu level	.07	.10	.05	0.77	.441	.06	.09	.05	0.69	.492	.04	.12	.03	0.31	.753
		$R^2 = .62$					$R^2 = .61$					$R^2 = .50$				
		$F(4,114) = 47.14, p < .001$					$F(4,114) = 43.68, p < .001$					$F(4,114) = 28.31, p < .001$				

DV		OCR					OA				
Hypotheses	Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
H3a, H5	Effectuation	.89	.07	.75	11.95	<.001	.90	.07	.75	12.12	<.001
	Age	.00	.00	-.04	-0.67	.505	-.01	.00	-.09	-1.50	.137
	Gender	.20	.09	.12	2.35	.027	.18	.09	.11	2.08	.040
	Edu level	.18	.08	.13	2.35	.021	.21	.08	.16	2.80	.006
$R^2 = .71$						$R^2 = .71$					
$F(4,114) = 67.97, p < .001$						$F(4,114) = 68.10, p < .001$					
H3b, H5	Causation	.61	.06	.72	11.22	<.001	.57	.06	.66	9.63	<.001
	Age	-.01	.00	-.09	-1.43	.156	-.01	.00	-.11	-1.70	.092
	Gender	.34	.09	.21	3.81	<.001	.34	.10	.21	3.60	<.001
	Edu level	.27	.08	.17	2.95	.004	.28	.08	.21	3.38	<.001
$R^2 = .68$						$R^2 = .63$					
$F(4,114) = 9.39, p < .001$						$F(4,114) = 48.73, p < .001$					
H5	OA	.82	.05	.82	15.14	<.001					
	Age	.01	.00	.07	1.51	.134					
	Gender	.12	.08	.07	1.52	.131					
	Edu level	.06	.07	.05	0.90	.371					
$R^2 = .70$											
$F(4,114) = 100.34, p < .001$											

Note. DV = dependent variable; OCR = organisation change readiness; OA = organisation ambidexterity; *SE B* = standard error bands; Edu level = education level; FG resources = financial and government resources.

Mediation Analysis

Hypothesis 4 proposed that both types of decision-making logic i.e. (a) effectuation and (b) causation mediate the relationship between social capital and organisation change readiness (OCR). Hypothesis 4 also proposed that both types of decision-making logic i.e. (c) effectuation and (d) causation mediate the relationship between financial and government resources and organisation change readiness (OCR). Table 5 outlines the results.

Hypothesis 4a predicted that effectuation logic would mediate the relationship between social capital and OCR. After controlling for age, gender and education level, social capital was positively associated with effectuation logic: $a = 0.62, p < .001$, and effectuation logic was positively associated with OCR: $b = 0.35, p < .001$. A positive association was also found between social capital and OCR: $c = 0.59, p < .001$. A bootstrap confidence interval based on 5,000 bootstrap resamples showed the indirect effect of the model was statistically significant and positive: $B = 0.22$, BCa CI (0.09, 0.37). The direct effect of the model was also statistically significant and positive: $B = 0.59$, BCa CI (0.45, 0.71). Following Hayes (2022) as a significant relationship existed between each of the variables, and the bootstrapped confidence intervals of both the direct and indirect relationships did not pass through zero, hypothesis 4(a) was supported.

Hypothesis 4(b) predicted that causation logic would mediate the relationship between social capital and organisation change readiness (OCR). After controlling for age, gender and education level, social capital was positively associated with causation logic: $a = 0.75, p < .001$, and causation logic was positively associated with OCR: $b = 0.29, p < .001$. A positive association was also found between social capital and OCR: $c = 0.59, p < .001$. A bootstrap confidence interval based on 5,000 bootstrap resamples showed the indirect effect of the model was statistically significant and positive: $B = 0.21$, BCa CI (0.11, 0.34). The direct effect of the model was also statistically significant and positive: $B = 0.75$, BCa CI (0.59, 0.92). Following Hayes (2022) as a significant relationship existed between each of the variables, and the bootstrapped confidence intervals of both the direct and indirect relationships did not pass through zero, hypothesis 4(b) was supported.

Hypothesis 4(c) predicted that effectuation logic would mediate the relationship between perceived financial and government resources and organisation change readiness (OCR). After controlling for age, gender and education level, perceived financial and government resources were positively associated with effectuation logic: $a = 0.36, p < .001$,

and effectuation logic was positively associated with OCR: $b = 0.66, p < .001$. A positive association was also found between perceived financial and government resources and OCR: $c = 0.28, p < .001$. A bootstrap confidence interval based on 5,000 bootstrap resamples showed the indirect effect of the model was statistically significant and positive: $B = 0.24$, BCa CI (0.14, 0.36). A direct effect of the model was also statistically significant and positive: $B = 0.36$, BCa CI (0.25, 0.49). Following Hayes (2022) as a significant relationship existed between each of the variables, and the bootstrapped confidence intervals of both the direct and indirect relationships did not pass through zero, hypothesis 4(c) was supported.

Hypothesis 4(d) predicted that causation logic would mediate the relationship between financial and government resources and organisation change readiness (OCR). After controlling for age, gender and education level, perceived financial and government resources were positively associated with causation logic: $a = 0.48, p < .001$, and causation logic was positively associated with OCR: $b = 0.44, p < .001$. Perceived financial and government resources were also positively associated with OCR: $c = 0.31, p < .001$. A bootstrap confidence interval based on 5,000 bootstrap resamples showed the indirect effect of the model was statistically significant and positive: $B = 0.21$, BCa CI (0.13, 0.31). The direct effect of the model was also statistically significant and positive: $b = 0.48$, BCa CI (0.33, 0.63). Following Hayes (2022) as a significant relationship existed between each of the variables, and the bootstrapped confidence intervals of both the direct and indirect relationships did not pass through zero, hypothesis 4(d) was supported.

Table 5

Mediation Analysis: Decision-Making Logic, Resources and OCR

Variable	Effectuation				OCR			
	B	SE	p	β	B	SE	p	β
Social capital	0.62	0.05	.000	0.00	0.59	0.07	.000	0.00
Effectuation	-	-	-	-	0.35	0.09	.000	0.00
Age	0.01	0.00	.000	0.00	0.00	0.00	.212	0.00
Gender	0.11	0.07	.141	0.00	0.12	0.07	.098	0.00
Edu level	0.02	0.07	.816	0.00	0.05	0.06	.469	0.00
$R^2 = .71$					$R^2 = .79$			
$F(4,114) = 68.57, p < .001$					$F(5,113) = 103.80, p < .001$			

Variable	Causation				OCR			
	B	SE	p	β	B	SE	p	β
Social capital	0.75	0.08	.000	-0.01	0.60	0.06	.000	0.00
Causation	-	-	-	-	0.30	0.05	.000	0.00
Age	0.03	0.01	.000	0.00	0.00	0.05	.000	0.00
Gender	0.01	0.12	.935	-0.01	0.16	0.00	.024	0.00
Edu level	0.02	0.11	.876	-0.01	0.05	0.06	.024	0.00

$$R^2 = .61$$

$$F(4,114) = 43.67, p < .001$$

$$R^2 = .83$$

$$F(5,113) = 107.55, p < .001$$

Variable	Effectuation				OCR			
	B	SE	p	β	B	SE	p	β
FG resources	0.36	0.05	.000	-0.01	0.28	0.05	.000	0.00
Effectuation	-	-	-	-	0.66	0.08	.000	-0.01
Age	0.03	0.00	.000	0.00	0.01	0.00	.018	0.00
Gender	0.26	0.09	.004	-0.01	0.17	0.08	.038	0.00
Edu level	0.06	0.09	.492	-0.01	0.03	0.07	.660	0.00

$$R^2 = .53$$

$$F(4,114) = 32.35, p < .001$$

$$R^2 = .77$$

$$F(5,113) = 73.61, p < .001$$

Variable	Causation				OCR			
	B	SE	p	β	B	SE	p	β
FG resources	0.48	0.08	.000	-0.01	0.31	0.05	.000	-0.00
Causation	-	-	-	-	0.44	0.06	.000	0.00
Age	0.43	0.01	.000	0.00	0.01	0.00	.052	0.00
Gender	0.18	0.13	.166	-0.02	0.30	0.08	.001	-0.01
Edu level	0.04	0.12	.753	-0.01	0.05	0.07	.470	0.00

$$R^2 = .50$$

$$F(4,114) = 28.31, p < .001$$

$$R^2 = .76$$

$$F(5,113) = 70.73, p < .001$$

Note. OCR = organisation change readiness; SE = standard error; Edu level = education level; FG resources = financial and government resources.

