Exploring the Effects of Bilingualism Through Entrepreneurship

Abstract

Entrepreneurship promotes research and development by launching innovations previously unavailable thus generating new wealth and advancement in society; however, reaching success, or startup stability and profitability, is statistically shown to consist of very slim margins. If failure rates are high what makes for an effective entrepreneur? As researchers study variables such as education and gender, this research considers language as an influencing factor of improved entrepreneurial capacity. Those who know two languages, also known as bilinguals, show increased proficiency in communication, selective attention, and task-switching. Consequently, this paper aims to explore the importance of entrepreneurship in the economy and the skills necessary to be a successful entrepreneur as well as investigate the effects of bilingualism, particularly in its abilities to enhance communication and cognition, in entrepreneurial pathways. The methodological approach of this research consists of standardized open-ended interviews with three monolingual entrepreneurs, which serve as a basis for comparison, and three bilingual entrepreneurs, with one question for income analysis as well. Each entrepreneur is evaluated as a separate case study, but overarching themes between groups are also cross-examined. The results will help further knowledge in commerce as entrepreneurs will be able to utilize this information to enhance their strategic decisions and business outcomes for the greater good of themselves and the economy.

Keywords: entrepreneurship, skills, success, bilingualism, cognition, communication
**Introduction**

**Background Information**

An entrepreneur is someone who establishes and runs their own business from a mere idea. Entrepreneurs create new and unique innovations that advance society and spark economic growth (Audretsch & Keilbach, 2008). Fabricating innovations means conducting research and development; entrepreneurs experiment with undervalued and underused resources and pioneer them into new knowledge and valuable investments worth sharing with others (Acs & Storey, 2004). In doing this, their startup then accelerates national wealth as they generate new wealth and add to the flow of money. Existing businesses usually hit a plateau or glass ceiling with how much profitability they can create, but entrepreneurs add a new market of customers, suppliers, and investments to the commercial world that expands as their business grows (Nijhof & Jeurissen, 2010). Furthermore, startups also produce employment opportunities. When a new business opens up it is nearly impossible to be led and operated alone, so entrepreneurs build a team and hire employees and others within the industry to help them, which then circles back to the economy as these workers spend their wealth (Henderson, 2002). Entrepreneurship is therefore crucial to commerce and an economically functioning society.

However, enduring an entrepreneurial venture to reach this contribution to the economy means facing many challenges and growth periods to find success, or startup stability and profitability, because of the ambiguity of launching something that was not previously available. With some specific skills, such as those in cognition, like task-switching and selective attention, and some added knowledge in business relations, such as communication and an understanding of finances and managerial functions, it can be much easier to reach entrepreneurial triumph (Sousa, 2014). As a business has many aspects to focus on it is important to stay organized and make crucial strategic decisions wisely thus these competencies come to be instrumental. The
curiosity remains though of where such skills originate. Many studies have researched improved entrepreneurial capacity in terms of gender (Bruni et al., 2005), education (Singgih, 2017), enterprise experience (Mohd, 1992), or other intrinsic values (see, for example, Guo & Jiang, 2019; Yamini et al., 2022), but an area that remains unaddressed is the influence of language.

Language, by its common definition, is vital to communication; it is the principal method and structured system that allows people to share their conceptualizations and be understood (Parikh, 2001). Language and communication are critical to entrepreneurs as an entrepreneur must share their innovative ideas with others, network with employees and suppliers, and convey their creations to their target market. In addition, these communicative possibilities are amplified when an individual has knowledge in more than one language.

Bilinguals are those who fluently know two languages and as a result have greater conceptual proficiencies because they naturally think in multiple ways, sometimes at once (Rieker et al., 2020). Its traces thus have been seen to enhance linguistic domains in the brain, as one would suspect, yet bilingualism’s effect on non-linguistic domains such as cognition and executive functioning still brings about much curiosity (Noort, Struys, & Bosch, 2019). There is some research surrounding the notion that bilinguals show improvements in such processes and functioning like that of attention, task-switching, and memory retention specifically; however, there are still many studies lacking to show this with statistically significance therefore continuing to raise the question of whether or not bilingualism does indeed have undeniable advantages. Either way though knowing more about the bilingual mind could still potentially help upcoming bilingual entrepreneurs to more deeply understand the interactions between themselves and their business activities.

Research Problem
The aim of this research is to investigate how the influence of language, specifically individual bilingualism, promotes entrepreneurial pathways through communication and cognitive processes.

