

Scoping the Philosophical Foundation and Matching Research Methodology in the Interdisciplinary Immigrant Entrepreneur(Ship) Research

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Abstract:

Background: Years of Research into immigrant entrepreneur(ship) (IE) call for a synthesis of the field to note the philosophical foundation adopted and matching research methodology development and identify the matching technologies being applied. The paper aims to fill this literature gap in IE field by improving and synthesizing existing knowledge and establishing a simple and clear method of RESEARCH PARADIGM selection for immigrant and entrepreneur(ship) study. The paper argues that it is important to choose an appropriate paradigm to guide the research design and inquiry procedure, and thus the interpretation of the result, in the multi- or inter-disciplinary literature of IE research. This paper synthesizes contemporary paradigms with selected ontologies, epistemologies, and methodologies for purposeful application in the interdisciplinary research field of immigrant entrepreneurship. Authors argue that immigrant entrepreneurship research studies need to be conducted with numerous disciplines such as economics, sociology, anthropology, entrepreneurship and business studies, and the chosen Paradigm needs to be logically matching the researchers, conceptual frameworks, investigation questions, data collection and analysis methods. The findings contribute to higher degree education, research students and social science researchers.

Materials and Methods: Following the procedure of theory-context-characteristics-methodology literature review, this research utilized an IE process analytical framework that indicated three phases (motivation, strategies and outcomes) in IE process. Drawing on the framework, IE is determined by personal and environmental characteristics, including personal characteristics, socioeconomic, cultural, institutional, and many other influential dimensions. Therefore, IE studies have to be from multi- or inter-disciplinary perspectives with correct philosophical and methodological approaches.

Results: IE studies can be either objective or subjective, with a clear indication for methodology and philosophical approaches. The key to discovering the nature of knowledge in the field can be found in the Paradigm and matched methods used to guide the investigation. From the discussions, it is apparent that paradigms as positions about epistemology, ontology, and axiology, have significant impacts on the methodology used in a research project. Thus, the choice of a paradigm infers a near certitude about particular methodologies that come from that Paradigm. This relationship is significant because the methodological implications of paradigm choice suffuse the research question/s, participants' choice, data collection implementation and collection processes, and data analysis. It should be noted that several research methodologies can be combined within one research strategy. However, to help higher degree research students and researcher to choose the right methodologies, this paper provides a clear understanding of the different aspects of the research paradigms and matching methodologies. The paper can be a handy reference for all researchers as well.

Key Word: Entrepreneurship, Paradigm, Immigrant Entrepreneurship, Research Methods.

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I. Introduction

As a new research discipline, studies on immigrant entrepreneurship (IE) have been proven relevant to the socioeconomic chain, garnering the attention of numerous scholars worldwide, and it is enormously different from general entrepreneurship investigation. Both scientifically and empirically current studies show objectives entailing (1) attributes of immigrants from various countries; (2) effects of a venture - pursue debating the ethnic enclave were observed by analyzing immigrant's human, social and financial capitals; (3) incentives of immigrants to create their businesses; (4) equating the entrepreneurial disparities among immigrant communities; and (5) examining the function of ethnic resources in business creation (Dabić et al., 2020; Duan, Kotey, & Sandhu, 2022).

From the theory-building perspective, the most potent theories established sociologically to explain the prodigy of IE include 1) the middleman minority theory (Bonacich 1973); 2) the enclave economy hypothesis (Wilson and Portes, 1980); 3) the discrimination hypothesis (Waldinger, 1989; Light, 1979); 4) the interactive model (Waldinger et al, 1989); 5) the social capital argument (Portes & Sensenbrenner, 1993); and 6) the notion of mixed embedment (Kloosterman, Van Der Leun, & Rath, 1999). Other researchers have conducted investigations on enterprise processing outcomes that include 1) recognizing opportunity (Shane, 2000); 2) cause and effect (Sarasvathy, 2001); and 3) boot scraping and inform investors (Day, 2002); and others.

More debates have arisen in regard to the methodology (which is key to any successful research) used in IE studies. Some researchers (Dana and Dana, 2005) support the use of qualitative research methods in a constructivist/interpretivist paradigm since they believe entrepreneurs are making decisions subjectively. They also believe that effective methods for carrying out empirical studies such as case studies, phenomenology, and grounded theory explain the phenomenon of IE where topics are unquantifiable (Aliaga-Isla & Rialp, 2013). Others (Dana & Dana, 2015) defend the view that quantitative inquiries into IE are the best way to generalize the knowledge required for creating new ventures. Recently, mixed methods for studying IE and its phenomena have become more acceptable under a “what works better” paradigm.

All these research aims, objectives, and theories can be classified into numerous disciplines: social science, ethnic studies, human research, sociology and business management and so on. Methodologies and methods used are based on a few overarching philosophical foundations (paradigms or worldviews). These philosophical foundations will strengthen 1) scholars’ explanatory outcomes, 2) novel contributions, and 3) the trustworthiness of claims (Huff, 2009). Without a clear paradigm statement, confusion can be created when reading research texts. All researchers’ philosophical roots and assumptions, made from knowledge gained during studies, should be known to people as these assumptions form the research processes.

This paper explores the most popular paradigms used in entrepreneurship study. Ontological, epistemological, axiological and methodological positions with four paradigms/paradigms are explained, thereby providing a list of characteristics and methodologies to ease scholars’ real world practices. Finally, a review of research methodologies being used in entrepreneurship study is given to emphasize the point of research rational foundation choice is research problem-driven.

II. Introduction of Immigrant Entrepreneurship Research

In today’s increasingly interconnected world, international migration has touched nearly all of its corners (UN, 2019). Modern transportation has made it easier, cheaper and faster for people to move to other countries in search of jobs, opportunities, education and quality of life. The United Nations International Migrant Report (2019) noted that the number of international migrants worldwide has continued to grow rapidly in recent years, reaching 258 million in 2017 and 272 million in 2019, up from 220 million in 2010 and 173 million in 2000 (International Organization for Migration [IOM], 2020). The UN report further stated that the growing trend of international migration would continue in the foreseeable future. Globalization not only enables individuals to move internationally more easily but also facilitates faster growth in international migration and cross-border activities, including capital transfer, technology spread, goods trade, service provision and culture diffusion. The IOM also emphasized the growing connections among people and countries due to global immigration trends.