Moderation Analysis

Hypothesis 5 proposed that organisation ambidexterity moderates the relationship between an entrepreneur's decision-making logic i.e., (a) effectuation and (b) causation and organisation changes readiness. The relationship between the decision-making logic and OCR will be stronger when there is higher organisation ambidexterity.

Table 6 outlines the results of the moderation analysis for hypothesis 5(a) after controlling for age, gender and education level. The results show that the main effect of effectuation logic on OCR was statistically significant ($B = 0.35$, $SE = 0.10$, $p < .001$, confidence interval [CI] [0.16, 0.53]). The main effect of organisation ambidexterity on OCR was also statistically significant ($B = 0.59$, $SE = 0.08$, $p < .001$, CI [0.43, 0.74]). Organisation ambidexterity did not have a significant moderating relationship on the interaction between effectuation logic and OCR ($B = 0.05$, $SE = 0.08$, $p = .521$, CI [-0.11, 0.22]).

Table 6

Moderation Analysis: Organisation Ambidexterity, Effectuation Logic and OCR

Variable	<i>B</i>	SE	LLCI	ULCI	<i>p</i>
Effectuation	0.35	0.10	0.16	0.53	.000
OA	0.59	0.08	0.43	0.74	.000
Effectuation*OA	0.05	0.08	-0.11	0.22	.521
Age	0.00	0.00	-0.01	0.01	.725
Gender	0.11	0.08	-0.05	0.26	.172
Education level	0.05	0.06	-0.08	0.18	.443

Note. SE = standard error; LLCI = lower limit confidence interval; ULCI = upper limit confidence interval; OA = organisation ambidexterity.

To further investigate the hypothesised moderating relationship of organisation ambidexterity on the relationship between effectuation and OCR, simple slope analysis was performed. As per Figure 3, this revealed that the level of organisation ambidexterity does not moderate the relationship between effectuation decision-making logic and organisation change readiness (OCR). Following Hayes (2022), as the intercept of organisation ambidexterity was not statistically significant, hypothesis 5(a) was not supported.

Figure 3

Moderation by Organisation Ambidexterity on Effectuation Logic and OCR

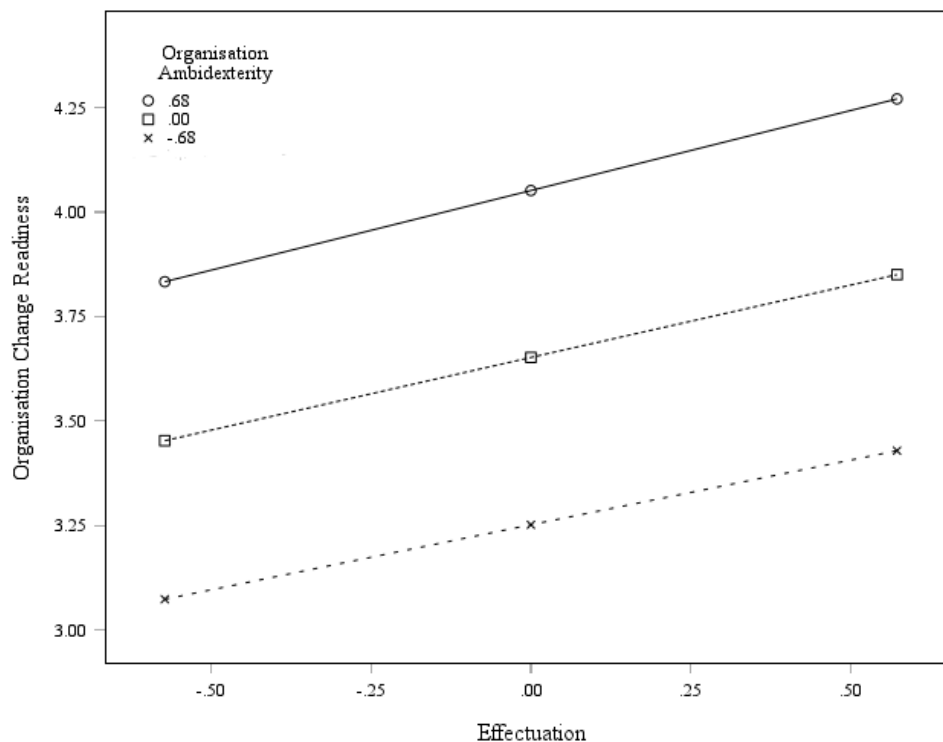


Table 7 outlines the results of the moderation analysis for hypothesis 5(b) after controlling for age, gender and education level. The results show that the main effect of causation logic on OCR was significant ($B = 0.27$, $SE = 0.06$, $p < .001$, $CI [0.15, 0.39]$). The main effect of organisation ambidexterity on OCR was also significant ($B = 0.60$, $SE = 0.07$, $p < .001$, $CI [0.47, 0.74]$). Organisation ambidexterity did not have a significant moderating relationship on the interaction between causation logic and OCR ($B = 0.01$, $SE = 0.06$, $p = .849$, $CI [-0.11, 0.13]$).

Table 7*Moderation Analysis: Organisation Ambidexterity, Causation Logic and OCR*

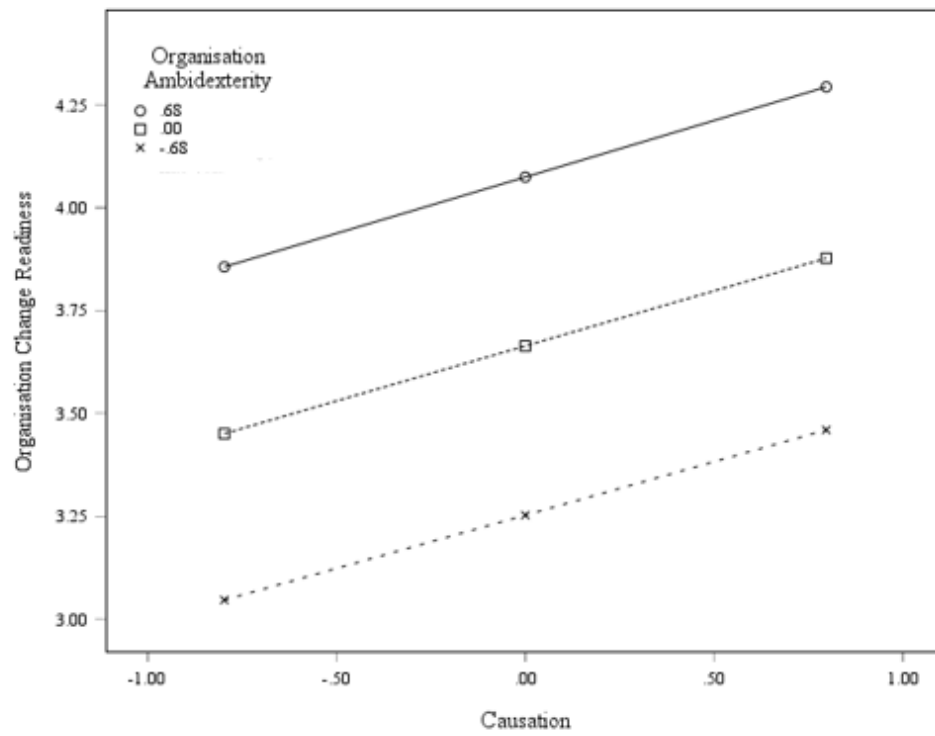
Variable	B	SE	LLCI	ULCI	<i>p</i>
Causation	0.27	0.06	0.15	0.39	.000
OA	0.60	0.07	0.47	0.74	.000
Causation*OA	0.01	0.06	-0.11	0.13	.849
Age	0.00	0.00	-0.01	0.01	.700
Gender	0.13	0.07	-0.01	0.28	.070
Education level	0.06	0.06	-0.07	0.18	.370

Note. SE = standard error; LLCI = lower limit confidence interval; ULCI = upper limit confidence interval; OA = organisation ambidexterity.

To further investigate the hypothesised moderating relationship of organisation ambidexterity on the relationship between causation logic and OCR, simple slope analysis was performed. Figure 4 shows that the level of organisation ambidexterity does not moderate the relationship between causation decision-making logic and OCR. Following Hayes (2022), as the intercept of organisation ambidexterity was not statistically significant, hypothesis 5(b) was not supported.