Significance

The results of this research will support both the benefits of bilingualism and entrepreneurship in the growing economy and contribute to the literature that surrounds the two.

Bilingual entrepreneurs could use this knowledge consciously in daily business operations and strategic decisions to potentially enhance outcomes, thus giving bilingual entrepreneurs more of an advantage to their monolingual counterparts.

So, these findings could potentially lower their chances of startup failure. As more entrepreneurial ventures succeed, the greater the contribution to the economy will be, ideally then leading to a flourishing society.

Literature Review

Economic Importance of Entrepreneurship

Entrepreneurship, or the act of starting and operating one’s own business, has become synonymous to risk. Chances of success are slim as “more than 100 million startups are founded every year but a full 92% of them will fail within the first three years” (Pride, 2018, p. 14). Yet, against these odds, popularity in entrepreneurship still continues to grow and so does its significance to the economy.

Researchers commonly examine entrepreneurship’s contribution to the economy through employment, innovation, and productivity and growth. Van Praag and Versloot (2007) analyze 57 studies and 87 relationships in order to understand the extent of these connections. In regard to employment, “the unambiguous results lead to the conclusion that entrepreneurial firms have a disproportionately high contribution to the creation of jobs” because startups grow
proportionately quicker than other firms (Van Praag & Versloot, 2007, p. 365). Though such findings were positive, it was also found that these jobs were lower in quality with smaller wages and fewer benefits because of the rapid and unpredictable changes that startups are known to possess.

Innovation similarly has two sides. Unlike popular thought, entrepreneurs actually “invest no more in innovation than their counterparts and they produce fewer innovations” but instead “the quality of their innovations may be higher” and more efficiently produced (Van Praag & Versloot, 2007, p. 365). This study claimed as entrepreneurs simply generate more patents there is greater quality and efficiency. On the other hand, Acs and Storey (2004) refer to entrepreneurial innovation and efficiency by stating that “the role of the entrepreneur is to recognize an opportunity to use resources that yield a low return and shift them into a function that yields a higher return” (p. 872). Entrepreneurs realize that the means or materials to create something new is already available in the world, it all just has yet to be put together. Overall, researchers have determined that entrepreneurs simply have different roles in innovation than existing firms; they are meant to be disruptively creative and advance society rather than maintain stability.

Regarding productivity and growth, Van Praag and Versloot (2007) found that “entrepreneurs experienced higher growth in production value and labor productivity than their counterparts” (p. 372). Though there is a dearth of studies in this area, their research conveyed this significance due to entrepreneurial businesses being smaller in size meaning they are more manageable to control. Acs and Storey (2004) determined more growth and productivity as “in the absence of entrepreneurs, resources continue to be devoted to functions where returns are low, leading to an ossified economy in which resources are under used” (p. 873). Without entrepreneurs, resources are not taken advantage of or used to their full potential, so the economy
is fixed, never producing change, never growing. Therefore, common consensus is that entrepreneurs attribute to an accumulation of factors, whether it potentially be employment, innovation, or productivity and growth, that sufficiently influence the economy.

**Entrepreneurial Skills**

Despite the chance of failure and the dilemmas entrepreneurs face, “we know that the economy’s performance depends, in large part, on the business environment, including, most creative and innovative companies supported by people with certain technical skills and characteristics – the entrepreneur” (Sousa, 2014, p. 137). Or in other words, it has been determined that entrepreneurs are crucial to the economy. Although, what skills exactly does it take then to become one of the small percentage of people which do achieve entrepreneurial success and economic contribution?

Sousa (2014) states that “the entrepreneur is based on cognitive skills, social and relational skills, technical skills and management skills” and that this specific mixture is crucial to creating and running a business (p. 137). They explain that each set of these skills are acquired and learned throughout life. Cognitive skills refer to creative thought, the ability to solve problems, initiative, and decision making (Sousa, 2014, p. 137). Social and relational skills are all about communication and working well with others and adaptations; networking and maintaining relationships, whether it be with employees or customers, are essential to business sustainability and improvement. Technical skills are about knowledge in business functions; they “integrate concepts of technical expertise including working methods, processes and contexts” (Sousa, 2014, p. 137), or simply, the ideas of how to run operations smoothly and uniformly. Then finally, management skills are all about integration of the “knowledge about potential strategies to adopt in the company, capacity planning and setting strategic goals and ability to make strategic decisions” (p. 137). Without such skills the business environment is limited,
especially in terms of progress as one cannot understand the mechanisms that contribute to innovation and market organization.