Immigrant entrepreneurship is recognized as an integral part of socioeconomic development and a crucial component of the support programs for immigrants. Evidence for these outcomes can be found in studies reporting on IE in Europe and North America. In the United States (U.S.), statistics have revealed that, although immigrants make up only 13% of the total population, they account for 27.5% of all entrepreneurs (Vandor & Franke, 2016). The Global Entrepreneurship Monitor (GEM) reported for the United Kingdom (U.K.) that people with migrant backgrounds are twice as likely as their white British counterparts to be early-stage entrepreneurs (Hart, Bonner, Levie, & Heery, 2018). Vandor and Franke (2016) stated that about one-fourth of all engineering and technology companies started between 2006 and 2012 in the U.S. had at least one immigrant co-founder. According to Gould’s calculation, based on immigration numbers and transnational trade data in the U.S., the increase in immigrants has a direct impact on international trade in the host country, and the market size of the home country is directly linked to the success of immigrant entrepreneurship (Gould, 1994). Furthermore, in Australia and New Zealand (NZ), ventures established through cooperation between born-native and immigrant firms tend to expand faster internationally than ventures by natives, which stems from the synergistic effect of the combined knowledge bases (Li, Isidor, Dau, & Kabst, 2018). Describing the success of immigrant entrepreneurship in the U.S., the Department of Small Business Administration (SBA) stated that:

By virtue of having left their native land, they may have entrepreneurial inclinations. Their outsider status may allow them, in some cases, to recognize “out-of-the-box” opportunities that native-born individuals with similar knowledge and skills do not perceive. These

capabilities may be linked to unique entrepreneurial resources, such as access to partners, customers, and suppliers in their countries of origin (Hart et al., 2011).

Factors that account for the increasing interest in entrepreneurship among immigrants compared to born-natives include a higher level of entrepreneurial motivation among immigrants (Kerr & Kerr, 2019). In addition, as a strategy for sustainable socioeconomic development, many governments have established programs to attract immigrant entrepreneurs to their countries. An example is the Project for the Promotion of Immigrant Entrepreneurship (PEI) in Europe. In many developed countries, the entrepreneurial environment for immigrants, in terms of business regulations and immigration policies, has continuously improved over the last three decades. Immigrants' entrepreneurial capability, however, is still lagging behind the goal of "[creating] economic opportunities for all, with the purpose of leaving no one behind", which is among the top priorities of the UN's 2030 Agenda for Sustainable Development (UNCTAD, 2018). One mechanism to achieve this agenda is through the promotion of entrepreneurship among immigrant groups.

Immigrant entrepreneurship, then, is a worldwide phenomenon, particularly in developed countries, and is worth in-depth research both theoretically and empirically. The number of scholars who are interested in the area has increased exponentially since the 1960s. As a young academic discipline, however, IE research has gaps from strategic, theoretical and empirical standpoints (Aliaga-Isla & Rialp, 2013). From the research strategy perspective, as Collins and Low (2010) pointed out, "the literature on entrepreneurship often ignores the study of immigrant or ethnic entrepreneurship." Kerr and Kerr (2019) noted that, although early work on IE has addressed many important issues, insufficient attention has been paid to the big picture and in-depth studies are few. From a research methodology standpoint, it is clear that the individual level of analysis is commonplace. Thus, Aliaga-Isla and Rialp (2013) argued that future investigations should take meso- and macro-level factors into consideration, given the importance of institutional context to the promotion of IE.

So far, IE research has centered on the individual, the immigrant community and the host society (Aliaga-Isla & Rialp, 2013). From the home-country perspective, scholars have only examined some individual factors in different studies, thus the existing studies lack a holistic approach. Sometimes the home country is treated as a socio-economic-political system, but there is a lack of clarity concerning the factors in the home country ecosystem that impact IE. Moreover, there is no comprehensive framework that analyses the combined effects of factors from the host country (including the co-ethnic community), home country, individuals and their firms on IE.

Scholars have also recognized that the IE phenomenon originates mainly from changes to immigrants' personal environment as a result of migrating from their home country to the host country, as they find themselves in a new and very different environment. According to the resource-based view, entrepreneurs do not literally "create something from nothing." Apart from human and social capitals, they need financial capital to start and run their businesses.

The UN Conference on Trade and Development identified two broad antecedents of IE: the individual and the socioeconomic and political environments (UNCTAD, 2018). Some scholars even asserted that "studying entrepreneurs as individuals is a dead end" (Dana, 1997, p.53). Environmental (technological, demographic, regulatory, economic, socio-cultural) changes caused by migration itself are fundamental reasons for immigrants' engagement in entrepreneurship. Whether positively or negatively affecting IE, in general, changes in any one or more of these environmental domains are likely to influence the types of entrepreneurial activity in which immigrants engage. Therefore, scholars believe that the key difference between immigrant and native entrepreneurs is the entrepreneurial environment in which they operate (Dabić et al., 2020). Generally, immigrants face additional obstacles to start new businesses in their new environment due to the liability of foreignness (Gurău, Dana, & Light, 2020) in a dynamic environment.

With respect to the research approach, some scholars have suggested that IE research should focus on systematic evaluations of entrepreneurship practices and study multiple factors. They believe that systematically exploring the IE phenomenon through a multi-dimensional approach can produce valuable results. It has been proposed that the structural factors in different regional and cultural settings need to be addressed. IE researchers emphasized that the home-country settings, including political, socioeconomic and cultural factors, impact IE and should not be ignored in the research.

In summary, researchers have been asking for instrumental, rigorous and practical results, which stem from investigations involving a systematic and multi-factor approach that includes the effects of home- and host-countries' ecosystems. Therefore, this research undertook a systematic multi-factor approach to investigate the influential factors on IE in the context of the dual (host-and home-country) entrepreneurial ecosystem (DEE). It is necessary, for robust outcomes, to separate the host- and home-country key influential factors (KIFs) from those related to individual characteristics of the immigrant entrepreneurs and analyze how they interact to determine entrepreneurial strategies and activities and, ultimately, firm performance.

III. Research Design

Exploring the known and unknown in a particular discipline is one of the purposes of this review article. The subject is advanced when synthesizing research is designed to provide clear instructions for other scholars. Literature reviews are impactful and useful when authors use the appropriate methodology and craft such articles with systematic rigor. Review studies then reconcile conflicting findings, identify research gaps and suggest exciting new directions for a given field of research, with reference to methodology, theory and contexts. This research adopted a research framework from Huff (2009), which provides a audience-focused purpose → design → outcome outline for design decisions (Figure 1).