Figure 4

Moderation by Organisation Ambidexterity on Causation Logic and OCR



Chapter Five: Discussion

Overview

To date, there has not been any research examining a link between OCR and entrepreneurs. The current study looks at this relationship through the lens of resources, decision-making and organisation ambidexterity. It contributes to scant research on the combination of these topics and offers further data regarding entrepreneurs running SMEs in NZ, an under researched area. This study specifically examined; (1) the relationship between resources and OCR, (2) the relationship between resources and the different types of decision-making logic of entrepreneurs, (3) the relationship between an entrepreneur's decision-making logic and OCR, (4) if different types of decision-making logic mediate the relationship between resources and OCR, and (5) if organisation ambidexterity moderates the relationship between different types of decision-making logic and organisation change readiness (OCR).

Summary of Findings

The major findings of this study are the relationships between both types of resources, both types of decision-making logic and organisation change readiness (OCR). The causal relationships found support other studies that show that the RBV can be used to explain an entrepreneur's business performance and ultimately lead to a greater ability to sustain his/her business (Agrawal et al., 2024; Chandler and Hanks, 1994). Research on OCR shows that change readiness is distinctly different from reactions to change (Armenakis et al., 1993; Holt et al., 2007). Change readiness has been found to be the precursor for employee's reactions to change, which can either be resistant or positive (Armenakis et al., 1993; Bartlem and Locke, 1981). Creating a state of change readiness in a business involves employees understanding the need for change due to competing market forces (Bartlem and Locke, 1981). To create this state, entrepreneurs need to ensure that employees believe the change is needed, believe the business is capable of making the change, and see value in the change (Armenakis et al., 1999). Based on the requirements to create change readiness, it is perhaps not surprising that both types of resources and both types of decision-making logic were antecedents to organisation change readiness (OCR). What was surprising were the results of hypothesis 5, which showed that the relationship between decision-making logic and OCR was not moderated by organisation ambidexterity. The following sections discuss the findings of the

current study in detail, the strengths and contributions, limitations and future research directions, before summarising with concluding remarks.

Sample Characteristics

The current study had 119 participants. All had either started their own business or bought into an existing business in NZ and had between 6 and 49 employees. Data on SME business owners in NZ is hard to find, the following commentary is based in part on the statistics available for self-employed people in NZ following the example set by MBIE in the Small Business Strategy report (MBIE, 2019). Of the 119 participants, 76.47% were men and 23.53% were women, this is broadly representative of all employers in NZ at 68% for men and 32% for women (Statistics New Zealand, 2024). Of the participants, 92.44% identified as NZ European, 3.36% identified as Māori, 3.36% identified as Pacific Islander, and 0.84% identified as Indian. In comparison to self-employed people, 77% identify as European, 12% as Asian, 6% as Māori, and 2% as Pacific Peoples (Statistics New Zealand, 2024). This is a deviation from this study's participant demographic however, it is difficult to evaluate how comparative data on self-employed people is to entrepreneurs who run SMEs in New Zealand (NZ). Auckland has the highest number of small businesses per region (Statistics New Zealand, 2018) which is representative of this study's sample where 18.49% of participant's businesses are based in Auckland. Most participants employed between 20 to 49 people which represents approximately 14% of businesses in NZ (Statistics New Zealand, 2022).

Resources and OCR

Hypotheses 1 proposed that (a) social capital and (b) financial and government resources lead to higher levels of organisation change readiness (OCR). After controlling for age, gender and education level, both hypotheses were supported as per tables 4 and 5. This finding shows that an entrepreneur's use of social capital, and perception of the availability of financial and government resources, creates higher levels of OCR in his/her business. This supports the RBV by showing that resources allow entrepreneurs to create competitive advantages. The importance of resources for OCR is supported by previous studies that have found entrepreneurs require a combination of mentorship and financial and regulatory support to sustain business and drive innovation (Agrawal et al., 2024; Chandler and Hanks, 1994). One of the imperfectly imitable competitive advantages a business can create is culture. By using both social capital and financial and government resources effectively,

entrepreneurs create a culture of change readiness where employees perceive the business is both capable of making change and understand the value of the change.

The importance of social capital to entrepreneurs in NZ has been demonstrated in previous studies that have shown the importance of family ties in spousal roles on entrepreneurial motivation (Kirkwood, 2009) and the importance of both family and community ties to obtain capital, clients and employees (Pio, 2007). Therefore, an entrepreneur can use social capital to create higher levels of OCR in his/her business through building a culture of change readiness. For example, relationships with government officials allow an entrepreneur to better navigate complex government systems giving more certainty that regulatory hurdles can be overcome. Support from the broader entrepreneurial community in the form of business ties allow an entrepreneur to seek advice and understand opinions different from their own, creating a more holistic and sustainable business. Emotional support from family provides an entrepreneur with resilience when facing challenging times. Community ties provide customers and/or employees both of which are essential to sustaining a business. Thus, social capital builds OCR as it gives the entrepreneur information about market conditions that he/she can use to explain the importance of change to employees. It also provides value in terms of potential revenue streams and support networks. All of this leads to influencing the culture of the business and employee's perceptions of a business's ability to adapt to change which in turn leads to positive change emotions and ultimately higher levels of organisation change readiness (OCR).

The perception of financial and government resources can be used to build a culture of change readiness as accessing these resources provides the entrepreneur the ability to more easily implement change. For example, understanding what financial support is available to an entrepreneur means they are more likely to access it. Financial support gives the entrepreneur the opportunity to expand their business through human capital which in turn leads to greater support for employees by, for example, hiring human resource managers who implement performance management systems. Having a performance system in place where employees receive regular feedback has been found to be important for motivation, communication and ultimately the development of change readiness in a business (Rafferty et al., 2013). In addition, an understanding of the government support available means an entrepreneur is more likely to access things such as advice on how to digitise their business. In turn, this supports them to adapt their business to market changes. The importance of both financial and government resources have been shown to be important to OCR through a

longitudinal study which found that a combination of both financial and government resources through R&D grants contributes to digital readiness (Moeini Gharagozloo et al., 2022). Thus, the perception of financial and government resources logically leads to these resources being accessed. This in turn creates a culture of change readiness as it gives employees confidence that the business has the funds, and the knowledge, to adapt as required ultimately creating higher levels of organisation change readiness (OCR).

The correlation analysis for hypotheses 1 showed that in comparison to perceived financial and government resources, social capital had a larger effect on organisation change readiness (OCR). This may be attributed to the smaller population size and family nature of entrepreneurship in New Zealand (NZ). In NZ, with a smaller population size and over 50% of entrepreneurs coming from families of entrepreneurs (Hunter and Wilson, 2007), informal networks such as ties to other businesses and government networks are more likely to be used than formal financial or government resources. In turn, this may lead to a lack of awareness of, and need for, more formalised resources. In support of this, the NZ government created a website to support SMEs digitisation by educating entrepreneurs (Mazzarol and Clark, 2016). However, NZ SMEs are lagging behind other countries SMEs in the OCED on the adoption of digitisation (CPA Australia, 2023; Hettihewa and Wright, 2010) suggesting the website is not being used.

Supporting the suggestion that entrepreneurs running SMEs in NZ are more likely to lean on social capital due to the family nature of entrepreneurship, it has been found that entrepreneurs in NZ seek funding outside of traditional institutions such as banking due to the challenges with lending and financing to small businesses (Ebben and Johnson, 2006). The current study showed that personal and family wealth and credit from suppliers were key sources of funding in starting a business. This suggests there may be less reliance on financial and government resources. The flow on effect of this is likely to be that entrepreneurs have less of an awareness of the availability of financial and government resources, and will be more driven to use family, business, government and community ties to help sustain their business. Therefore, it is not only a lower perception of financial and government resources but also the broader benefits of social capital that likely to drive entrepreneurs to leverage this resource more to build organisation change readiness (OCR).