As Sousa (2014) claims a successful entrepreneur possesses various skills from all different sources acquired throughout separate periods of time, Duening (2010) on the other hand, bases effective entrepreneurial skills exclusively from a host of cognitive sub-skills known as Howard Gardner’s *Five Minds for the Future* including *The Disciplined Mind, The Synthesising Mind, The Creating Mind, The Respectful Mind,* and *The Ethical Mind.* However, Duening (2010) further develops these five minds, so, in his own translation, they become *The Opportunity Recognizing Mind, The Designing Mind, The Risk Managing Mind, The Resilient Mind,* and *The Effectuating Mind.*

*The Opportunity Recognizing Mind* is "a form of pattern recognition" where “experience teaches entrepreneurs…economic conditions, resource availability, and other factors” (Duening, 2010, p. 11). *The Designing Mind* is in relation to the brain’s process of thought which creates and recognizes novelty products, services, venture location, report structure, job titles, supply chain, deal structure for investors, and other elements for efficiency and effectiveness. It is the “distinct way of thinking focused on projects compared to traditional managers who think in terms of permanent assignments” (Duening, 2010, p. 12). *The Risk Managing Mind* aims to prove that entrepreneurs are, unpopular to common thought, not risk takers. Instead, they have a “risk minimization capacity” and evaluation, which includes internally learning to live and adapt to risk and its ambiguity and externally “raising capital, aggregating required resources, and “honoring in on essential and advantage-providing knowledge among other techniques for lowering risk (Duening, 2010, p. 12-13).

Furthermore, *The Resilient Mind* aids with the lifestyle of failure, bad news, emotions, finances, reputation, resources etc., that entrepreneurship entails. It is “the ability to survive and
even thrive under conditions of turbulence, change or trauma” and rebound (Duening, 2010, p. 13). This mind consists of emotional intelligence and social awareness that allows the entrepreneur to not lose focus on their objectives and goals. Lastly, is The Effectuating Mind which is also known as “action orientation.” Here is the taken pathway between now and the future; it is how an entrepreneur “(1) create[s] or acquire[s] something of value; and (2) deliver[s] that value to a market willing to pay rents in excess of costs” (Duening, 2010, p. 14). An entrepreneur cannot be successful unless they take the steps to do so. Therefore, these five minds serve as an intellectual foundation for successful entrepreneurship and can help entrepreneurs “deal with what is expected, as well as what cannot be anticipated” (Gardner, 2007, p. 2).

Bilingualism

With the increasing ease of knowledge acquisition and connection possibilities in the 21st century a little over two-thirds of the world is bilingual (Shin, 2018). Consequently, bilinguals, those who fluently know two languages, have been of escalated interest to researchers aspiring to understand if such linguistic comprehension would be of benefit apart from greater communication possibilities. Therefore, a common question researchers aim to answer is whether or not bilingualism shows positive outcomes in cognitive abilities.

Cognitive ability is defined as the intellectual functions or processes that go on in the brain which allow for thought, the ability to gain and retain information, and other tasks like those necessary in business mentioned above. Bilinguals must remember and utilize “two different language codes:” two sets of vocabulary, grammar, communication styles, and cultural implications while switching back and forth between the two consistently as “one language is produced by inhibiting the other” (Rieker et al., 2020). The common consensus usually then concludes that bilingualism does indeed benefit one’s cognitive abilities as maintaining two
languages in the brain requires retaining two ways to think. Yet, because such connections have been substantiated, researchers continue to then study other connections in cognition to see where else bilingualism extends in the mind.

Noticeably, attention and task-switching has become one specific area of bilingual cognition that studies aim to understand because such processes, if improved, could promote a more refined “cognitive reserve.” -- “The interindividual variability in how tasks are processed” also known as the brain’s resilience which differs from person to person (Rieker et al., 2020). It is the “protection against cognitive decline” or “age-related brain changes” and helps prevent illnesses such as dementia (Bialystok, 2010, p. 12). The development of the cognitive reserve is critical because it is “the most crucial cognitive achievement in early childhood” as that is the time when the brain “gradually master[s] the ability to control attention, inhibit distraction, monitor sets of stimuli, expand working memory, and shift between tasks,” which are also then the same cognitive processes known to first show age decline (Bialystok, 2010, p. 4).