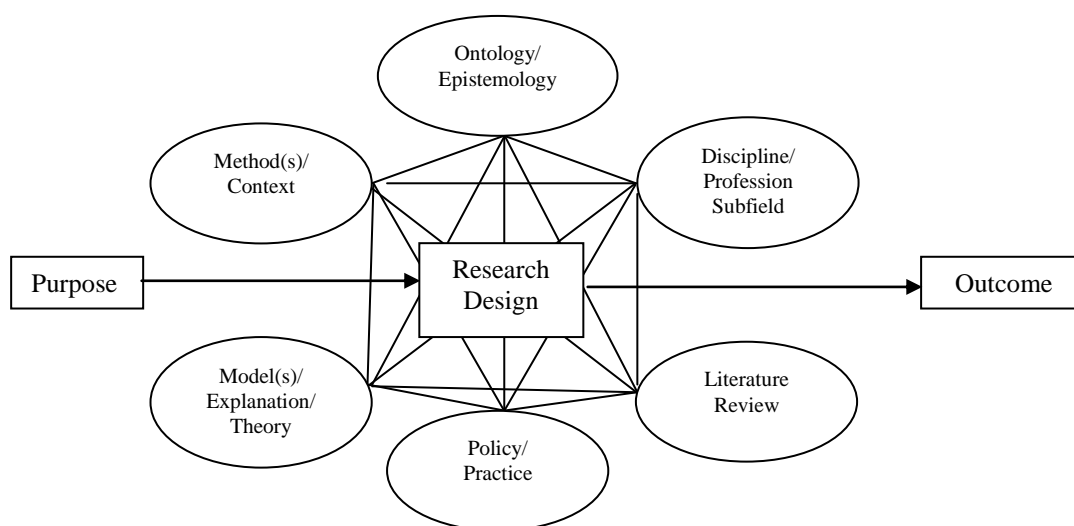


Figure 1. Design decision connecting research purpose and outcome

IV. The Definition of Research Paradigm

The word paradigm is derived from the Greek meaning pattern. Scholars use the worldview and paradigm interchangeably (Creswell and Clark, 2018; Huff, 2009). In “The Structure of Scientific Revolutions,” American philosopher Thomas Kuhn (1962) first used the word paradigm to mean a philosophical way of thinking (as cited in Landström and Benner 2013). Kuhn (1970) described a paradigm as “the entire constellation of beliefs, values, techniques, and so on shared by the members of a given community” (as cited in Ritzer, 1975). A paradigm is the starting point that shapes the nature of inquiry and how it is practiced. Ontology answers the questions about what the nature of being and existence is. Epistemology defines the relationships between the inquirer and the known. The methodology gives ways to find knowledge. Paradigms cannot be proven or disproven in any foundational sense (Guba and Lincoln, 1994).

In the action of research, the term paradigm is the school of thought which informs the meaning or gives the interpretation of research data. As Lather (1986) explains, a research paradigm reflects the researchers’ view of the world that they live in and want to live in. It entails the principles that shape how a researcher sees, construes and acts within the world. Researchers use Paradigms to survey methodological aspects of guiding research actions or probations. Denzin and Lincoln (2000) define Paradigms as human constructions, dealing with first principles or ultimates indicating where the researcher is coming from to form meaning based on data. Paradigms are thus significant because they help scholars determine what and how to study and how to interpret the results of a study. The paradigm defines researchers’ philosophical exposure, and this significantly implicates every decision made in the research process. Paradigm dominates and controls the communication of investigation results. When there is conflict on a paradigm, knowledge cannot be accumulated.

V. The Components of a Research Paradigm

According to Lincoln and Guba (1985), a paradigm comprises four elements: ontology, epistemology, methodology and axiology. These four components comprise the basic assumptions, beliefs, norms and values that each paradigm holds. Philosophical beliefs relating to several popular paradigms in IE research are summarized in Table 1.

Table 1. Beliefs of Research Paradigms (Partially adapted from Creswell, 2013; Guba and Lincoln, 1994; Kivunja and Kuyini, 2017; Ihuah and Eaton, 2013).

Item	Positivism/ Postpositivism Paradigm	Pragmatism Paradigm	Critical/ Transformative Paradigm	Constructivism/ Interpretivism Paradigm
Ontology (What is the nature of reality?)	<i>Realist</i> - reality exists “out there” and is driven by immutable natural laws and mechanisms. Knowledge of these entities, laws, and mechanisms is conventionally summarized in the form of time- and context-free generalizations. Some of these latter generalizations take the form of cause-effect laws. Critical realist (Postpositivism) – See critical paradigm.	Objectivism (external relationships) Constructivism (internal relationships) Non-singular reality – there is no single reality and all individuals have their own and unique interpretations of reality.	<i>Critical realist</i> – reality exists but can never be fully apprehended. It is driven by natural laws that can be only incompletely understood.	<i>Relativist</i> – multiple realities exist in the form of multiple mental constructions, socially and experientially based, local and specific, dependent for their form and content on the persons who hold them.
Epistemology (What is the relationship between the researcher and that being researched?)	<i>Dualist/objectivist</i> – it is both possible and essential for the inquirer to adopt a distant, no interactive posture. Values and other biasing and confounding factors are thereby automatically excluded from influencing the outcomes. <i>Modified objectivist</i> – objectivity remains a regulatory ideal, but it can only be approximated, with special emphasis placed on external guardians such as the critical tradition and the critical community.	<i>Relational</i> – Research is best determined by what the researcher deems appropriate to that particular study. Positivism-observer is independent of that being researched Interpretative (observer is dependent of that being researched, which implies a social phenomenon)	<i>Transactional/Subjectivist</i> – in the sense that values mediate inquiry.	<i>Transactional/Subjectivist</i> – inquirer and inquired into are fused into a single (monistic) entity. Findings are literally the creation of the process of interaction between the two.
Axiology (What is the role of values?)	The research is value free, hence independent of the data and objective in the analysis of the data. Postpositivists take the position that bias is undesired, inevitable, and research must detect and try to correct it.	Values play a vital role to interpret results using subjective and objective reasoning.	Values play a central role and are important in shaping research outcomes. Excluding values would go against the interests of any minority or powerless group who were part of the study.	The research is value bound; such that the researcher is part of what is being studied, not isolated from the studied and will be subjective.
Methodology	Quantitative but can still use qualitative’	Uses both qualitative and quantitative	Qualitative, quantitative or mixed methods. inclined towards qualitative	Qualitative.

Ontology

Ontology is the study of being (Crotty, 1998, p10) and considers ‘what exists’ (Huff, 2009, p108). Ontological assumptions are concerned with ‘what is’ (Scotland, 2012, p9), with the nature of existence, with the structure of reality as such (Crotty, 1998, p10). Crotty (1998, p .4) stresses that “Ontological” issues and “Epistemological” issues surface together. (Construction of meaning equals construction of meaningful reality). Ideally, ontology cannot be mentioned without epistemology. From a theoretical perspective, to understand ‘what is’ (Ontology), one also needs to understand ‘what it means to know’ (epistemology).

Ontology is a philosophical branch that deals with the promises we make to believe that something is real, or the very nature or essence of the social phenomenon we are investigating (Scotland, 2012). It is the metaphysical study of the nature of being and existence. It helps researchers to conceptualize the form and nature of reality and their belief of that reality. Philosophical assumptions about the nature of reality are important in directing of research goals and outcomes and understanding the data gathered (Creswell and Poth, 2018a, p 18). These assumptions help one to understand the significance of a research problem and figure out an approach to the solution. Ontology is consequential to a paradigm because it helps to provide a grasp of the things that make up the world as it is known (Scott & Usher, 2004). It makes researchers ask questions like: does it exist in the social world or is it a construction created by our minds? What is the nature of reality? Does reality arise from one’s mental processes (Kivunja and Kuyini, 2017 & Ihuah and Eaton, 2013)?