Another reason for the findings in hypothesis 1 may be the focus of NZ government policy on supporting export of businesses rather than supporting the R&D of local SMEs. In comparison to other countries in the OECD NZ spends significantly less on R&D as a proportion of gross domestic product (GDP) (OECD, 2021a). The OECD average spend on R&D as a proportion of GDP is 2.7%, in NZ this figure sits at only 1.5% (OECD, 2021a). Funding R&D grants is an important way of investing in SMEs and supporting entrepreneurs who may not have as much access to social capital, such as new migrant entrepreneurs who do not have strong family ties. Despite this, there has been a clear focus in NZ on investment in export rather than R&D grants. Recently, a large portion of financial and government resource in NZ has been focused on supporting significant growth of businesses through internalisation. For example NZTE was set up to help businesses to export goods and services (Mazzarol and Clark, 2016). Given only 12% of NZ SMEs export goods (Ministry of Foreign Affairs and Trade, 2022), not only does this seem to be supporting only a small number of businesses, this may also lead to a large number of entrepreneurs running SMEs in NZ perceiving that current government policy does not support them, driving them to more regularly leverage social capital resources.

In addition, policy intervention at a national level in NZ has restricted the power of local governments. Local governments are better placed to provide targeted support to entrepreneurs (Nel and Stevenson, 2014). As local governments in NZ are predominantly self-funded, unlike other countries in the OECD (Nel and Stevenson, 2014), the restriction in funds has resulted in less formalised support being available. Local governments are uniquely placed to offer support to entrepreneurs relevant to their specific area, for example shared working space or networking events to allow local business owners to collaborate and exchange knowledge. However, a lack of funding means that in small towns in NZ, entrepreneurship is often driven by private enterprise rather than local governments (Nel and Stevenson, 2014). Thus, there may be less government support for entrepreneurs than there is social capital driven by private enterprise on a local level.

Resources and Decision-Making Logic

Hypothesis 2 proposed that social capital would lead to higher levels of both types of decision-making logic, i.e., (a) effectuation and (b) causation. Hypothesis 2 further proposed that financial and government resources would lead to higher levels of both types of decision-making logic, i.e., (c) effectuation and (d) causation. All four hypotheses were supported showing that both types of resources, i.e. social capital and the perception of

financial and government resources, lead to higher levels of both types of decision-making i.e. effectuation and causation logic.

Using resources effectively is an important part of entrepreneurial success (Björklund and Krueger, 2016; Chen et al., 2015; Guo et al., 2016). Therefore, having more resources allows greater decision-making abilities. For example, social capital can contribute to higher levels of effectuation logic by creating partnerships and pre-commitments (Chandler et al., 2011; Hubner et al., 2022). Perceived financial and government resources can contribute to higher levels of effectuation logic by providing incubators and R&D grants (Hubner et al., 2022). Both social capital and the perception of financial and government resources can lead to higher levels of causation logic as using this logic is driven by higher levels of resource availability overall (Hubner et al., 2022).

The findings in hypothesis 2 are in line with a study by Guo et al. (2016) which examined new internet ventures and how entrepreneurs use different resource bundling strategies based on their decision-making logic. The study found that both types of decision-making logic contribute to new venture growth, what differs is how the entrepreneur views and uses resources, whether this be through pioneering resource bundling in the case of effectuation logic, or stabilising resource bundling in the case of causation logic. In conjunction with the findings of the current study, this suggests that entrepreneurs might use resources differently based on their decision-making logic, but still be able to effectively sustain their business.

The support for hypothesis 2 also shows that the environment for entrepreneurs in NZ is supportive of either type of decision-making logic rather than encouraging entrepreneurs to adopt one or the other. This is in line with a previous study which looked at entrepreneurial ecosystems across Silicon Valley, Munich and Singapore (Hubner et al., 2022). The study found that in Silicon Valley effectuation is used predominantly, in Munich causation logic is used predominantly and in Singapore either effectuation or causation logic was used by entrepreneurs. This finding suggested that in Singapore both types of resources, social capital and financial and government resources, are important for business success (Hubner et al., 2022). There are some significant differences between NZ and Singapore such as political systems and cost of living. However, both countries have a similar population size and a limited export footprint both of which are likely to contribute to similar challenges and opportunities faced by entrepreneurs which may suggest the reason for this finding.

As per table 5, social capital had a larger effect on both types of decision-making logic than perceived financial and government resources. This finding provides support for the theory conceptualised by Chandler et al. (2011) that suggested that the subscale of effectuation logic, strategic alliances, may also apply to causation logic. Sarasvathy (2001) describes effectuation logic as being applied by entrepreneurs based on who they are, what they know, and who they know. Strategic alliances in the form of pre-agreements from suppliers for credit or exclusivity of product are therefore logically attributed to effectuation logic. However, strategic alliances may also be used by entrepreneurs applying a causation logic in that they may seek certainty in the form of pre-commitments, hence the larger effect size between social capital and causation logic.

Decision-Making Logic and OCR

Hypothesis 3 proposed that both types of decision-making logic i.e. (a) effectuation and (b) causation would lead to higher levels of organisation change readiness (OCR). As per table 5, both hypotheses were supported. The creation of high levels of OCR is a complex undertaking, in which entrepreneurs need to influence employee's beliefs, attitudes, and intention to create change readiness (Armenakis et al., 1993). Considering these requirements, it is clear a good plan, whether that is formed by effectuation or causation logic, will build confidence in the employee. Having a plan and clear goals for a business primes employees to be ready for change, it drives greater belief in a business' ability to adapt to change and allows for change processes to be implemented more easily.

The findings in hypothesis 3 are in line with studies that have found that the type of decision-making logic does not predict the success of a business, rather either logic can do so (Alsos et al., 2019; Alzamora-Ruiz et al., 2021; Liu et al., 2022; Smolka et al., 2018). For example, in a study of 1,453 entrepreneurs across 25 different countries Smolka et al. (2018) found that both causation and effectuation logic were positively related to venture performance. In addition, research has found that both types of decision-making logic create successful innovation in technology industries (Alzamora-Ruiz et al., 2021).

Following the example of previous research, the current study treated effectuation and causation as different types of decision-making logic, suggesting an entrepreneur will adopt one or the other and use it for all business decisions (Alsos et al., 2019; Chandler et al., 2011; EstradaCruz et al., 2019; Yang et al., 2019). Therefore, the individual causal relationships that effectuation and causation logic have on OCR were examined. However, as the findings show

that both types of decision-making logic contribute to OCR, it can be speculated that if an entrepreneur can combine both types of decision-making logic this may strengthen the change readiness of his/her business. A growing body of literature has started to explore this however, the results have been mixed (Alzamora-Ruiz et al., 2021; Smolka et al., 2018). For example, in a study of technology-based SMEs Alzamora-Ruiz et al. (2021) found that using a combination of effectuation and causation is better than using one logic when it comes to process innovation. Conversely, the study found that for product innovation, effectuation logic was used first and then causation logic was used second, and that there was no support for combining these.

Therefore, whether a combination of both types of decision-making logic would create more readiness is unclear. A combination of both types of decision-making logic may allow entrepreneurs to show more flexibility. For example, using causation logic entrepreneurs may seek to avoid unexpected changes and if a change becomes unavoidable switch of an effectuation logic to exploit it (Alzamora-Ruiz et al., 2021). Conversely, the combination of approaches may cause uncertainty in employees, as it may create a changeable culture with less of a plan. For example, under causation logic more resources are used upfront to obtain goals, effectuation logic requires fewer resources upfront (Alzamora-Ruiz et al., 2021). Combining these may create a push and pull effect in a business which is likely to create more uncertainty. Ultimately, this study concludes that as effectuation and causation are different types of decision-making logic it would be challenging for an entrepreneur to switch easily between them and may in fact create a culture of unrest where employees are trying to adapt to shifting priorities of the business potentially reducing OCR as a result.

The Mediating Effect of Decision-Making Logic on the Relationship Between Resources and OCR

Hypothesis 4 proposed that both types of decision-making logic i.e. (a) effectuation and (b) causation mediate the relationship between social capital and organisation change readiness (OCR). Hypothesis 4 also proposed that both types of decision-making logic i.e. (c) effectuation and (d) causation mediate the relationship between financial and government resources and organisation change readiness (OCR). As per table 6, all four hypotheses were supported.

This finding explains how entrepreneurs impact the positive relationship between resources and organisation change readiness (OCR). Resources are an important antecedent

to high levels of OCR, they can help to give an employee confidence in the businesses' ability to adapt to change, however following the RBV, it is the way the entrepreneur uses these resources that creates change readiness in their business. One way in which an entrepreneur identifies and uses resources is through his/her decision-making logic. Using either effectuation or causation logic, the entrepreneur effectively seeks out and uses resources that allow them to create an environment of change readiness. As decision-making mediates the relationship between resources and OCR, this suggests resources alone are insufficient, what creates outcomes is the way an entrepreneur manages his/her resources (D'Oria et al., 2021; Xu et al., 2024).