Therefore, as such brain activity spans throughout an individual’s entire lifetime the effects of bilingualism could too. Bialystok (2010) studied this theory; she first analyzed bilingual children against monolingual (those who only knows one language) children with exercises requiring them to detect grammatical errors, sort cards dimensionally (by color and shape), and interpret hidden shapes in drawings. It was found that monolingual and bilingual children demonstrated different cognitive capacity. Monolingual and bilingual children were equally capable of finding grammatical errors in sentences with meaning (Apples grewed on trees.) but when sentences were anomalous (“Apples grow on noses”) bilingual children were more accurate in the ability to “ignor[e] the misleading meaning and focus only on the grammar” (Bialystok, 2010, p. 4). Bilinguals were found to have advantageous attention spans as well as more precise attention selectivity.
In another task children were asked to sort cards by shape (square, circle) or color (blue, red) and bilinguals again showed greater cognitive capabilities. When asked to switch from one dimension to the other (shape to color) “bilinguals were more successful in switching to the second dimension…indicating higher level of executive control” once again (Bialystok, 2010, p. 5). In the final study, the children were asked to locate a hidden shape in a complex drawing, and bilinguals again performed well. It was found that “bilinguals were more able to change their interpretation of an ambiguous figure to acknowledge the other image [as] [b]oth tasks require perceptual analysis, but only the ambiguous-figures task requires inhibiting the original meaning of the stimulus” (Bialystok, 2010, p. 5). These studies showed that the cognitive skills of children’s attention, inhibition, and task-switching abilities were more effective with bilinguals and that the bilingual advantage increased with task difficulty (Rieker et al., 2020).

To further examine these benefits across the lifespan Bialystok (2010) and Reiker et al. (2020) analyzed task performance in adults. Bialystok (2010) put two color patches on a computer screen and had participants press the relevant response key as rapidly as possible and found that bilinguals were less disrupted and faster in responding to conflicting conditions. Reiker et al. (2020) on the other hand used color and shape experiments, like that of Bialystok’s (2010) studies in children, but with three conditions: single-task performance, cued-switching performance, and memory-based switching performance. Their results showed that attention shifting is retained through adulthood and that they had lower error rates than monolinguals as well. “…bilinguals shift their attention more efficiently than monolinguals” (Rieker et al., 2020). Overarching consensus between the two studies shows bilingual advantages persist in older age. Bialystock (2010) further researched the effects of bilingualism into older adulthood by studying monolinguals and bilinguals diagnosed with dementia and discovered that bilingualism can delay
the onset of dementia a whole four years. Thus, bilingual skills have shown to be of high lifespan relevance.

*Bilinguals in Business*

Entrepreneurship is vital to an economy and its development, yet it is quite difficult to succeed as many startups fail. Through particular competencies, such as one’s cognitive abilities, which are enhanced by bilingualism, chances of entrepreneurial success are much greater though. Audretsch et al. (2020) explore this concept in a much deeper detail by examining and analyzing the specific role that bilingualism plays in regional entrepreneurship. Audretsch et al. constructed a longitudinal dataset at the district level in South Tyrol, Italy using samples including regional firms “from a single annual business registry cohort” (Audretsch et al., 2020, p. 792). They measured numerous variables such as human capital, energy, and employment in a fixed effects estimation equation.

Audretsch et al. (2020) concluded that bilingualism proved to be an important precursor to regional entrepreneurship. First, bilingualism “increases start-up rates by 0.06 percent and start-up density by 0.08 percent” (Audretsch et al., 2020, p. 789). Second, “higher share of bilinguals increases entrepreneurship activity directly as well as facilitating relative growth of entrepreneurship activity compared to other regions” (Audretsch et al., 2020, p. 789). Third, bilingualism “serves as a conduit in new ideas and may increase the ability to communicate knowledge more effectively” (Audretsch et al., 2020, p. 789). In summary, these findings show that where bilingualism is rich so is entrepreneurship as bilinguals have enhanced cognitive abilities and thus are more likely to become entrepreneurs.

*Summary*

Entrepreneurship’s influence on economic growth through employment, innovation, and productivity contributes to job creation, patents, efficient use of resources, and greater expansion
in production value and labor productivity. However, there are also drawbacks in lower quality, wages, and benefits for employment and less innovative creation. In order to reach such substantial economic contribution or entrepreneurial success, an entrepreneur must have a variety of multi-dimensional abilities and skills involving cognition as well as business knowledge, networking, and management skills. Bilingualism provides these abilities and skills ranging from increased attention and task-switching to onset dementia resilience. In analyzing business aspects (e.g., human capital, energy, and employment), researchers found that bilingualism can in fact serve as an important precursor to entrepreneurship.