Epistemology

Epistemology is derived from the Greek word episteme, meaning knowledge. Very simply, epistemology is the study of knowledge within the world (Cooksey and McDonald 2011). It is concerned with the roots of knowledge – its nature, forms, acquisition, and communication to humans.

Epistemology centers on human minds and knowledge of existence (Huff, 2009, p108) and how to know reality. Epistemological assumptions involve what it means to know. Guba and Lincoln (1994, p.108) clarify that epistemology begs the question: what relationship exists between the knower and what can be known?

In considering the epistemology of your research, questions like “Is knowledge acquired or, must it come from experience?” and “What relationship exists between the knower and the would-be known?” come to mind. These questions are important because they help you to discover what else is new, given what is known. The question “how do we know what we know?” must be asked in the paradigm as it is the basis for investigating ‘truth.’ Is there such a thing as ‘truth’? (Davidson 2001) “How do we know what is true?” “What counts as knowledge?” Researchers use four sources of knowledge to answer the questions above: intuitive knowledge, sound knowledge, relevant knowledge, and empirical knowledge (Slavin, 1984). Intuitive knowledge relies on beliefs and intuition as forms of knowledge. Authoritative knowledge relies on leaders and people in authority. Logical knowledge emphasizes that knowledge is gained from reason. Empirical knowledge stresses that knowledge is best derived from experiences and existential facts. Epistemology is important because it influences how to uncover knowledge in data collection and research.

Axiology

Axiology refers to the ethical outcomes that should be recognized when planning a research proposal. It considers the philosophical approach to making the right decisions (Finnis, 1980 & Kivunja and Kuyini, 2017). It is the study of nature, types, and criteria of values and value judgment, especially in ethics. It addresses the question: What is the nature of ethics or ethical demeanor? Regard for the human values of participants in your research should be considered crucially through the following questions: “What values will I live by as I go about my research?” “How do I respect all participants’ rights?” “What are the moral issues and characteristics that need to be considered and how do I address them?” “How shall I secure the goodwill of the participants?” “How shall I research a just and respectful form?” “How shall I avoid or reduce the harm, be it physical, psychological, social, economic or other?” (ARC, 2015).

Answers to these questions are best guided by four criteria of ethical conduct, namely, teleology, deontology, morality, and fairness (Mill, 1969 & Kivunja and Kuyini, 2017 & Ihuah and Eaton, 2013). Teleology is the theory of morality that emphasizes doing what is good or prudent. In research, this means bringing about major results that will induce people. Deontology is the understanding that every action that will be undertaken during the research will have consequences that benefit participants, the researcher, and the public at large (Scheffler, 1982). The morality criterion refers to the moral values to be maintained during the research. Finally, the fairness criterion refers to the need for the researcher to be fair to all participants and respect their rights. The researcher should show ethical behaviour in concerning what is right and wrong. All participants’ dignity and rights must be respected by the researcher. The four principles of ethical consideration focus on having the acronym PAPA, namely: Privacy, Accuracy, Property, and Accessibility, and are briefly listed in Table 2.

Table 2 Ethical Consideration under Axiological Perspective (Adopted and adapted from Kivunja and Kuyini, 2017)

Ethic	Consideration
Privacy	What information participants will be required to reveal to you or to others about themselves, their associations or organizations? What are the conditions and safeguards under which data will be gathered and analyzed. What things can participants keep to themselves, and not be forced to reveal to you or any other people?
Accuracy	Who is responsible for the authenticity, fidelity, and, accuracy of information? How the researcher will cross-check with participants so they know researchers have recorded the data accurately. Who will be held accountable for any errors in data? How would participants be compensated if any party were to be injured?
Property	Who will own the data? Will there be any payment for the data? What will be the just and fair prices, for the exchange of data if the payment required? Who will own the channels, such as publications and media through which information will be disseminated?
Accessibility	Who will have access to the data? How will the data be kept safe and secure? Under what conditions and with what safeguards will researchers and participants have access to the data? How will access to the data be gained?

Methodology

The methodology is the plan of action that lies behind researchers' choice and use of selective methods and connects them to the wanted results (Crotty, 1998, p.7). Thus, a methodology is regarding what, when, why, from where, and how data is collected and scrutinized. The methodology examines matters like how researchers can go about ascertaining what they believe is knowledgeable (Guba and Lincoln, 1994, p.108).

A methodology is used to refer to the research system, methods, approaches, and procedures used in a study that is well planned to realize something (Keeves, 1997). For example, data gathering, participants, instruments used, and data analysis, are all parts of the broad field of methodology. It focuses on how we come to grasp or gain knowledge about the world (Moreno, 1947). In considering the methodology for your research proposal, you should ask yourself the question: How will I obtain the desired data, knowledge and understandings that will help me to answer my research question and contribute to knowledge?

Methodology – Research Approaches

The theoretical perspective is a way of looking at the world and making sense of it. It involves knowledge, therefore, and covers the understanding of what knowing entails, that is, how we know what we know (Crotty, 1998, p.8). A theoretical perspective is a set of assumptions about reality that inform the questions researchers ask and the kinds of answers expected as a result.

Research approaches are plans and procedures for research that scale the steps from speculations to particular methods of data collection, analysis, and interpretation. The choice of a research approach (i.e., qualitative, quantitative) is based on the nature of the research problem, the researcher's personal experiences, and the audiences for the study. Commonly used research approaches include qualitative, quantitative and mixed methods. Researchers need to consider the differences (Table 3) among them.

Qualitative research is an approach for grasping the meaning individuals or groups attribute to a social or human problem. The research process involves raising the right questions and following proper procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data. The final written report is flexible. Those who use this approach support inductive style research and focus on the individual meaning and the importance of ceding a situation's intricacy

Quantitative research is an approach for testing scientific theories by analyzing the relationship among variables. These variables, in turn, can be measured. The final written report has a set structure consisting of an introduction, literature, and theory, methods, results, and discussion. Those who use this form of inquiry support deductive style research, building protections against bias, controlling for alternative explanations, and ability to generalize and replicate findings.

Mixed-methods Research is an approach to an inquiry involving collecting both quantitative and qualitative data and integrating the two forms of data for research. This form of inquiry provides a more complete understanding of a research problem than either approach alone.