In addition, this finding indicated that decision-making logic is important for effective resource management (Berends et al., 2014; Xu et al., 2024). Knowing that SMEs are typically resource poor, effective utilisation of limited resources via a decision-making logic is important. For example, social capital offers ties to business networks which can be advantageous as a source of knowledge and advice, however, conflicting opinions, or narrow viewpoints can also constrain a business. From an effectuation perspective, the entrepreneur starts with "who I know" (Sarasvathy, 2001). If the entrepreneur's social capital is limited, or the advice they receive is not broad, this may impact his/her ability to effectively sustain his/her business (Kerr and Coviello, 2020; Yi et al., 2022). If an entrepreneur is applying causation logic and does not receive good advice from business ties, this may be a barrier to the on-going sustainability of his/her business (Kerr and Coviello, 2020; Xu et al., 2024). Therefore, effectively using a decision-making logic when evaluating resources leads to higher levels of OCR as the entrepreneur is required to apply a level of scepticism to what is and is not a useful resource.

The Moderating Effect of Organisation Ambidexterity on the Relationship Between Decision-Making Logic and OCR

Hypothesis 5 proposed that organisation ambidexterity will moderate the relationship between an entrepreneurs' decision-making logic i.e., (a) effectuation and (b) causation and organisation change readiness (OCR). The relationship between the decision-making logic and OCR would be strong when there is high organisation ambidexterity. In both instances, organisation ambidexterity failed to moderate the hypothesised relationship.

The current study followed previous research which treats effectuation and causation logic as separate, suggesting an entrepreneur typically adopts one or the other (Brettel et al., 2012; Perry et al., 2012). However, a possible explanation for the findings in hypotheses 5 is

that the use of both types of decision-making logic combined create organisation ambidexterity. Organisation ambidexterity is a combination of exploitation and exploration, therefore it is possible that causation logic is needed more in the exploitation phase and effectuation logic is needed more in the exploration phase (Brettel et al., 2012). Supporting this, in a recent study of technology-based SMEs, Alzamora-Ruiz et al. (2021) found that while both effectuation and causation logic individually impact process innovation, the combination of these had a greater impact on process innovation overall. However, when looking at product innovation the study found no support for a combination of both types of decision-making logic. Therefore, this assumption may be situation dependent.

Building on this, the researchers speculate that it is possible that a combination of both effectuation and causation decision-making logic used at different times during a SMEs lifecycle create organisation ambidexterity. Support for this can be found in a qualitative study by Berends et al. (2014) on product innovation in SMEs. This study found that a combination of an entrepreneur's effectuation logic and a manager's causation logic were instrumental in driving new product development. The study also found that effectuation was used predominantly in earlier stages of business development and causation was used in later stages. In a longitudinal qualitative case study of two Russian SMEs, it was found that both causation and effectuation were used at different times depending on the situation of the business, with effectuation being applied in situations of higher market uncertainty (Laine and Galkina, 2017).

This emerging body of research suggests that causation and effectuation logic may be used at different times, rather than one logic being used throughout the life cycle of a business. The studies also suggest that while the entrepreneur has a significant impact on his/her business through his/her decision-making logic, it is likely that other decision makers in the business apply different logic and also have an impact on the business. Therefore, it may be that it is the combination of these that allows organisation ambidexterity to moderate the relationship between decision-making logic and organisation change readiness (OCR).

The Entrepreneur

This study has shown the importance of the entrepreneur beyond the venture creation and growth stage into the sustainability phase. Regarding the study's demographic analysis, a question arises as to whether age may specifically have an influence on resource use and decision-making logic. However, other studies that have shown that experienced

entrepreneurs (who are more mature in age) are more likely to sustain a business (Minniti and Bygrave, 2001; Politis, 2008). Therefore, this finding is more likely linked to the experience that comes with age rather than the variable of age itself.

This study's results have suggested no causal link between education level and gender and the variables in this study. Other studies have found that education level can have an impact on SME longevity (Bates, 1990). However, education level is only one contributor to the sustainability of SMEs. It is more likely that the characteristics of the entrepreneur such as need for achievement, tolerance for ambiguity, and appetite for risk have a higher impact on sustainability. From a resource perspective, these characteristics are more likely than education level to drive an entrepreneur to leverage social capital and access available financial and government resources. This in turn leads to applying strategic decision-making logic to ensure the on-going sustainability of their business by building change readiness.

In a SME, the entrepreneur is an important figure. They may, depending on business size and structure, have a significant number of employees reporting into them. Often, they are acting as the General Manager or CEO, and ultimately, they are responsible for making the decisions on which resources will help to sustain his/her business. To effectively use resources, they need to make consistent clear decisions, that benefit the business and allow it to reach its goals. Therefore, the specific decision-making logic of the entrepreneur is less important than having a clear pathway to follow. This pathway allows entrepreneurs to make decisions based on his/her goals. This in turn allows the entrepreneur to support employees by giving them an understanding of where the business is going, the importance of any change initiatives, and confidence that there is consistency in the business that will allow change to be successfully implemented. Part of business performance and growth, which ultimately leads to the sustainability of SMEs, is organisation change readiness (OCR). It has been shown that OCR is an important characteristic of businesses adapting to the Fourth Industrial Revolution (IR 4.0) (Adhiatma et al., 2023). Therefore, an important way an entrepreneur can adapt his/her SME to IR 4.0 is through his/her use of resources and decision-making logic. The use of these will allow the adoption, rather than resistance, of new technologies and ways of work as employees will be change ready.

Strengths, Limitations, and Future Research

Strengths

This study had several strengths. Firstly, a contribution is made to research on entrepreneurs running SMEs in New Zealand (NZ). Most of the studies in NZ on entrepreneurship are qualitative, which provides a rich narrative and depth of understanding but cannot draw correlations. For example, research has examined how the 2011 Christchurch earthquake created a unique opportunity for creative entrepreneurs (Cameron et al., 2018). From a decision-making perspective, qualitative research has found that angel investors' are more likely to offer funding to entrepreneurs who use causative logic (Crick and Crick, 2018). In a study of the decision-making of five entrepreneurs it was found that two used effectuation logic, two used causation logic, and one used a combination of both (Pfeffer and Khan, 2018).

In addition, this study makes a further contribution to research on entrepreneurs running SMEs in NZ via the breadth of different participant demographics which allows for greater generalisability of findings. Quantitative research in NZ has focused on student entrepreneurs, for example, a study of 154 students recently found entrepreneurial behaviours can mediate the relationship between fixed mindsets and self-efficacy (Bi and Collins, 2022). It has also focused on specific industries such as a study on deviance in the Manuka Honey industry (Duarte Alonso et al., 2020). In addition, a study on manufacturing SMEs examined the mediating role of decision-making logic on the relationship between entrepreneurial orientation and internationalisation (Karami et al., 2023). All these studies have had a narrow focus in terms of industry or life stage and thus, the breadth of the current study is valuable.

Most research on entrepreneurship studies either successful start-up or venture performance and growth (Frese and Gielnik, 2014; Omorede et al., 2015; Rauch and Frese, 2000). In using OCR as an outcome variable, this study, as far as the researchers know, is the first to explicitly study entrepreneurship and OCR, making a valuable contribution to both topics. In addition, this study contributes to an understanding of OCR as a potential antecedent to business performance and growth. In doing so, it adds to previous research that has shown both the importance of OCR for successful adoption of technology in SMEs (Tongsuksai et al., 2023) and the importance of OCR to help SMEs adapt to change (Adhiatma et al., 2023). Due to the current changes arising as part of IR 4.0 driving a need for faster adaptation than ever before, this study is particularly timely.

Finally, this study is one of the few that looks at external factors that influence decision-making logic, building on a growing body of research in this area (Berends et al., 2014; Guo et al., 2016). It provides a comparison to Guo et al.'s (2016) study that uses the RBV to examine the mediating effect of resource bundling on decision-making logic and new venture growth. Using decision-making logic as a mediator, Guo et al. (2016) find that either decision-making logic can be effectively used by entrepreneurs running SMEs. The current study shows that external resources are an antecedent to decision-making logic which provides a contrast to Guo et al.'s (2016) study and provides support for the study in showing that either decision-making logic can be used effectively by entrepreneurs.