Methodology

Research Design: This research consists of primary qualitative data and secondary quantitative data.

The main data will be obtained from interviews with bilingual entrepreneurs and their counterparts, i.e., monolingual entrepreneurs. These will be standardized open-ended interviews in which the same script of questions will be asked individual to each interviewee (Patton, 2002). The questions will be created and identified in advance and each question will focus on addressing a singular idea. Furthermore, to ensure consistency and minimize bias, only the fixed questions from the script will be asked. Thus, with the strict adherence to the script, this method is fitting as it allows for inexperienced interviewers (Brayda & Boyce, 2014). This approach allows for a particular focus on a particular idea while allowing depth of discussion on the idea. So, these procedures are designed to obtain in-depth rich results to help the understanding of bilingual entrepreneurs and their contributions in commerce.

In addition, each entrepreneurs’ income will be analyzed, as it will provide further insight as to how bilingual entrepreneurs perform in comparison to their counterparts. These profitability rates critically display how a business is performing as a whole and can help develop future
forecasts and guide strategic decision making (Qian & Sun, 2021). Such business performance is influenced by cognition as each activity such as spending, operations, sales and profits, and inventory control and growth require making choices along the way through thought, attention, and task-switching, for example, and so will provide further insight into overall entrepreneur execution and achievement (Phadnis et al., 2017). However, this data is limited in its ability to link one direct cause to the income as each business is unique in its circumstances in which it operates, e.g., workforce, functions, management, customer base, luck, and so on.

**Materials**

Each participant will receive a consent form which will include the objective of this research, a short description of the procedure including a statement that each participant will be audio recorded, acknowledgement that collaboration in this study is voluntary, and information, such as methods of contact, about the researcher/interviewer. Then a predetermined script with a set number of questions will be created and read to each individual interviewee within their designated interview time of about maybe half an hour to an hour. Responses will be recorded on an external recording device, e.g., a digital laptop audio recorder and then transcribed.

**Participants**

Study participants will be three monolingual entrepreneurs and three bilingual entrepreneurs. Six entrepreneurs are adequate to provide the information to address this research and the timeframe available to conduct this project. In addition, each bilingual entrepreneur must have an equivalent monolingual entrepreneur. All entrepreneurs will be of the same business discipline i.e., all restaurant owners (TBD) and will all also have the same root language(s) i.e., the three monolingual entrepreneurs speak English, and the three bilingual entrepreneurs speak both English and Japanese (TBD). The bilingual entrepreneurs will possess knowledge in the same language as the monolinguals to allow for equivalent comparisons.
Data Collection Management

Interview audio recording will be safely stored on a password locked computer with access only permitted to two individuals, Jessica Wielgus (Student Investigator) and Caroline Fry (Principal Investigator). The information from the interviews and the income data collected will then be all be transcribed and included in the final thesis paper and audio recordings will be erased/deleted. Subsequently, this information will all be examined by comparing group individuals to one another, i.e., monolingual to monolingual and bilingual to bilingual, as well as group to group i.e., monolingual(s) to bilingual(s). The main focus will be to analyze overarching themes in order to determine the extent of each entrepreneurs’ similarity and/or difference to one another.

Timeline

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<th>Summer 2022</th>
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<td>• Upload Proposal to Mākālei</td>
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<td>• Prepare IRB application and consent forms, and complete training (look into IRB meeting dates)</td>
<td>• Sept. 9 – Oct. 10: Submit UROP funding application</td>
<td>• Attend graduation information sessions</td>
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<td>• Explore more literature</td>
<td>• Continue finding interviewees if needed</td>
<td>• Jan. 1 – Feb. 15 ish: Conduct and/or finish interviews</td>
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<td>• Continue crafting thesis (Introduction and Lit Review)</td>
<td>• Continue crafting each thesis section</td>
<td>• April: Full proposal rough draft and finished presentation</td>
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<td>• Submit IRB application by August the latest</td>
<td>• Start interviews in December maybe over Winter Break if possible</td>
<td>• April 28th ish: Undergraduate showcase</td>
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<td>• Prepare UROP funding application</td>
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