Table 3. Comparison among qualitative, quantitative and mixed-methods approaches (Creswell & Clark, 2018)

	Qualitative approach	Quantitative approach	Mixed-methods approach
Purpose	Provides understandings and descriptions of participants' experiences	Tests and validates already developed theories	Provides greater insight, enable triangulation and complementarity
Philosophical assumptions	Constructivism	Positivism or post-positivism	Pragmatic
Strategies employed	Phenomenology, grounded theory, ethnography, case study and narrative	Surveys and experiments	Use both qualitative and quantitative strategies
Method employed	Open-ended questions, observations	Closed-ended questions, numeric data	Pluralistic methods from both approaches
Analysis	Themes and patterns are identified. Emphasis is placed on credibility, authenticity and trustworthiness.	Statistical procedures are utilized. Emphasis is placed on generalisability of findings, validity and reliability.	Practices from both qualitative and quantitative approaches can be used.

Drawing on previous research on the topics of migration and IE (Kerr & Kerr 2019) and Creswell and Clark's (2018) recommendation, the pragmatic paradigm was used to direct, scope and evaluate this research (Huff, 2009). As shown in Table 2, this paradigm combines the advantages of positivism and interpretivism. The pragmatic paradigm arose among philosophers who argued that it is not possible to assess the 'truth' about

the real world solely by virtue of a single scientific method, as claimed by the positivist paradigm, nor is it possible to determine social reality as being entirely constructed, as understood by the interpretivist paradigm. Pragmatism advocates a non-singular reality ontology, a relational epistemology and the use of mixed methods as a way to understand human behavior (Creswell & Clark, 2018).

Creswell and Clark (2018) suggested that researchers apply mixed methods in disciplines where the qualitative method has traditional value and if both quantitative and qualitative methods are applicable. This study's focus was assessed as matching these criteria. Laughlin (1995) proposed three critical considerations for research methodology selection: 1) the researcher's knowledge of theories about the problem; 2) the theoretical nature of the method; and 3) the criticism of, and the demand for advancing the method. Given there is no existing dataset with which to explore the conceptual framework proposed in this research and a dearth of information on necessity and opportunity IE as well as factors associated with the performance of immigrant firms in Australia and NZ, it seemed appropriate to adopt a mixed-methods approach for this research. The latter would enable insights to be generated, inferences to be made and conclusions to be drawn about the relationships among necessity and opportunity IE on the one hand and the factors that affect firm performance on the other. In addition, this study utilized relevant IE factors from current theories of host- and home-country ecosystems and assessed how these affect performance outcomes for necessity and opportunity IE, based on meta-analysis of the existing literature. Therefore, the use of both quantitative and qualitative approaches was expected to reveal and confirm the factors that determine IE outcomes.

Methodology – Research Methods

The last element in a paradigm is the specific research method that involves the forms of data collection, analysis, and interpretation for the study. Research methods are the particular techniques inquirers plan to use (Crotty, 1998, p.6). Activities for methods include data gathering and information analysis related to some research proposition, hypothesis, problem, and/or question. The research method can cover items such as defining the research problem, designing the research, sampling, measurement and scaling techniques, data collection, processing and analyzing data, interpretation, and report writing.

Research methods can be fixed in methodology, and the chosen methodology can be traced back in the theoretical perspective. The specific theoretical perspective needs to be found in epistemology and ontology. Ontology, epistemology, theoretical perspective, methodology, and methods are constituents of a paradigm.

VI. Dominant Paradigms Used in Immigrant Entrepreneur(ship) Research with Examples

Traditional entrepreneurs have used questionnaires and interviews to try and discover why entrepreneurs do what they do (Dana, 2005). The scientific paradigm is used mostly because positivists are channeled to explain the causal relationship. Positivists recognize causes to bring about results (Creswell, 2009, p.7) and post-positivists use experimentation to understand causal relationships.

On the other hand, entrepreneurship research scholars focus on “how” rather than “why” entrepreneurs do it, and how others can be encouraged to follow achievements. How can entrepreneurship be forced in various business environments? How can businesses be ventured into a particular entrepreneurship ecosystem? This causes the adoption of a more qualitative approach (Dana, 2005) following the constructivist paradigm.

With the recognition of the social and economic value of entrepreneurial activities, numerous studies have examined immigrant entrepreneurs in the context of minority (ethnic) communities and their political and activist activities. These researches have assumptions of empowerment, human rights and social justice orientations. As entrepreneurship is definite with culture (Louck, 1988), the research must be culture-specific. People's aspirations, values, and culture must be understood before entrepreneurial research can be completed.

Entrepreneurship is a young discipline with a relatively low level of paradigm development, and this fact has led to a lower level of legitimacy within the broader field of management (Crook et al., 2010, Katz, 2008, Kuskova et al., 2011). Candy (1989), one of the leaders and researchers in the field, claims that paradigm is grouped into three main taxonomies, namely the Positivist, Interpretivist, or Critical Paradigms. Other researchers, such as Tashakkori and Teddlie (2003), propose a fourth known as the Pragmatic Paradigm.

The Positivism/Postpositivism Paradigm and Discussion

Positivism is the leading form of research paradigm with which most entrepreneurship, business and management scholars are acquainted. In sociology, positivism assumes that the social world exists externally and has measurable properties. Positivists study the entrepreneurial phenomena objectively through predetermined hypotheses from the position of an outsider (Davidson, 2008; Katz & Gartner 1988).

Post-positivism is the modified version of positivism. It emphasizes that the real-world driven by nature cannot be fully understood by a researcher ontologically. Post-positivism believes that a researcher should be neutral and rely on critical tradition (Guba & Lincoln, 1994). Post-positivism encourages the use of multiple research methods and data sources methodologically.

Even though positivists believe reality is objective and measurable by observation, in reality, the methods and methodologies developed to recognize the nature of the world are not always directly or indirectly transferable to the societal world (Scotland, 2012). The positivist may cause incorrect methods and theories to be applied, asking the wrong questions and solving the wrong problem (Dana, 2008). Thus, for entrepreneurship research, researchers need to ascertain what observations and measurements contain value. Table 4 lists core ideas, metaphors and research questions in the context of positivist/positivist approach in entrepreneurship research.

Table 4. Positivist/postpositivist Approach to Entrepreneurship (Adapted from Chiles et al. 2010)

Core Ideas	<i>Positivist:</i> Entrepreneurs make rational, optimal decisions and they all mechanically recognize the same preexisting opportunities. Firms serve as “production functions” that mathematically convert inputs into outputs; Markets reside in equilibrium. <i>Postpositivist:</i> Entrepreneurs are alert to preexisting opportunities and they differentially discover such opportunities based on their subjective interpretations of past experience. Firms serve as instruments to exploit such opportunities, but the entrepreneur (singular) who inhabits them need not invest any capital resources in order to do so; Markets gravitate toward equilibrium.
Metaphors	Mechanistic
Research Questions	<i>Positivist:</i> How strongly, and in what direction, does the entrepreneurial function react to objectively perceived opportunities? What is the optimal allocation of given means to achieve predetermined ends? At what rate do people enter and exit self-employment, and does their level of risk aversion affect such processes? <i>Postpositivist:</i> How much manipulation of given knowledge is required to ensure market equilibrium? How do entrepreneurs continually discover existing opportunities? How do they respond to existing patterns of entrepreneurial mistakes characterized by overlooked opportunities?