Limitations

There are several limitations to this study. Firstly, the use of a self-reported questionnaire. Self-reported questionnaires run the risk of social desirability bias although this is less of a risk than there is in research that has an interviewer present (Nederhof, 1985). Social desirability bias could be of particular concern with entrepreneurs who tend to be more positive than the average population (Baron et al., 2012). However, given the time limits and requirements of this study, a self-reported questionnaire was the most appropriate method. The study sought to reduce social desirability bias by stressing the importance and anonymity of the research in the questionnaire (Nederhof, 1985). In addition, participants were asked to answer the change readiness scale from their own perspective and the perspective of their employees and limited differences were found in the responses. Although these techniques do not perfectly reduce social desirability bias they are commonly recommended methods (Nederhof, 1985).

Secondly, the sample size of 119, while suitable for an exploratory study aiming for a medium effect size, does not have the power to draw the strong conclusions that a larger sample size would. The sample size was also not entirely representative of the population data available on SME business owners in NZ. This may mean that the generalisability of the findings can be questioned. However, as MBIE and Statistics NZ state, they do not collect personal demographic data on SME business owners in NZ. Therefore, the comparison made of the current study's demographic data to self-employed data in NZ is not necessarily that accurate. Nonetheless, a larger sample size that is more evenly distributed across different demographics would allow more generalisability of the findings. Therefore, this is an

exploratory study, and findings should be viewed as adding value from the perspective of the contribution to limited research on entrepreneurship in New Zealand (NZ).

Finally, although a strength of the current study is the contribution it makes from a quantitative perspective, this is also a limitation. Qualitative research provides depth and context that numbers alone cannot provide. This may have been useful when looking at the moderating effect of organisation ambidexterity on decision-making logic and organisation change readiness (OCR). Qualitative research would have allowed questions to be asked of entrepreneurs about what type of decision-making logic managers in their business use and if the entrepreneur always follows the same logic or if this is situation dependent. This in turn may provide support for the speculation that organisation ambidexterity moderates the relationship between a combination of effectuation and causation logic and organisation change readiness (OCR).

Future research

Future research could extend the current study by using larger sample sizes and alternative study designs such as multi-level or longitudinal methods. A larger sample size would provide richer data on participant demographics. It would also allow for greater generalisability of findings. These are both important to influence the decisions of policymakers who typically seek robust data to aid in their decision-making processes.

A multi-level study would provide support to the idea that organisation ambidexterity might moderate the relationship of a combination of effectuation and causation decision-making logic on OCR. It could expand on previous studies that have examined the logic used by entrepreneurs and managers and others that have examined the combination of both effectuation and causation logic (Berends et al., 2014; Laine and Galkina, 2017). Additionally, a multi-level study could also examine both manager and employee perceptions of OCR, providing further validation for the findings of the current study.

A longitudinal study would allow for a combination of both quantitative and qualitative methodology giving depth to the understanding of the way an entrepreneur contributes to the change readiness of his/her business. A longitudinal study could expand the understanding of whether an entrepreneur's decision-making logic changes over time as his/her business develops or he/she reacts to different market factors. In addition, qualitative data collected as part of the longitudinal study would also allow researchers to clarify why

entrepreneurs in NZ might perceive financial and government resources as less valuable than social capital.

The focus of the current study has been on two different types of decision-making logic; effectuation and causation. Following the theory set by Sarasvathy (2001), and mainstream entrepreneurship research, (Brettel et al., 2012; Chandler et al., 2011; Weerakoon et al., 2019), these two different types of decision-making logic were examined to understand how they may differ in impact on organisation change readiness (OCR). A competing body of research examines a third logic, bricolage. Bricolage is a type of resourcing decision-making that involves using resources on hand to combat issues and capitalise on opportunities (An et al., 2020; Nelson and Lima, 2020). Typically used in social enterprise research to examine entrepreneurial decision-making and opportunity identification, there has been a growing body of literature that is starting to examine bricolage logic in contrast to effectuation and causation logic (An et al., 2020; Nelson and Lima, 2020). As this type of decision-making requires adapting regularly, research that includes bricolage logic would provide more depth to the understanding of how decision-making logic mediates the relationship between resources and organisation change readiness (OCR).

The focus of the current study was on businesses that have been in operation for over two years. This limits the understanding of entrepreneurship and OCR to established businesses. Further research could extend the findings by looking at different phases of business. For example, entrepreneurs typically use effectuation logic in new business creation where there is more uncertainty (Sarasvathy, 2001). It is possible an early-stage business where an entrepreneur is using effectuation logic might create less change readiness as clear goals may not be fully formed. It would be interesting to understand if causation logic might increase change readiness in early-stage businesses as the employees may have a clearer understanding of the desired outcomes of the business.

Practical Implications

This study highlights the importance of both social capital as well as perceived financial and government resources for entrepreneurs operating SMEs in NZ. Social capital is important as ties with government officials provide access to advice and guidance in navigating complex systems. Ties with communities create opportunities to build customer bases and employees. Business ties provide crucial advice and support to entrepreneurs. Formalised financial and government resources can support the development of social capital

for entrepreneurs in New Zealand (NZ). For example, the creation of policies that fund incubators and shared working spaces in local communities would create more ways for entrepreneurs to informally network and build business and community ties. Education campaigns and information sessions regarding how to access financial resources and navigate government regulations would provide ways for entrepreneurs to better understand what is available to them and also build networks with government officials.

It was found that social capital had a larger effect on both types of decision-making logic and OCR than perceived financial and government resource. The researchers have speculated that this may, in part, be due to the large portion of entrepreneurs who effectively “hand down” entrepreneurship through family members. Given the lack of formalised financial and government support for entrepreneurs in NZ, for example, R&D grants, this may be creating a barrier to entry to entrepreneurship for those that do not have strong social capital, particularly family ties. Entrepreneurs without strong social capital are more likely to be newer migrants who have fewer strong ties in local communities and family support. Therefore, to support the diversity of entrepreneurship in NZ creating policies that support building social capital is particularly important.

The current study demonstrated the importance of entrepreneurs who run SMEs in New Zealand (NZ). An awareness already exists of the importance of SMEs and entrepreneurs in contributing to the economy through employment and innovation, what this study showed is that the entrepreneur is important to the on-going sustainability of their business. To support entrepreneurship in NZ, further education for entrepreneurs should focus on the importance of maintaining social capital, how to access financial and government resources, and the value of different types of decision-making logic on sustaining business. This support could be provided at a local government level. As local governments are often self-funded, by having education initiatives led by local government centralised funding would be provided. This would give local governments the ability to support SMEs in their local community in a way that is specifically relevant to that community.

Finally, the current study showed that entrepreneurs themselves should understand how their decisions can influence the change readiness of their business and ensure that they are using a decision-making logic to create an environment of change readiness. Entrepreneurs can do this by reviewing their current business state, examining their goal frameworks or putting these in place. Goal setting is an important part of sustaining a SME,

without clear frameworks SMEs fail to achieve goals and struggle to perform (Sharma and Dave, 2014; Williams et al., 2020). Therefore, entrepreneurs need to employ a clear decision-making logic which will guide their use of resources and support their sustainability. Entrepreneurs should consider which logic will be better for their business, specifically when it comes to adapting to market changes and providing support to their employees to adapt to change. If entrepreneurs can create an environment of OCR, they and their employees will be more ready to adapt to the changes resulting from the fourth industrial revolution (IR 4.0).

Conclusion

The purpose of the current study was to understand the antecedents that lead to OCR within SMEs in New Zealand (NZ). Using the RBV, the study found direct significant relationships between an entrepreneur's use of social capital and perception of government and financial resources, their decision-making logic and the change readiness of his/her business. It was further found that the relationship between resources and OCR is mediated by two different types of decision-making logic. This finding was of particular significance as it demonstrated the important part an entrepreneur plays in developing OCR in his/her business.

The key contribution that the current study makes is an understanding of what an entrepreneur can do to sustain their business by creating a culture of change readiness. This contribution is particularly timely due to IR 4.0 creating a period of rapid market and technological change that entrepreneurs and employees in SMEs need to adapt to. The link for the first time between entrepreneurship and OCR provides valuable depth and an important contribution to both these topics. Finally, the findings of the current study suggest that policymakers in NZ should do more to support entrepreneurs with different resources and that entrepreneurs themselves should be aware of how their decision-making logic creates a culture of change readiness, as this is essential to allow them to adapt and sustain their business.

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Appendix A: Massey University Ethics Approval



2/08/2023

Dear: Kathryn Walker

Re: Low Risk Notification - 4000027844 - Exploring New Zealand entrepreneur's definitions of success and their individual and organisational contexts in relation to change readiness for industry 4.0

Thank you for submitting a low risk notification for your research/teaching/evaluation.

This email is to acknowledge receipt of the low risk notification and to inform you that the details of your project have been recorded in our database for inclusion in the annual reports to the Health Research Council Ethics Committee (HRCEC) and the Massey University Research Committee (URC).

You may proceed with your research, though it is advisable to provide a couple of weeks before commencing, as all low risk notifications are checked for completeness and clarity by a Research Ethics Advisor. You may be contacted if your application is incomplete and/or further clarification is required.

The low risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis.

If a sponsoring organisation, funding authority (e.g., the Health Research Council) or a journal require evidence of ethical approval from a Human Ethics Committee (with an approval number), you need to complete a full Massey University Human Ethics application to be reviewed and approved by one of our Human Ethics Committees. Applications must be submitted and approved prior to the commencement of the research.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact the Research Ethics Office, email humanethics@massey.ac.nz. "

Please include the following statement on all public documents (e.g., information sheet, consent form) related to your project:

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

Appendix B: Participant Information Sheet

Introduction

Hello, my name is Kathryn Walker, I am a researcher completing my Masters Thesis under the supervision of Dr Michelle Lee at Massey University. I am passionate about entrepreneurship and business ownership in New Zealand and want to understand how organisation psychologists can better support you.

Research Description and Invitation

You are invited to take part in a quantitative research study that seeks to understand the experience of entrepreneurs and business owners adapting to market changes in New Zealand. In this study I want to understand your experience as an entrepreneur or business owner, what access you have to resources, what your definition of business success is, and how your identity shapes the decisions that you make.

This study will consist of two phases which are 4 weeks apart. The data we collect will remain anonymous.

Whether or not you participate is your choice. Please note that if you do not wish to participate you do not need to give a reason. If you chose to participate and wish to withdraw at any point during the study, you can do so.

The following sections will give you an understanding of the project procedures and what we would need from you should you chose to participate. They also set out your rights and how the data I collect from you will be managed.

My contact details are included should you have any questions before deciding to participate. We also encourage you to discuss participation with other people such as family, business associates, or friends.

What is my selection criteria?

I am seeking to obtain information from entrepreneurs and business owners across New Zealand. To be eligible for the study you will need to:

- *Be 18 years old and above*
- *Have EITHER started OR purchased a commercial business*
- *Be self-employed.*
- *Be involved in running the business*
- *Have had the business for at least 2 years*
- *Employ between 6 – 49 people in your business*

What will you need to do if you agree to participate?

I will ask you to complete an online questionnaire at two different time sets, 4 weeks apart. Participants will be asked to initially complete the following:

- *Demographic questionnaire (option to decline to answer questions is included)*
- *OCR questionnaire*

- *Resources questionnaire*
- *Self-identity questionnaire*
- *Decision making questionnaire*
- *Entrepreneurial orientation questionnaire*
- *Objective data about your business questionnaire*

This will take approximately 20 - 25 minutes.

The second time you are asked to complete an online questionnaire will be four week's later. You will be asked to complete the following:

- *OCR questionnaire*
- *Resources questionnaire*
- *Technology Readiness questionnaire*
- *Objective data about your business questionnaire*

This will take approximately 10 - 15 minutes.

How will your data be managed?

During the course of this study you will be asked to provide information about you and your business. You will also be asked to provide your email address so I can send you the follow up questionnaire a month later.

To ensure that your personal and business information is kept confidential no identifiable information will be used in the reporting produced.

Your data will be assigned a code and only researchers will have access to your identifiable information in case this is required.

Data including information that identifies you will be stored in a secure location at the Massey University Albany Campus. The Principal Investigator will take responsibility for the electronic data and records. All data will be stored for seven years at which point it will be destroyed using University Security methods for removal of confidential information.

You will be provided with a full copy of the final study report if you request it.

What are your rights?

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- *decline to answer any particular question;*
- *withdraw from the study;*
- *ask any questions about the study at any time during participation;*
- *provide information on the understanding that your name will not be used unless you give permission to the researcher;*
- *be given access to a summary of the project findings when it is concluded.*

If you have any concerns when participating who can you speak with?

If you have any questions, concerns, or complaints about the study at any stage you can contact the following researchers involved in the study:

Researcher

Kathryn Street (nee Walker)
School of Psychology
Massey University
Albany, Auckland
New Zealand
Email: Kathryn.Walker.6@uni.massey.ac.nz

Supervisor

Dr Michelle Lee
School of Psychology
Massey University
Albany, Auckland
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+64 9 212-7054
M.Lee2@massey.ac.nz

**Te Kunenga
ki Pūrehuroa**

Massey University School of Psychology – Te Kura Hinengaro
Tangata
Albany, Auckland, New Zealand
T +64 9 414-0800 ext 43116 : W psychology.massey.ac.nz

Ethics Notification Number: 4000027844

This research project has been evaluated by peer review and judged to be low



Respondent Consent

Thank you for participating in this questionnaire.
Your participation implies consent.
You have the right to decline to answer any particular question.

I have read and understood the information sheet for this study and consent to collection of my responses.

(Please click on the 'Yes' choice if you wish to proceed.)

Yes

No

Appendix C: Pre-Screening Questionnaire



General overview of this research survey

Thank you for taking the time to complete this study. This study is focused on understanding entrepreneurship and business ownership in New Zealand. It seeks to understand how your identity, decisions, and access to resources contribute to your overall business change readiness and success.

This is the first of a two-part questionnaire, the first questionnaire is slightly longer and will take you 20-25 minutes to complete. The second questionnaire to be done 4 weeks after you complete the first questionnaire will take you 10-15 minutes to complete.

At the end of this survey you will be transferred to a separate page to ask for your email address so we can send you the link to the second questionnaire. You can also enter into a draw to win one of 30 \$20 gift vouchers.

Please read the instructions carefully, there are times where you are asked to answer from the perspective of your employees.

The first set of questions are screening questions to ensure that you meet the eligibility requirements for this research.

If you meet these requirements, the survey questions will then be presented for you to answer.

Eligibility for survey

How old are you?

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Have you EITHER started your own business OR purchased a commercial business?

Started own business

Purchased a commercial business

Neither started nor purchased a business

Are you self-employed AND/OR involved in the running of your business?

Yes

No

Do you have between 6 – 49 people employed in your business?

Yes

No

Have you owned your business for at least 2 years?

Yes

No

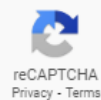
← Back

Next →



Before proceeding to the main part of the survey, please complete the captcha below.

☐ I'm not a robot



← Back

Next →

Appendix D: Demographics

Demographics

How do you currently describe your gender identity?

Male

Female

Other

I prefer not to answer

Which category describe your primary ethnicity?

New Zealand European

Māori

Samoan

Cook Islands Māori

Tongan

Niuean

Chinese

Indian

Some other race, ethnicity, or origin, please specify:

I prefer not to answer

What is the **highest** level of education you have completed?

Please select one.

High School

Polytechnic or trade certificate

Bachelors Degree

Honours or Postgraduate Degree

Masters Degree

Doctoral Degree

Other, please specify:

I prefer not to answer

Next →

Which one of these statements **best** describes your relationship status?
(If you have been married more than once, answer for your most recent marriage.)

I am married

I am in a civil union

I am in a de facto relationship

I am separated

I am divorced or my marriage has been dissolved

I am widowed

I have never been married or in a civil union

I prefer not to answer

How many children do you have?

Which of the following describes your eligibility to work in New Zealand?

I am a New Zealand citizen or resident

I have a work visa

I have a student visa

I prefer not to answer

← Back

Next →

Please state the **year** that your business was established?

What city or town in New Zealand is your business **predominantly** based in?

Which of the following is most like the **main reason** you started or purchased your business?

Looking for more flexibility in working hours

Looking for a greater share of business profit

Looking for better work/life balance

Looking for more autonomy

How many people do you currently employ?

Please include contractors, part-time, and full-time employees.

Which **industry** best describes your business?

Please select ONE.