Positivist/postpositivist approach is the most popularly used paradigm in IE research since the dominant research method is the quantitative method (Dheer, 2018). The fundamental reason researchers are pursuing the positivist/postpositivist paradigm is simply that in many cases investigations are based on government/institutional census/survey databases (Li, 2005; Dana, 2005; Kerr and Kerr, 2017). The second most popular data collection method are fieldwork and questionnaire surveys (El-Gohary et al., 2013, Ndofor and Priem, 2011). Table 4 summarizes some studies on IE research that have adopted the Positivist/postpositivist approach.

Postpositivist is methodological pluralism, also known for another name. It is evolved from the paradigm of positivist. It concerns about the subjectivity of realism and deviate from the morally objective stance accepted by the rational positivists.

The Pragmatic Paradigm and Discussion

This Paradigm was brought about by philosophers who stressed that the truth about the real world was less convinced to be accessed by using one scientific method supported by positivist paradigm, and also that social reality could not be determined as endorsed by an interpretive paradigm. They (Tashakkori and Teddlie, 2003 & Creswell and Clark, 2018b) believed that approaches that are more applicable and pluralistic should be considered as seen in a combination of methods, giving rise to the pragmatic Paradigm. It centres on research outcomes, the use of multiple methods of data to solve problems under study (Creswell and Clark, 2018b). Thus, it focuses on “what works” in real-world practice.

Pragmatic Paradigm explains that individuals interpret their reality peculiarly, combines both qualitative and quantitative research methods, and supports relational epistemology, among others. This paradigm is typically associated with mixed-method research as an overarching philosophy embraced by mixed-method research scholars (Tashakkori and Teddlie, 2003 & Creswell and Clark, 2018) to achieve pluralistic empirical observation, measurement, and social and historical construction. Table 5 lists core ideas, metaphors and research questions in the context of pragmatic approaches in entrepreneurship research.

Table 5. Pragmatic Approach to Entrepreneurship

Core Ideas	Entrepreneurs want to build and change things, and often draw upon a multitude of skills, experiences, repertoires of themselves and of others in doing so. Perhaps this attitude is one of the reasons for the rapidly changing nature of entrepreneurship and the ability of successful entrepreneurs to adapt by trial-and-error solutions, to utilize modern technological tools, and being less bothered by the do’s and don’ts of traditional managerial techniques and strategy dogmas taught in business schools and implemented by established corporations (Ries, 2011)
Metaphors	What works
Research Questions	What are the most suitable questions to ask from different paradigms? Questions from all paradigms.

Pragmatic approach became a new paradigm for entrepreneurship study about two decades ago and it has been accepted by sociology, economics and management researchers. Though the total number of publications based on the Pragmatic Paradigm is still low, there is a new trend of using a ‘what works’ approach based on the pragmatic Paradigm to investigate the (immigrant) entrepreneurship phenomenon (Creswell and Path). The research based on this Paradigm normally includes two method: a dominant(D) method and a complementary (C) method. There are four type of research designs for applying pragmatic paradigm: equivalent status/simultaneous design (qualitative (D) + quantitative (D)), equivalent status/sequential design (qualitative(D)->quantitative(D) or quantitative(D)->qualitative(D)), dominant/simultaneous design (qualitative(D) + quantitative(C) or quantitative(D) + qualitative(C)), and dominant/sequential design (qualitative(C)->quantitative(D) or qualitative(D)->quantitative(C) or quantitative(C)->quantitative(D) or quantitative(D)->qualitative(C)). Table 6 lists some studies on immigrant entrepreneurship research that have adopted the pragmatic paradigm approach.

Table 6.Examples of immigrant entrepreneurship research that adopted the pragmatic paradigm approach

Authors	Data source and collection method	Methodology
Ngota, et al. (2017)	Data obtained for 165 entrepreneurs through questionnaires and semi-structured interviews	Mixed-method
Khosa and Kalitanyi (2015).	Data were gathered through a survey of 72 semi-structured personal interviews and 21 self-administered questionnaires	Mixed-method
McDaniel and Drever (2009)	Includes census data analysis, archival research, personal observations and semi-structured open-ended interviews	Mixed-method
Martins et al. (2017)	Questionnaire survey and interviews	Mixed-method

The Critical Theory Paradigm and Discussion

The critical theory paradigm inspects the metamorphosis of social facts in human societies (Belk, 2007). Critical theory is seen as an anti-positivist drive in the social sciences (Denzin & Lincoln, 2011). Ontology is historical realism, which states that reality is shaped into various factors such as social, economic, cultural, gender factors, etc. and places them into a framework referred to as “real” (Guba & Lincoln, 1994). This paradigm assumes 1) a transactional epistemology, in which the researchers interact with the researched; 2) a dialogic methodology; and 3) cultural norms as axiology.

In a research project, the critical theory paradigm can be expressed by the specific methodological position the research holds (Creswell and Path, 2018). This paradigm has been used in IE research to inspect factors that influence entrepreneurs of varying backgrounds and a different gender. The immigration disadvantage theory in IE field has been a popular critical paradigm that indicates that immigrants set up their own businesses because it is practically the only way in which they can earn a living in a new country. Table 7 lists core ideas, metaphors and research questions in the context of critical/transformational approaches in entrepreneurship research.

Table 7. Features of critical/transformational approaches (Adopted from Chiles et al. 2010)

Core Ideas	Entrepreneurs are driven by the power of their subjective human will to episodically introduce new resource combinations in order to exploit preexisting and widely known opportunities created by scientists’ inventions; Without any real need for firms, entrepreneurs innovate such combinations from preexisting elements; Markets evolve from one long period of equilibrium through brief upheaval to another such equilibrium..
Metaphors	Organic
Research Questions	How do entrepreneurs respond to episodic waves of exogenous technological change? How do they combine existing resources in new ways to exploit such change opportunities? At what rate do these efforts succeed or fail? How do their actions disrupt markets?

Critical/transformational approaches to entrepreneurship, particularly entrepreneurship research, are taken because entrepreneurial motivation, processes, and business performance correlate with culture. It has been one of the most widespread paradigms involved in IE research by sociologists, anthropologists, psychologists and economists along with management since the entrepreneurship research domain was established (Bonachich, 1973). Critical/Transformational Paradigm is mainly used for IE research related to gender, religion, indigenous and ethnic minorities. Table 8 lists some studies on immigrant entrepreneurs’ research that have adopted the Critical/Transformational approach.