Accommodation and Food Services

Administrative and Support Services

Agriculture, Forestry and Fishing

Arts and Recreation Services

Construction

Education and Training

Electricity, Gas, Water and Waste Services

Financial and Insurance Services

Information Media and Telecommunications

Healthcare and Social Assistance

Manufacturing

Mining

Professional, Scientific and Technical Services

Public Administration and Safety

Rental, Hiring and Real Estate Services

Retail Trade Transport

Postal and Warehousing

Wholesale Trade

Other (please specify):

Please indicate approximately what percent the following contributed to the financing of your business when it was started or purchased by you.

This question needs to total to 100 to proceed.

Own personal savings	0
Family wealth	0
Loan from friends or family	0
Bank Loans	0
Loans from other financial institutions	0
Deposits from customers	0
Credit from suppliers	0
Other (please specify)	0
Total	0

On average, over the past 12 months how many **hours per week** have you worked?

Please list the percentage of your current business that you own. If you own more than one business, please list the percentage for the business that you are involved in the most.

Did you ...

Start your business?

Buy into your business?

BUSINESS SUCCESS

Please select what is the **most** important measure of success for you in your business right now:

Grow substantially

Grow moderately

Stay about the same size

Increase profit margins substantially

Increase profit margins moderately

Obtain more finance

Increase personal time

Please select your revenue range for the full financial year of 2022/2023:

\$0 - \$100,000

\$100,001 - \$500,000

\$500,001 - \$1m

\$1m - \$3m

\$3m - 5m

\$5m+

Please list your revenue range for the current financial year:

\$0 - \$100,000

\$100,001 - \$500,000

\$500,001 - \$1m

\$1m - \$3m

\$3m - 5m

\$5m+

In what month does your financial year end?

Appendix E: Questionnaire

Resources:

Family Ties

Considering your family relationships and your business, indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I receive strong emotional support from my family	1	2	3	4	5
I receive advice from my family	1	2	3	4	5
I receive or have received financial support from my family for running my business.	1	2	3	4	5

Business Ties

Considering your external business relationships, indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I maintain a good relationship with suppliers	1	2	3	4	5
I maintain a good relationship with customers	1	2	3	4	5
I maintain a good relationship with other entrepreneurs and/or business owners in my industry	1	2	3	4	5

Community Ties

Considering the community your business is part of, indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I actively participate in business communities relevant to my industry	1	2	3	4	5
Participating in business communities or associations provides me with intelligence, expertise, useful information and new knowledge for running my business	1	2	3	4	5
Participating in business communities or associations affords me advantages and leverage for dealing with business affairs well	1	2	3	4	5

Government Ties

Considering the government and your business, indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I maintain a good relationship with relevant people in various levels of the government	1	2	3	4	5
I have connections to relevant people in regulatory and supporting authorities (e.g. ministry of business and innovation, Callaghan innovation)	1	2	3	4	5
My networks with governmental and regulatory officials enable me to run my business smoothly	1	2	3	4	5

Financial Resources

Considering financial resources, indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Bankers and other investors are willing to help new businesses get started in New Zealand	1	2	3	4	5
For entrepreneurs, it is not difficult to seek financial support from banks or venture capitalists in New Zealand	1	2	3	4	5
In general, financial support for businesses with 6 – 49 employees is accessible in New Zealand	1	2	3	4	5

Government Resources

Considering available government support and your business, indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Central and local governments provide good support for businesses	1	2	3	4	5
Central and local governments provide many incentives for the creation of businesses	1	2	3	4	5
Central and local governments create a supportive environment for business owners (e.g. ease of renting or buying facilities)	1	2	3	4	5

Decision-Making Logic

Causation

Consider the changes you have made in your business since it has come into operation and indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I analyse long run opportunities and select what I think will provide the best returns	1	2	3	4	5
I develop a strategy/strategies that best take advantage of resources and capabilities	1	2	3	4	5
I design and plan business strategies	1	2	3	4	5
I organise and implement control processes to make sure we meet objectives	1	2	3	4	5
I research and select target markets and do meaningful competitive analysis	1	2	3	4	5
I have a clear and consistent vision for where we want to end up	1	2	3	4	5
I design and plan production and marketing efforts	1	2	3	4	5

Effectuation

Experimentation

Consider the changes you have made in your business since you started or purchased it and indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I experiment with different products and/or business models	1	2	3	4	5
The product/service that we now provide is essentially the same as originally conceptualised	1	2	3	4	5
The product/service that we now provide is substantially different than we first imagined	1	2	3	4	5
I tried a number of different approaches until I found a business model that works	1	2	3	4	5

Affordable Loss

Consider the changes you have made in your business since you started or purchased it and indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I am careful not to commit more resources than we could afford to lose	1	2	3	4	5
I am careful not to risk more money than I was willing to lose with my initial idea	1	2	3	4	5
I am careful not to risk so much money that the business would be in real trouble financially if things didn't work out	1	2	3	4	5

Flexibility

Consider the changes you have made in your business since you started or purchased it and indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I allow the business to evolve as opportunities emerge	1	2	3	4	5
I adapt what we are doing to the resources we have	1	2	3	4	5
I am flexible and take advantage of opportunities as they arise	1	2	3	4	5
I avoid courses of action that restrict our flexibility and adaptability	1	2	3	4	5

Pre-Commitments

Consider the changes you have made in your business since you started or purchased it and indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I use a substantial number of agreements with customers, suppliers and other businesses and people to reduce the amount of uncertainty	1	2	3	4	5
I use pre-commitments from customers and suppliers as often as possible	1	2	3	4	5

OCR:***Climate of Change***

From your perspective indicate the degree to which you agree or disagree with each of the following statements relating to your business:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The leaders in my business consistently implement policies in all departments	1	2	3	4	5
The leaders in my business fulfil their promises	1	2	3	4	5
We have an environment where it is easy to ask for help from colleagues.	1	2	3	4	5
All of my employees are sufficiently competent	1	2	3	4	5
I have confidence in my employees	1	2	3	4	5

Readiness for Change – Entrepreneur Perspective

From your perspective indicate the degree to which you agree or disagree with each of the following statements relating to your business:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
My business is very open	1	2	3	4	5
I have a good feeling about my businesses ability to adapt to change	1	2	3	4	5
I find change refreshing	1	2	3	4	5
Changes made improve work	1	2	3	4	5
Changes made simplify work	1	2	3	4	5

I want to devote myself to the process of change	1	2	3	4	5
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Readiness for Change – Employee Perspective

From your employee's perspective indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
My employees believe my business is very open	1	2	3	4	5
My employees appear to have a good feeling about my businesses ability to adapt to change	1	2	3	4	5
My employees appear to find change refreshing	1	2	3	4	5
My employees appear to think changes made improve work	1	2	3	4	5
My employees appear to think changes made simplify work	1	2	3	4	5
My employees want to devote myself to the process of change	1	2	3	4	5

Organisation Ambidexterity

Exploration

Thinking about your business indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
My business looks for novel technological ideas by thinking 'outside the box'	1	2	3	4	5
My business bases its success on its ability to explore new technologies	1	2	3	4	5
My business creates products or services that are innovative	1	2	3	4	5
My business looks for creative ways to satisfy its customers' needs	1	2	3	4	5
My business aggressively ventures into new market segments	1	2	3	4	5
My business actively targets new customer groups	1	2	3	4	5

Exploitation

Thinking about your business indicate the degree to which you agree or disagree with each of the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
My business commits to improve quality and lower cost	1	2	3	4	5
My business continuously improves the reliability of its products and services	1	2	3	4	5

My business increases the levels of automation in its operations	1	2	3	4	5
My business constantly surveys existing customers' satisfaction	1	2	3	4	5
My business fine-tunes what it offers to keep its current customers satisfied	1	2	3	4	5
My business penetrates more deeply into its existing customer base	1	2	3	4	5

Thank you for completing this portion of the survey.

When you click on the '**Submit**' button below, your set of answers will be recorded in the data file and you will then be transferred to a separate survey to record a name and contact email for the second short ten minute survey in four week's time. These contact details are held separately and will be used for the survey invitation in four week's time, or for the prize draw or sending you the results of my research.

You will also be able to enter the draw for 1 of 30 gift vouchers, valued at \$20 each, and/or request a summary of results when the research analysis is completed.

Don't forget to click the '**Submit**' button.

Thank you again for your participation,
Kathryn

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