Table 8.Examples of immigrant entrepreneur(ship)research adopted the critical/transformational approaches

Authors	Data collection	Methodology
Wingfielda and Taylor (2016)	Face-to-face interview with nineteen black participants.	Qualitative
Gold (2016)	Discuss black American entrepreneurship in the cultural/psychological perspective, the ethnic enterprise perspective and the critical race approach.	Critical Review
Carter and Allen (1997)	1,400 women responded to postal questionnaire,	Quantitative

Audretsch et al. (2007)	Ninety thousand workers in India	Quantitative
Dave et al. (2001)	Constructivist/critical theory approaches, 20 interviews with 20 managing directors of Asian-owned SMEs	Qualitative

The Constructivism/Interpretivism (Narrative) Paradigm and Discussion

Constructivism is associated with the realities of people’s minds. Therefore researchers and participants must share a bond to enable reality construction (Deshpande, 1983). Constructivism explains that objective knowledge cannot be obtained because knowledge comes from how participants see their world (Cornelisseur & Clark, 2010). Constructivism aims to understand the social world as others see it. Constructivism assumes that reality is not objective and external but is socially constructed. (Easterby-Smith, Lowe & Thorpe, 2008)

Constructivism as an alternative of the traditional hypothetico-deductive approach, is frequently used by scholars for IE study (Dana, 2005). Table 9 lists core ideas, metaphors and research questions in the context of constructivist/interpretivist approaches in entrepreneurship research.

Interpretive or interpretivist research is not as popular as positivist study in sociology, business, and management, but has gained ground over the past 20 years (Myers, 2009). Interpretive scholars assume that access to ontological truth is through social constructions including language, consciousness, and other instruments. These researchers do not predefine dependent, independent and control variables, but discover variables as the situation emerge by the complexity of human sense making. They try to understand the phenomenon by the meaning that people assign to them.

Table 9. Constructivist/Interpretivist Approach to Entrepreneurship (Partially adapted from Chiles el at. 2010)

Core Ideas	Entrepreneurs exercise genuine choice based on their subjective expectations of an imagined future and can themselves create and continually recreate opportunities through such imaginative acts; Firms serve as vehicles for entrepreneurs to materialize their imaginative mental acts by combining and continually recombining resources necessary to produce novel goods and services; Markets are created and continually recreated through entrepreneurs’ subjective acts of the imagination, creative actions involving resource (re)combinations and novel product offerings, and unstable market interactions that perpetually disrupt markets and drive them away from equilibrium.
Metaphors	Contextualist
Research Questions	How do entrepreneurs continually discover/create new opportunities? How does the cognitive process of forward-looking imaginative choice actually work? How do entrepreneurs continually recreate capital combinations within firms to produce a stream of new product offerings? How do entrepreneurs proactively reshuffle resources to create the capabilities necessary to introduce novel products? How do entrepreneurs’ new venture disrupt markets?

Much like with a Critical approach, researchers studying entrepreneurship take a constructivist or interpretivist approach because entrepreneurial motivation, processes, and business performance correlate with culture. As such, it has also been a very popular paradigm in the field of IE research since the domain was established (Bonacich, 1973). Table 10 summarizes some studies on immigrant entrepreneur(ship) research that has adopted the Constructivist/Interpretivist approach.

Table 10. Examples of immigrant entrepreneur(ship) research applying the Constructivist/Interpretivist approach

Authors	Data source and collection	Methodology
Selvarajah and Masli (2011)	Five Chinese ethnic entrepreneurs as a sample with a face-to-face interview	Phenomenological methodology and qualitative
Terjesen and Elam (2009)	Four case studies are based on “grounded theory”, and “practice theory”.	Qualitative
Nicolopoulou et al. (2016)	30 semi-structured interviews.	Qualitative

Comparing Characteristics of Four Main Paradigms

Kivunja and Kuyini (2017) from the University of New England, Australia summarised the characteristics of the four paradigms discussed above for the purpose of aiding PhD research. Table 11 lists the critical attributes of these paradigms, such as belief, concern, worry, seek, usage, acceptance, rejection, adoption, utilization, and other features.

As seen from Table 11, positivist/Postpositivist believes that theory is universal and law-like generalizations can be made across contexts, the context is not important, truth or knowledge is exist and to be discovered by research, cause and effect are distinguishable and analytically separable, results of inquiry can be quantified, theory can be used to predict and to control outcomes, and research should follow the Scientific Method of investigation.

Pragmatic practionners reject the positivist notion that social science inquiry can uncover the ‘truth’ about the real world. They emphase ‘workability’ in research. ‘What works’ allow the researcher to address the questions being investigated without worrying as to whether the questions are wholly quantitative or qualitative

in nature. Adopters of a pragmatic paradigm allow a research design and methodologies that are best suited to the purpose of the study.

Critical theory adopters concern with power relationships setting up within social structures, the conscious recognition of the consequences of privileging versions of reality, the respect for cultural norms, the examination of conditions and individuals in a situation based on social positioning.

Finally, adopters of constructionist/interpretive paradigm believe that the researcher-respondent relationship is subjective, interactive and independent, the admission that the social world cannot be understood from the standpoint of an individual. They also believe that realities are multiple, complex, uneasily quantifiable and socially constructed, and the acceptance that there is inevitable interaction between the researcher and his or her research participants.

Table 11. Characteristics of Paradigms (partially adopted from Guba and Lincoln, 1994 & Kivunja and Kuyini, 2017)

Positivist/ Postpositivist	Pragmatic	Critical Theory	Constructionist/ Interpretive
<ul style="list-style-type: none"> • Belief that theory is universal and law-like generalizations can be made across contexts. The context is not important. • Belief that truth or knowledge exists and to be discovered by research. • Belief that cause and effect are distinguishable and analytically separable. • Belief that results of inquiry can be quantified. • Belief that theory can be used to predict and to control outcomes. • Belief that research should follow the Scientific Method of investigation. • Rests on formulation and testing of hypotheses. • Employs empirical or analytical approaches. • Pursues an objective search for facts. • Believes in ability to observe knowledge. • Application of the scientific method • The researcher's ultimate aim is to establish a comprehensive universal theory, to account for human and social behavior. • Reality is assumed to exist but to be only imperfectly apprehensible (Postpositivist). • No falsified hypotheses that are probable facts or laws (Postpositivist). • Qualitative approach (Postpositivist). 	<ul style="list-style-type: none"> • A rejection of the positivist notion that social science inquiry can uncover the 'truth' about the real world. • An emphasis of 'workability' in research. • The use of 'what works' so as to allow the researcher to address the questions being investigated without worrying as to whether the questions are wholly quantitative or qualitative in nature. <p style="text-align: center;">Adoption of a paradigm that allows for a research design and methodologies that are best suited to the purpose of the study.</p> <ul style="list-style-type: none"> • Utilizing lines of action that are best suited to studying the phenomenon being investigated. • A rejection of the need to locate a study either in a Positivist (postpositivist) Paradigm or an Interpretivist Paradigm. • Seeking to utilize the best approaches to gaining knowledge using every methodology that helps Knowledge discovery. • Choice of research methods depending on the purpose of the research. • A search for useful points of connection within the research project that facilitate understanding of the situation. 	<ul style="list-style-type: none"> • The concern with power relationships set up within social structures. • The conscious recognition of the consequences of privileging versions of reality. • The respect for cultural norms. • An examination of conditions and individuals in a situation, based on social positioning. • The treatment of research as an act of construction rather than discovery. • A central focus of the research effort on uncovering agency, which is hidden by social practices, leading to liberation and emancipation. • An endeavor to expose conjunctions of politics, morality, and ethics. • The deliberate efforts of the researcher to promote human rights, and increase social justice, and reciprocity. • The deliberate efforts of the researcher to address issues of power, oppression and trust among research participants • A high reliance on praxis. • The use of ethnomethodology, situating knowledge socially and historically. • An application of action research. • The utilization of participatory research. 	<ul style="list-style-type: none"> • The researcher-respondent relationship is subjective, interactive and independent. • The admission that the social world cannot be understood from the standpoint of an individual. • The belief that realities are multiple, complex, uneasily quantifiable and socially constructed. • The acceptance that there is inevitable interaction between the researcher and his or her research participants. • The acceptance that context is vital for research results. • The belief that knowledge is created by the findings, can be value laden and the values need to be made explicit. • The need to understand the individual rather than universal laws. • The belief that contextual factors need to be taken into consideration in any systematic pursuit of understanding • Belief that causes and effects are mutually interdependent.

VII. Matching Paradigms and Methodologies

Paradigm and methodology have a very significant relationship as Table 8 shows, because the methodological implications of paradigm choice suffuse the research question/s, participants' selection, data collection tools and collection processes, and data analysis. Paradigm aligns with research methodologies in various contexts. For instance, research based on an interpretivist paradigm will seek to find the essence of participants. Such research asks questions like "how does it feel to experience such?" Phenomenology is the ideal methodology to apply in research because of the social constructionist theory, "people's actions and words are a product of their definition of their world". This process can transform an individual's experiences.

More often than not, paradigms are not explicitly shown on published entrepreneurship research articles. Scholars are keen to use a methodological expression to implicitly indicate which paradigm is the guideline of the research since particular paradigms may be associated with certain methods. For example, the positivistic paradigm utilizes a quantitative methodology, while a constructivist or interpretative paradigm typically utilizes a qualitative methodology. Sometimes, a interpretative paradigm may assume a qualitative methodology.

In addition to providing a snapshot of the research methodologies typically used in different paradigms, Table 8 lists popular research methods being used in different paradigms. While the major paradigms have an overall framework consistent with the explanation stated above, specific inquiry methodologies may have particular characteristics, which differentiate them from other methodologies within the same group. For example, while critical race theory and feminist theory research both fall within the critical/transformativ Paradigm, they have unique features specific to their particular approach. Some methods such as “case study” can be used in more than one paradigm.

A suitable paradigm for research is selected by combining researchers’ views of reality, what and how they know their theories from studies and their value strategy. Critical theory, unlike constructionist theory, is not renowned in business and management circles. However, critical and constructionist theories have similarities in epistemological claims.

It is suitable as this principle tells us how people define their world is associated with their interactions with others, their perceptions of others about them, the way they deal with life experiences and the amount and significance of perceived control to them.

The chosen/selected paradigm affects the collection of data that is reliable and how that data is analyzed. An important methodological debate would be the ability to interpret stakeholders’ experiences when a study is interpretive in nature. Table 12 lists mostly used approaches and their matching paradigms.

Table 12. Methodologies for Paradigms (adopted from Guba and Lincoln, 1994 & Kivunja and Kuyini, 2017 & Creswell, 2003)

Positivist/ Postpositivist	Pragmatic	Critical Theory	Constructionist/ Interpretative
<ul style="list-style-type: none"> ● Experimental ● Quasi-experimental ● Correlational ● Causal comparative ● Randomized control trials ● Survey research 	<ul style="list-style-type: none"> ● Naturalist ● Narrative inquiry ● Case study ● Phenomenology ● Ethnography ● Action Research ● Experimental ● Quasi-experimental ● Causal comparative 	<ul style="list-style-type: none"> ● Neo-Marxist ● Feminist theories ● Cultural studies ● Critical race theory ● Freirean studies ● Participatory emancipation ● Postcolonial and indigenous ● Queer theory ● Disability theories ● Action research 	<ul style="list-style-type: none"> ● Naturalist ● Narrative inquiry ● Case study ● Phenomenological ● Grounded theory ● Hermeneutics ● Heuristic inquiry ● Ethnography ● Action Research ● Experimental ● Quasi-experimental ● Causal comparative

Existing literature suggests that research that applies the positivist/postpositivist paradigms tends to predominantly use quantitative methods for data collection and analysis (though not necessarily exclusively). In contrast, the constructivist/interpretivist paradigm generally utilizes predominantly qualitative methods. The pragmatic paradigm provides an opportunity for “multiple methods, different paradigms, and different assumptions, as well as different forms of data collection and analysis in the mixed methods study” (Creswell and Clark, 2018, p.37). The critical theory paradigm allows for the application of both qualitative and quantitative research methods.

VIII. Conclusion

Knowledge of IE can be either objective or subjective. The key to discovering the nature of this knowledge (objective or subjective) can be found in the framework/paradigm used to guide the investigation. From the above discussions, it is apparent that paradigms as positions about epistemology, ontology, and axiology, have significant impacts on the methodology used in a research project (Kivunja and Kuyini, 2017). Because each paradigm is buttressed by distinct assumptions (as aforementioned), the choice of paradigm for a given study implies that the research will be nested in particular epistemology, ontology, and axiology, which will guide researchers toward a particular methodology. Thus, the choice of a paradigm infers a near certitude about particular methodologies that come from that paradigm. This relationship is significant because the methodological implications of paradigm choice suffuse the research question/s, participants’ choice, data collection implementation and collection processes, and data analysis. It should be noted that several research

methodologies can be combined within one research strategy. However, to choose the right methodologies, one needs to understand the different aspects of the research paradigm discussed in this paper.

This paper argues that, because of paradigm effects, in comparison to investigations without clearly declared matching ontology, epistemology, and methodology, the research with solid paradigm support will be more rigorous. More importantly, these rigor results are easier to be understood, followed by scholars, thus, they will gain more citations. This paper provides numerous matching tables for researchers to check the integrity of the research design, in particular for higher degree research students (research master or PhD candidates). It can also be used by education providers (e.g., PhD supervisors, mentors) and researchers for quick reference.

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